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Environmental Issues

Environmental Issues

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90WN0156B Moscow PRAVITELSTVENNYY VESTNIK in Russian No 23, Jun 90 p 11

[Article by German Lomanov, Bergen—Moscow:"For the Sake of Our Common Future"]

[Text] It is difficult to write knowing that you probably will not be read. The theme of these notes is the results of the regional conference on the environment and development that is taking place in the Norwegian city of Bergen where representatives of 34 countries have gathered. And I well remember that this theme is far from the problems that disturb literally each of us in our country today.

There, in Bergen, it is a warm day and there is a cloudless blue sky over the quiet inlets of the fjords. Here, in Moscow, it is overcast and unseasonably cold for May. There—the splendor of the store windows, here—emptied by panicky counter price fixing and trade by passport. There—difficult, but diplomatically correct discussions about the coming threat of global climate changes. Here—an accident in the Uglegorskaya Mine where miners were poisoned with some sort of trash that leaked into a coal-face from a chemical dump which no one had paid any attention to for nearly 30 years. Incidentally, V. Doguzhiyev, chairman of the USSR Supreme Soviet State Commission on Emergency Situations, and his deputy A. Tsygankov could not come to the conference due to this accident. N. Vorontsov, chairman of USSR Goskompriroda [State Committee for Environmental Protection], headed the delegation that consisted of USSR Gosplan Deputy Chairman V. Durasov and USSR Minister of Power and Electrification Yu. Semenov.

The conference's motto was "For the sake of our common future." You agree that it is difficult ponder what the 21st Century will bring for us when today's sores itch so unbearably. But really it is impossible to live only with momentary concerns. If we live and think like that, tomorrow could turn out to be worse than today. This is why I think that the conference itself and the statement adopted by the ministers representing 34 countries nevertheless is worthy of our attention.

"We cannot predict the future but we warn," wrote the members of the International Commission on the Environment and Development at the beginning of 1987. Based on the latest scientific data, this "urgent warning" said that the time had come for decisions required to insure living conditions for present and future generations. Actually, industrial pollution is destroying the protective ozone layer both over the highly populated Northern Hemisphere and over the Antarctic. Significant warming in the 1980's, awesome floods, drought, and strong typhoons convinced many experts that the greenhouse effect from industrial pollution is causing rapid warming of the Earth. And a sort of new thinking—consciousness of the fact that ecological problems are inseparable from economic growth and mankind's progress as a whole—also arrived along with the increased concern about the state of the environment.

One of the primary issues that was discussed at the conference was limitation of the emissions of gases that cause the greenhouse effect, mainly carbon dioxide that is formed in enormous quantities when organic fuel is burned in thermal electric plants. This is no accident: Nearly a quarter of the planet's population, concentrated mainly in the ECE (UN Economic Commission for Europe) Countries, are expending three fourths of the world's primary energy reserves. And they obtain it mainly through burning gas, fuel oil, and coal. Naturally, global warming heavily depends on the energy policies of the ECE region's countries. Did the conference participants manage to come to some sort of agreement?

There are neither specific figures nor precisely defined time periods in the ministers statement and you will not find instructions about when and how much the countries of the ECE region intend to reduce harmful emissions. One of the experts ironically called the statement "a declaration of intentions." Yes, this document can be assessed only as a moral obligation. The United States did not want to discuss more specific measures. According to expert opinions, their position is dictated by the fact that U.S. accounts for 25 percent of the total balance of carbon dioxide emissions. It is clear that reorientation of energy and industry would require impressive expenditures from American corporations. Our country also cannot assume such obligations: The structure and level of technology in the fuel and energy complex simply do not allow us to provide any guarantees whatsoever right now.

Somehow or other the certain superficiality and groundlessness of the ministers statement—and it had already become clear what it would be during the course of the conference's work—caused an abrupt repudiation from those who we call informalists. Groups of young people with placards sat on the small lawn or stood near the entrance of the Hotel Norge where the ministers were meeting and the experts were working. And I was already happy at how properly the Greens demonstrations were occurring in the West but suddenly the scream of police sirens disrupted the silence. The Greens had literally pounced upon the conference participants who were leaving the hotel and more than 100 police officers immediately arrived to restore order. I had the opportunity to hear in the corridors of the conference that all of these demonstrations are a spectacle orchestrated by those countries who, like the Greens, have insisted on the inclusion of more specific obligations in the final document. I do not know is this is true or not but one thing is indisputable—it seems that the informalists have participated in such a representative conference for the first time. And the ministers admitted in their statement that it was not without success:

"The preparatory process in which representatives of various groups of our society participated as full-fledged partners was very useful to us: Industry, scientists, trade

unions, volunteer organizations for environmental protection, and young people. Representatives of these groups together with government organs prepared the Bergen program of events which we take into account."

Representatives of our Greens were also in Bergen. I argued for a long time with Ye. Vasilyeva, leader of the Murmansk youth ecological movement and later it seems that we came to a consensus as it is currently fashionable to say. Yes, the Greens are categorical and many of their proposals do not consider either economic capabilities nor the level of technology. But first of all many of them, while disavowing populist slogans, are increasingly heeding common sense arguments and are beginning serious work, including research work on improving the environment. And secondly, obviously this strong catalyst is needed so that stagnant water is not covered by the duckweed of stagnation and secrecy.

And the statement precisely stated the need for widespread access to ecological information: "We stress the importance of a well-informed and well-educated society's participation in order to provide society the capability to mobilize to conduct political changes that are compatible with the tasks of stable development. The Bergen process is an important step forward toward optimizing the democratic decision-making process that affects environmental and development issues."

It is difficult to dispute this. Commentators assessed the conference differently: Some considered it a new age in the activities of the UN and others, contrary to the ministers statement, considered it to be a step backward and not forward. Having cast aside the most extreme opinions, we recognize the main thing—at Bergen, representatives of 34 countries demonstrated their intent to deflect the threat of ecological crisis away from future generations. Ecological thinking does not easily enter into the consciousness of people educated on the ideas of consumerism. It is possible that the conference did not justify some people's hopes but it made a constructive contribution to the realization of the idea of Groos Harlem Brundtland, the former premier of Norway and chairman of the International Commission on the Environment and Development. The idea is as follows: "We need to establish a European ecological space in which political borders have less significance and will sooner unite than separate us."

Today's rigors and concerns should not replace alarm about the future. Reader, look closely at this sculptured figure by the famous Norwegian sculptor Vigelanna. Look closely at it and think....

Japan Warns of Doubling of CO_2 Emissions by 2050

OW0607004290 Tokyo KYODO in English 1311 GMT 5 Jul 90

[Text] Tokyo, July 5 KYODO—The Ministry of International Trade and Industry (MITI) warned Thursday that even if advanced countries peg carbon dioxide (CO_2) emission at present levels, the world's total CO_2 discharge would more than double by 2050, and more than treble by 2100.

MITI said that if the warming of the earth is to be checked, the advanced countries should work to cut their CO_2 emissions to the extent of not impairing their economic vitality.

The ministry also said the entire world should work to carry out the so-called "New Earth 21" action program, aimed at lowering levels of CO_2 and other gases warming the earth over a period of 100 years.

MITI also called for advanced countries to transfer CO_2 discharge reduction and control technology to developing countries.

Japan has decided to propose at the three-day Houston summit meeting due to open next Monday that the "New Earth 21" action program should be carried out.

Officials said the program devotes the next 100 years to the recovery of the planet from 200 years of accumulated carbon dioxide and other greenhouse gases.

The officials said the first 50 years will be the transition period, when environment-friendly technologies will be developed and introduced. The second 50 years will be the period in which future generations will draw on the results of the first half to recreate a green planet, they said.

China Considers Acceding to Ozone Layer Protocol

OW2806212290 Beijing XINHUA in English 1857 GMT 28 Jun 90

[Text] London, June 28 (XINHUA)—China has indicated that it will seriously consider acceding to the Montreal protocol for the protection of the ozone layer in view of improvement having been made over the past year on ozone protection cooperation.

"We will seriously consider acceding to the Montreal protocol and ratifying its amendments in light of the present situation," said Wang Yangzu, head of the Chinese delegation to the London international ozone conference, on Thursday.

He told reporters that the proposal, initiated by China at last year's Helsinki ozone meeting to set up an international fund to help developing countries acquire ozone-friendly technology, though opposed by many developed countries in the very beginning, has now been accepted by a great number of parties to the Montreal protocol.

"The proposal has now been written into the amendment to the Montreal protocol," he said.

One of the main tasks at the three-day London ministerial meeting is to amend the Montreal protocol that

requires phasing out of ozone-depleting chlorofluorocarbons (CFCs) and halons by 2000, instead of reducing its production by 50 percent by 1999.

It is understood that the London conference will approve amendments to the provisions of the protocol including technology transfers and financial assitance to developing countries for that purpose on Friday, the last day of the conference.

Mr. Wang said the international fund will not be established until 1993 after all the parties to the protocol ratify the amendment to the protocol.

So the financial assistance is only provisional measures from 1991 to 1993, he added.

He also pointed out that the London meeting has not reached agreement on technology transfers under favoured concessions to developing countries and there is still a long way to go.

Mr. Wang, however, was satisfied with the progress made over the past year as the two main issues, i.e., financial assistance and technology transfers have gone into the amendment even though the "favoured concessions" are not inserted under that transferring.

Asked about the exact time for China to join the Montreal protocol, Mr. Wang said: "You have to have time to complete legislative procedures. However, China is serious about being a party to the protocol."

In explaining the favoured concessions for technology transfers, the Chinese delegation head said: "It does not mean free of charge in transferring technology. The favoured conditions will take into account recouping industries of the developed nations for their expenditures of research."

"But they should not turn the recoupment into profiting," he emphasised.

Earlier, Mr. Wang told the London meeting that contributions to the international fund and the commitment to technology transfers "should entirely be the responsibility of the developed countries as the present depletion of the ozone layer is mainly caused by their huge assumptions of ozone depleting substances over the past years."

Mr. Wang dismissed as nonsense the U.S. delegation's allegations that China will have 300 million refrigerators and, therefore, is a great consumer of CFCs.

He said China produces 8 million refrigerators annually. It will take several dozens of years to reach that goal.

China Warns of Obstacles to Ozone Protection Cooperation

OW2806195690 Beijing XINHUA in English 1519 GMT 28 Jun 90

[Text] London, June 28 (XINHUA)—China warned today that any obstacles in the way of technology transfers of ozone-friendly substance and financial assistance for that transferring would ruin the efforts for worldwide ozone protection.

Wang Yangzu, head of the Chinese delegation, told the environment ministers on the second day of the London international ozone conference that restrictions to the two issues most concerned by developing countries will only benefit industrialised nations and their companies.

"If financing and the transfer of technology are not ensured, the international efforts for the protection of the ozone layer will become an opportunity for a few enterprises in the developed countries to make exorbitant profits while new constraint will be placed on developing countries," he said.

There were heated comments on the amendment to the Montreal protocol which will phase out the use of chlorofluorocarbons (CFCs) and reduce other ozone-depleting chemicals at the London environment ministerial meeting yesterday.

The main controversial issues remained to be technology transfers and financial assistance.

The Malaysian delegation, speaking for a group of developing countries, described as environmental colonianism the restrictions imposed by the industrialised countries on technology transfers and their reluctance to provide more money to assist the Third World in investment into ozone-friendly alternatives.

Mr. Wang, deputy administrator of the Chinese Environment Protection Agency, made it clear that developed countries have a responsibility to help developing countries if their call for protection of the ozone layer was sincere.

He pointed out that the present depletion of the ozone layer is mainly caused by huge consumption of the ozone depleting substances in the developed countries, which, with less than one-third of the world population, have conuumed 86 percent of CFCs and halons in the world.

"Therefore, the contributions to the international fund and the commitment to the transfer of technology should entirely be the responsibility of the developed countries," he said.

Mr. Wang said there should be no conditions attached to any technology transfers and financial assistance because "it is definitely not alms bestowed on the developing countries, but a historical responsibility that should be fulfilled for the benefit of all mankind" especially by industrialised countries.

China initiated a proposal at the Helsinki ozone meeting last year for the setting up of an international fund for the protection of the ozone layer, which has since met with great support from developing countries and is now to be considered to enter into the amendment to the Montreal protocol at this meeting.

"We are pleased to note that the past year's efforts has led to progress in respect of the preparation for the setting up of a mechanism for providing funds and technical cooperation to developing coutries," he said.

Mr. Wang declared that China, which is not a signatory of the Montreal protocol for protection of the ozone layer, will consider to sign it and ratify its amendment.

"In light of the present situation, we will seriously consider acceding to the Montreal protocol and ratifying its amendment," he said.

Argentinian Minister To Participate in Ozone Layer Meeting

PY2606140690 Buenos Aires TELAM in Spanish 2016 GMT 25 Jun 90

[Text] Buenos Aires, 25 Jun (TELAM)—This afternoon Health and Social Action Minister Eduardo Bauza left for London, where he will participate in the "second meeting of Montreal Protocol members to discuss substances that harm the ozone layer."

According to a communique issued by the Health and Social Action Ministry, the meeting, to be held 27-29 June in London, is part of the United Nations environmental preservation program.

Bauza said that the reason for the meeting is to agree on the role to be played by organizations within a financial assistance mechanism for developing countries established by the protocol signed in Montreal, Canada.

The Montreal Protocol is based on a previous meeting held in Vienna in 1985 to discuss preservation of the ozone layer, during which countries were urged to reduce the production and consumption of dangerous substances, especially chlorofluorocarbons. An agreement was signed, including by Argentina, on this occasion.

In 1987, representatives met again in Montreal, where it was agreed that each member country would control the consumption level of dangerous substances and prohibit the import of controlled substances, and that they could suspend the control measures for 10 years as long as the annual consumption of controlled substances were lower than [words indistinct] per inhabitant.

In this regard Bauza said that "Argentina has already enacted Law No. 23778 approving the protocol on substances that affect the ozone layer" and added that "it has already started to draw up a ratification document to be sent to the UN secretary general, which is required for members of the Montreal Protocol."

Cost of Carbon Dioxide Reduction, Bergen Conference Discussed

90WN0117A Oslo AFTENPOSTEN in Norwegian 25 May 90 p 2

[Article by Ole Mathismoen: "Uncertain What Carbon Dioxide Cuts Cost"]

[Text] It is uncertain what a stabilization or reduction in the global emissions of carbon dioxide will cost. The only thing economists know is that the cost will be sky high and that it probably will be higher the longer we postpone our countermeasures.

At the environmental conference in Bergen, the United States was practically ridiculed because it was the only country that would not obligate itself to either stabilize or reduce its carbon dioxide emissions. This gas is most responsible for the greenhouse effect. One of the Americans' main arguments was that the cost of giving such a promise was far too high.

There are no particularly accurate figures in Norway, either. In the spring of last year, when Parliament approved a resolution stating that Norway's carbon dioxide emissions in the year 2000 would be no greater than in 1989, our elected representatives had precious few cost estimates to go on. The only data available was the SIMEN report, written by researchers at the Central Bureau of Statistics. The estimates in that report indicate that the carbon dioxide goal that has been set will cost Norway somewhere between 5 and 10 billion kroner in the form of reduced gross national product. The reason for this is a transition from the production of goods to the performance of services. It was also known that the proposal would affect major sections of industry, particularly power-intensive industries and industries that are highly dependent on transportation. The reason is that to reduce carbon dioxide emissions, we must reduce our consumption of oil, coal, and natural gas.

Help

The information that is available today, one year after the parliamentary resolution, is not much better. As part of an interdepartmental working group on climatic problems, economists at the Central Bureau of Statistics are now making a more thorough investigation. The figures will not be made public until the study on the climate is presented in January or February 1991.

In addition to Denmark and the Netherlands, Norway received the greatest help from West Germany in our attempt to set up a concrete goal for reduced carbon dioxide emissions at the environmental conference in Bergen. German Environmental Minister Klaus Topfer said it was his country's goal to reduce emissions by 20 to 25 percent by the year 2005. The point is that this is not as remarkable as it seems. West Germany's energy consumption is declining due to structural changes in its industry that are independent of environmental considerations. In addition, due to the reunification with East

Germany, the Germans will obtain a large number of inefficient coal-fired plants. These plants must be modernized, regardless of other circumstances, so a major reduction in carbon dioxide emissions will be achieved "for free" in this way.

Extremely Expensive

The Americans know, however, that any attempt at retarding the increase in carbon dioxide emissions will cost an enormous amount of money, even though the United States has made no thorough economic analysis. Estimates now used by American authorities indicate that a 20-percent cut from now to the year 2100 will cost a minimum of $800 billion and, in the worst case, up to $3.6 trillion. These estimates are 30 to 150 times higher than previous estimates from the American Environmental Protection Agency on how much it would cost to phase out ozone-destroying chlorofluorocarbon gases. Other estimates as to how much carbon dioxide stabilization by the year 2050 would cost are based on the same assumption that is found in the Norwegian SIMEN calculations, namely a reduction in the GNP of one to two percent, or about $340 billion at today's values.

All the estimates are vague and unsatisfactory, just as research on the greenhouse effect and global warming is vague and unsatisfactory. Many answers will be forthcoming in the next few years. As early as this fall the climatic effects panel of the United Nations (the IPCC), under the leadership of Bert Bolin from Sweden, will present its report. It is most likely that the world's most prominent researchers will state that climatic changes are already taking place and that countermeasures must be taken as soon as possible. Perhaps that news will be strong enough to make President George Bush dare to abandon his campaign promise of no new taxes or fees. After all, a broad international consensus is now developing, according to which the use of environmental fees on fossil fuels such as coal, oil, and natural gas is the only way to reduce carbon dioxide emissions. Traditional regulatory policies will not do the job. Prime Minister Jan P. Syse announced in Bergen that environmental taxes would be included in the Norwegian budget as early as this fall. At the same time, he promised that other taxes would be reduced commensurately. If we are to reach Parliament's goal, which we have now promised the world that we will do, namely a stabilization of carbon dioxide emissions at the 1989 level, then we must start now. The economists are calling for at least a doubling of gasoline prices as the only effective medicine.

EC Ministers Shocked Over East European Environmental Conditions

25000744E Budapest NEPSZABADSAG in Hungarian 18 Jun 90 p 3

[MTI [Hungarian Telegraph Agency] report: "All-European Environmental Protection Meeting: Shocking Ecological Damage in East Europe; Hungarian Invitation to Countries Along the Danube"]

[Text] "An ecological catastrophe may be prevented only with joint effort," according to a statement adopted Saturday by ministers of the European Communities and of seven Central and East European countries at an environmental protection conference held in the Irish capital. Sandor K. Keresztes represented Hungary at the conference.

According to reports, West European ministers at the Dublin conference were shocked to hear reports revealing the true magnitude of damage suffered by the environment of East European countries.

According to depressing data presented by Czechoslovak minister Josef Vavrousek, the anticipated life expectancy in his country is between five and seven years lower than in the countries of the European Community [EC]. In Prague and in certain parts of the CSFR, sulfur dioxide concentration is twenty times higher than the permissible level in EC countries. As Polish minister Bronislaw Kaminski reported, in his country 11 percent of the population is exposed to sulfur dioxide concentration, primarily in Krakow and in Upper Silesia.

The East European ministers unanimously declared their intent to render environmental protection rules more stringent. The EC Committee's environmental protection delegate Ripa di Meana intends to initiate action as a result of which one-third of the 200 million ECU [European currency unit] support to be provided by the EC to the GDR, the CSFR, Bulgaria, Romania, and Yugoslavia would be used for environmental protection purposes. (Forty-seven million ECU were already earmarked for such purposes in regard to Poland and Hungary.)

As the most important result of the first all-European environmental protection conference the ministers agreed to develop an information and data network. In addition, the EC will encourage enterprises in member countries to observe at this stage the more stringent West European environmental protection standards in regard to their investments in East Europe.

Hungary invited all states along the Danube to take part in an environmental protection conference, the French news agency AFP reported. According to Environmental Protection Minister Sandor K. Keresztes, at the meeting scheduled for the second part of October it would be possible to take account of the environmental protection problems of the region, and to determine specific tasks and schedule their implementation.

At the [Dublin] conference, Hungary and the CSFR requested the EC Committee to prepare an expert report about the feasibility of implementing the conflict-laden Gabcikovo-Nagymaros barrage, authoritative persons announced on behalf of the committee.

Reports on Extent of East European Pollution Termed 'Shocking'

90WN0165A Oslo AFTENPOSTEN in Norwegian 18 Jun 90 p 8

[Article by Kjell Dragnes: "Shocking Reports About the Environment in the East"—first paragraph is AFTENPOSTEN introduction]

[Text] At a meeting in Dublin over the weekend the ecological catastrophe in East Europe was revealed. The EC has promised money and efforts to clean up.

London—The ideological smokescreen which for years covered up environmental problems in the countries of East Europe has come down after this weekend's meeting, but it will take many years and cost billions of kroner before industrial smoke is removed and the environment can be cleaned up after 40 years of abuse.

Though it was known that East Europe had struggled with ecological problems owing to antiquated technology and mindless industrialization, reports from these countries' environment ministers were nonetheless shocking.

Dead Forests

Today major forested areas are dead as a consequence of acid rain, and toxic gases which continue to spew forth from smokestacks in Poland, the CSFR, Romania, East Germany, Bulgaria, and Hungary have had disastrous consequences for public health. In the mining area of Silesia in Poland, authorities estimate that the life expectancy is 11 years lower than the national average because of pollution.

The situation is scarcely any better anywhere else in East Europe, and the environmental minister of the German Democratic Republic revealed that toxic waste is dumped and stored in 15,000 places in his country.

The EC organized the meeting, and at the Dublin meeting it was decided to expand spending on environmental protection to include the other countries of East Europe. Earlier the Community had given funds to Poland and Hungary. Owing to the unrest and the clashes in Romania, that country's environment minister pulled out of the meeting at the last minute. This pointed up one of the conditions for Western help to help clean up: The EC has required the countries of East Europe to continue their processes of political and economic reform.

World Bank

Before the Dublin meeting Barber Conable, the president of the World Bank, was in London to seek British support for a new environmental fund. On generous terms and at very low rates of interest, the fund will make loans to East European and developing countries so they can clean up their environments. The idea for the fund was suggested last year by France and West Germany, and the World Bank believes a pilot project should be undertaken, to cost approximately two billion kroner annually for the first three years. Among other things, the project will consist of reforestation, energy conservation, and other environmental measures.

At the Dublin meeting it was also made clear that the countries of East Europe will make their own efforts to clean up, but they will need a great deal of money. It is estimated it will cost at least 1,400 billion kroner just to halt pollution in the six countries. And this does not include the cost of cleanup.

Vast Extent

The extent of the environmental catastrophe is vast.

- Poland: Around Cracow, which is surrounded by steelworks and chemical plants, the number of cancer cases is four times higher than in the West. Sixty percent of the food produced in the area is inedible. Five areas have been declared disaster areas.
- Romania: Eighty-five percent of rivers are so polluted that their water is undrinkable. The petrochemical plant at Copsa Mica has blackened everything in a 10 km radius.
- The CSFR: Seventy percent of the rivers are polluted, one-half of all forests are dead or dying, three-fourths of toxic waste is irresponsibly stored. Soil erosion is extensive.
- East Germany: Eighty-three percent of forests are damaged by sulfur emissions; sulfur dioxide comes down over Scandinavia as acid rain.
- Hungary: The air over half of the country is dangerous to human health. Less than one-half of the population has satisfactory sewers.
- Bulgaria: Ground water is extremely polluted. Environmental toxins and pollution wash into the Black Sea.

West, East Germany Sign Environmental Accords

LD2606124290 Hamburg DPA in German 1126 GMT 26 Jun 90

[Excerpts] Bonn (DPA)—Today in Bonn Federal Environment Minister Klaus Toepfer (CDU) [Christian Democratic Union] signed agreements on 18 environmental protection projects in the GDR. The affected enterprises, communities, and institutions are to receive about 52.6 million Deutsche marks [DM] from federal funds, allowing investments of about DM 127.5 million.

Joepfer told the press in Bonn that the projects are not spectacular, but ones which can be imitated and serve as a model to the GDR. He expects an improvement in the environmental situation which will become rapidly visible to citizens. Building work is already being carried out in some areas. [passage omitted]

The 18 projects are part of a package which the budget committee of the Bundestag approved last week. This includes 10 further measures in all environmental spheres which have not yet been allocated. With the 28

projects, investments totalling about DM 1.5 billion will be facilitated. The Federal Environment Ministry's aid totals about DM 360 million; the difference will be met by the GDR budget.

FRG Minister Toepfer Announces Environmental Projects With GDR

AU2606124590 Cologne Deutschlandfunk Network in German 1100 GMT 26 Jun 90

[Joachim Horn report from Bonn]

[Excerpt] [Passage omitted] Last week the Bundestag Budget Committee approved 28 environmental projects with the GDR, involving a total of one billion Deutsche marks [DM]. However, agreement of the Budget Committee does not mean that construction measures can be started immediately. This holds true for a large number of environmental projects on which agreements were signed with municipalities and combines in Bonn today.

Environment Minister Klaus Toepfer said:

[Begin Toepfer recording] We agreed on 18 projects today, involving a promotional volume of DM52.6 million, which again will lead to investments of DM127.5 million. Ten additional projects have also been basically approved by the Budget Committee, which brings us to a promotional sum of DM360 million and consequently investments totaling DM1.5 billion. These figures must certainly be viewed in connection with the fact that the envisioned projects are pilot projects. They do not represent the environmental improvement in the GDR; however, all these projects are not significant as such, but they are significant because of their model character, and because they can and will lead to further measures. I think, therefore, that they represent more than just the financial means which are not negligible either. [end recording] [passage omitted]

Bulgarian Foreign Minister Seeks EC Environmental Assistance

AU0307203990 Sofia BTA in English 2003 GMT 3 Jul 90

[Text] Brussels, July 3 (BTA)—Bulgarian Foreign Minister Boyko Dimitrov, who is here to attend the foreign ministers meeting of the Group of the 24, met Mr. Frans Andriesen, vice president of the EC Commission.

The talks centered on Bulgaria's foreign debt, the prospects for assistance by the EC and the Group of the 24 if it approves the expansion of the aid for Bulgaria. Mr. Andriesen said the matter would be reviewed at tomorrow's conference and voiced his optimism about the outcome.

The two also discussed the implementation of the Bulgaria-EC Trade and Cooperation Agreement. The European Parliament will approve the agreement after its summer break, Mr. Andriesen said, so the session of the mixed committee will be held this autumn.

Several priority trends of assistance to Bulgaria by the Group of the 24 were discussed: farming, ep [expansion unknown], cadres training, assistance in the application of market economy elements.

Bulgaria may expect an EC aid worth over 30 million dollars.

On request by the Bulgarian Government, Mr. Dimitrov placed the question of direct EC assistance in the settlement of the ecological problems around Ruse. Mr. Andriesen's response was positive. The EC will render Bulgaria assistance for an independent expertise around the ecological situation in Ruse through modern gaging devices. This may happen this October.

Romanian Ecology Delegation Participates in Strasbourg Greens Meeting

AU0907184690 Bucharest ROMPRES in English 1737 GMT 9 Jul 90

[Text] Bucharest ROMPRES 9/7/1990—The Romanian ecologic delegation made up of Toma George Maiorescu, president of the Romanian Ecologic Movement, Lucian Bleahu, senator, and Mihai Balanescu, deputy, took part in the founding session of the Green Parliament of Great Europe held in Strasbourg.

During the session the Romanian representatives presented accounts and proposals for amendments to its resolutions. The Romanian delegation were offered co-chairmanship of debates on the role of the greens in Europe and on Europe's role in the world.

On the occasion of their participation in that forum, the Romanian delegation conducted talks with Mrs. Catherine Lalumiere, secretary-general of the Council of Europe, Wilfried Telkamper, vice-president of the European Parliament, Leo Cox, secretary general of the European greens.

CSFR Official on Ecological Damage Caused by Soviet Troops

AU2606140790 Prague ZEMEDELSKE NOVINY in Czech 22 Jun 90 p 2

[Interview with Vaclav Vucka, deputy minister of environment of the Czech Republic, by Jan Bauer; on 21 June, date not given: "The Cost of Occupation"]

[Text] [Bauer] On Wednesday [20 June] Gennadiy Gerasimov, the Soviet Foreign Ministry spokesman, told a news conference in Moscow that Czechoslovak and Soviet experts' methods and criteria for assessing the ecological damage caused by the troops of the Central Group of Soviet Forces on the territory of the Czech and Slovak Federal Republic differ.

Yesterday we asked Engineer Vaclav Vucka, deputy minister of environment of the Czech Republic and head

of the Czechoslovak section of the joint Czechoslovak-Soviet [ecological] commission, to comment on Gerasimov's statement.

[Vucka] This statement is not completely accurate. To claim that diverse figures on the damage exist is inappropriate because neither side has such figures yet. Without hydrogeological research it is impossible to ascertain the amount of oil products that has seeped into the ground, how the damage will be eliminated, and how long it will take. The Soviet side claims that the problems are far smaller than we see them. However, the very fact of the establishment of a joint ecological commission is positive. The Soviet side proposed the establishment of this commission under the negative impression of our own independent findings of March and April. At that time the Czech Water Economy Inspection Authority reached the conclusion that the damage, i.e. the estimated cost of cleaning up the underground water resources, would be between one and three billion korunas. I believe that it was precisely the fear of this sum which prompted the Soviet Army to propose the commission.

[Bauer] Who will cover these costs?

[Vucka] The agreement on the withdrawal of Soviet troops foresees that property issues will be resolved within two years after the conclusion of the agreement. In other words, we have 18 months' time to carry out the research, draft the necessary clean-up projects, and determine their cost.

Goskompriroda Deputy Views USSR International Treaty Participation

90WN0156A Moscow PRAVITELSTVENNYY VESTNIK in Russian No 24, Jun 90 p 8

[Interview with Stanislav Yuryevich Tsurikov, deputy chairman of USSR Goskompriroda [State Committee for Environmental Protection], by PRAVITELSTVENNYY VESTNIK Correspondent G. Konstantinov: "The Soviet Side is Bound to...."

[Text] The USSR Council of Ministers Resolution "On Measures for Organization of the Accomplishment of the Soviet Side's Obligations for Environmental Protection and Rational Utilization of Natural Resources that Result from the USSR's International Agreements" has been adopted. S.Yu. Tsurikov, deputy chairman of USSR Goskompriroda [State Committee for Environmental Protection], discusses it at the request of our Correspondent G. Konstantinov.

[Konstantinov] Stanislav Yuryevich, it is already clear to the attentive reader from the title of the document that previously our country did not always fulfill its international agreements....

[Tsurikov] In any case in the area of the ecology. This situation, in essence, was programmed by the very organization of the matter. Many departments that actively exploit natural resources and pollute the environment also "monitored" their own environmental protection activities, including international aspects. Here are just two characteristic examples: Minrybkhoz [Ministry of the Fish Industry] insured compliance with the Convention on Protection of Antarctic Seals that was signed in 1972 and USSR Minmorflot [Ministry of the Maritime Fleet] insured compliance with the International Convention on Prevention of Pollution from Ships.

[Konstantinov] This reminds me about the saying regarding the goat and the cabbage....

[Tsurikov] Naturally. It really is obvious that the goals of economic activity will very often contradict ecological requirements. Where the preference is assigned in these cases is, I suggest, a rhetorical question. After establishment of USSR Goskompriroda the situation gradually began to change—inspections and monitoring compliance with ecological demands is becoming extra-departmental. And in international matters these functions have now been transferred to our committee.

[Konstantinov] Can you handle it? Really our country has concluded quite a few environmental protection treaties.

[Tsurikov] Yes, we have already organized fulfillment of the obligations that the Soviet Union has assumed in accordance with over 30 documents. I will name just a few in order to stress the breadth and importance of the tasks: The Convention on Prevention of Pollution of the Sea Through the Discharge of Wastes and Other Materials, the Convention on Protection of the Worldwide Cultural and Natural Heritage, the Agreement Between the Government of the USSR and the Government of the U.S. on Cooperation in the Sphere of Environmental Protection, the Agreement on Conservation of Polar Bears, the Convention on Trans-Border Air Pollution at Great Distances and the Protocol on a 30 Percent Reduction of Sulfur Discharges, and the Declaration on Cooperation of the Dunay [Basin] States on Issues of Dunay River Water Management.

Furthermore, we are conducting preparatory work for the USSR to adhere to a number of other international environmental agreements and conventions. And, finally, the committee's tasks include analysis of fulfillment by other departments of another nearly 30 such documents signed by our country.

Naturally, the USSR Goskompriroda staff is not capable of independently conducting this work—we intend to enlist a number of scientific research institutes to do it. I suggest that this will insure thoroughness of monitoring and high level, independent inspections. Furthermore, an interdepartmental commission will be created under USSR Goskompriroda that will include representatives of union republics, the USSR Academy of Sciences, ministries, departments, and organizations that are directly responsible for fulfillment of the USSR's international environmental protection obligations.

Sweden, Soviet Baltic Republics Plan Baltic Sea S&T Action

LD3006194290 Vilnius International Service in Lithuanian 2100 GMT 29 Jun 90

[Text] An agreement has been signed in the Estonian Capital Tallinn, on ecological protection cooperation in the Baltic Sea region. The scientific conference, participated in by the Lithuanian, Latvian, and Estonian science academy, as well, as the Swedish Royal Academy delegations, has projected joint actions for the protection of Baltic Sea waters.

A joint policy of scientific exploration and a long-range plan for development of a Baltic market will be prepared on the basis of an agreement between the three Baltic states.

Finnish Authorities Unaware of RSFSR Kola Nuclear Waste Plan

LD0207172190 Helsinki Domestic Service in Finnish 1000 GMT 2 Jul 90

[Text] The Finnish authiorities are not aware of the Russian Federation's plans to build a gigantic nuclear waste depository in the Kola Peninsula. Today's KALEVA newspaper [published in Oulu], for instance, reports that a decision on the site of the waste depository is due to be taken within a year, and the depository ought to be ready in five years' time. Officials working in the Radiation Protection Center, the Ministry of Trade and Industry, and the Ministry of Environment are all equally unaware of the Russian Federation's waste depository plans. According to the KALEVA report, the new provincial governor [as heard] of Murmansk, [?Yuriy Yevdokimov], has proposed to the Russian president, Boris Yelstin, that the nuclear depository should be sited on the uninhabited island of Novaya Zemlya.

Finnish Official Views Soviet Nuclear Waste Dump, Testing Plans

LD0207192390 Helsinki International Service in Finnish 1500 GMT 2 Jul 90

[Excerpt] The Lapland regional office of the Radiation Protection Center is not particularly worried over the plans to build a gigantic nuclear waste depository on the Kola Peninsula. The Radiation Protection Center demands, however, that Soviet nuclear waste must be buried in accordance with international regulations, deep into firm bedrock. The plans for a nuclear dump in Kola became public in Murmansk during the weekend. Here is a report by Matti Mykkaenen:

[Begin recording] [Mykkaenen] The plan for siting a gigantic nuclear waste depository in the sensitive Arctic area on the Kola Peninsula surprised visitors to the Murmansk peace days during the weekend. As the forests and people in Lapland are already suffering from the massive pollution emissions of the Kola factories, the concern in Lapland and Finland is now even greater, bearing in mind that radioactive waste on the Kola Peninsula is also created by the nuclear submarines in the port of Murmansk. This is what special researcher, (Kristina Rissanen) from the Rovaniemi regional office of the Radiation Protection Center has to say.

[Rissanen] Well, we have not been particularly worried about it. As long as it is done as it ought to be done, as nuclear waste is buried in the rest of the world, at least in bitumen or glass mass or concrete, in tight containers, and if it is carefully checked that the bedrock, into which they are sunk, does not have any side cracks, so that nothing should enter the ground water. Then if something gets out from such a dump, it will not get into the ground water, and will not spread here into Lapland.

[Mykkaenen] Thus (Rissanen) presumes that the Soviet Union buries its nuclear waste in accordance with international regulations into sufficiently extensive bedrock. She is more concerned over the Soviet intentions of concentrating nuclear tests slightly further away, on the uninhabited island of Novaya Zemlya, than over the proper depository for nuclear waste in Kola.

[Rissanen] Well, I am more worried about the possibility of their resuming nuclear testing there.

[Mykkaenen] There in Novaya Zemlya?

[Rissanen] Yes, even though it is further away, it would cause me more worry and work.

[Mykkaenen] The Soviet nuclear waste depository is urgent, because old reactors and other waste must be buried in five years' time at the latest. This was stated at the Northern Kola peace days in Murmansk by people's deputy (Anatoliy Simenov), who is also deputy chairman of the Murmansk area meteorological committee. The people of Murmansk have, however, awoken to oppose the burying of nuclear waste on the peninsula. In the same way, Finnish municipalities have not been eager to accept nuclear waste on their territory, either. The Murmansk Oblast Soviet has proposed the burying of the waste a little further away on the uninhabited island of Novaya Zemlya, which the Soviet Union is planning as a site of nuclear tests. (Kristina Rissanen) from the Radiation Protection Center regards the proposal as strange and the island as a poor site. [passage omitted] [end recording]

Egyptian Minister Visits FRG for Environment Talks

NC0407210890 Cairo MENA in Arabic 2015 GMT 4 Jul 90

[Excerpt] Bonn, 4 Jul (MENA)—Dr. 'Atif 'Ubayd, Egyptian cabinet affairs minister and minister of state for administrative development, arrived in Bonn from Paris this evening for a two-day visit during which he will hold talks with FRG officials on ways to promote cooperation

between the two countries in the field of the environment and the establishment of joint projects. [passage omitted]

Egypt, France Sign Environmental Protection Agreement

JN0607103690 Cairo AL-AKHBAR in Arabic 4 Jul 90 p 6

[William Wisa dispatch from Paris]

[Excerpt] Egypt and France signed a joint statement yesterday for cooperation between the two countries in the fields of environment and prevention of technological and natural risk. The cooperation also covers water purification and reuse in agriculture, clearing and protecting air from pollution, protecting sea plants in the Red Sea and the Gulf of Aqaba, developing solar energy, moving industrial units away from population centers, gathering statistics, and setting up an environment data center.

The agreement was signed for Egypt by Dr. 'Atif 'Ubayd, minister of state for People's Assembly and Consultative Council affairs and head of the environment conservation organization [title as published], and for France by Brice Lalonde, French secretary of state for environment and technological and natural risk prevention. [name and title as published] Ahmad Sidqi, Egypt's ambassador in Paris, attended the signing ceremony.

The agreement calls for coordination in these fields among organizations and bodies working in environmental protection in the Rhone basin in France and the relevant organizations in Egypt to benefit from their expertise and resources in order to protect the Nile Valley. It also calls for an agreement to coordinate work in the two regions. [passage omitted]

Egyptian Minister Returns from Environmental Talks in FRG

NC0707094890 Cairo MENA in Arabic 0642 GMT 7 Jul 90

[Excerpts] Cairo, 7 Jul (MENA)—Dr. 'Atif 'Ubayd, cabinet affairs minister and minister of state for administrative development, returned to Cairo early this morning after a six-day visit to France and West Germany. [passage omitted]

Dr. 'Ubayd said on his return that he held talks in Bonn on projects relating to environmental protection in Egypt, the most important of which is a project to establish a green belt extending across the coast of North Africa, which is to be financed by the FRG Government. He added that discussions also dealt with the environmental situation in the Mediterranean Sea.

Brazil, Japan Sign Scientific Cooperation Agreement

PY2906182090 Brasilia Radio Nacional da Amazonia Network in Portuguese 1000 GMT 29 Jun 90

[Text] Brazil and Japan have signed a cooperation agreement in four scientific-technical projects. These projects have been prepared by the DNPM [National Department for Mineral Production, Departamento Nacional de Producao Mineral] which has created the training center for the control of environmental pollution.

The UNICAMP, Campinas State University, will work as a center for research and diagnosis of digestive system disorders. The EMBRAPA, Brazilian Agriculture and Livestock Research Enterprise, will work on the project to generate agro-industrial technology for the development of the humid-tropics [tropico humedo] in an effort to make the ecology of the Amazon region compatible with economic alternatives and the employment of the inhabitants.

Lastly, the SENAI, National Service for Industrial Apprenticeship, headquartered in Sao Paulo, will work on the automation of manufacturing industries.

(Guilherme Leite Ribeiro), Executive Director of the Brazilian Cooperation Agency, has said that the experience brought from Japan for expanding and mobilizing the agricultural, health, and industrial sectors will yield good results for Brazil.

Chinese Officials Meet on Global Environmental Protection

OW1007060590 Beijing XINHUA Domestic Service in Chinese 0956 GMT 5 Jul 90

[By reporters Yang Zhaobo (2799 0340 3134) and Gu Honghong (7357 3163 3163)]

[Text] Beijing, 5 Jul (XINHUA)—In order to meet the needs of environmental protection development worldwide and better participate in international environmental activities, the State Environmental Protection Committee of the State Council held its 18th meeting in Beijing on 4 and 5 July. The meeting studied and discussed China's principles and stand on the solution of certain global environmental problems.

Song Jian, state councillor and chairman of the State Environmental Protection Committee, presided over the meeting.

The meeting pointed out: The Chinese Government attaches great importance to environmental protection, has included it in its basic national policies, and perseveres in the policy of promoting a coordinated development of society, the economy, and environmental protection. As China is such a vast territory, we would be making an important contribution to the improvement of the global environment if we did a good job in protecting the environment of our country. We have

always adopted an aggressive attitude in international environmental affairs and, therefore, would seek effective means to jointly solving the problems of the global environment through extensive international cooperation.

The meeting maintained that the Chinese Government attaches great importance to the problem of ozonosphere protection, as China joined the "Vienna Convention for Ozonospheric Protection" in 1989, participated in several relevant international activities, and suggested the establishment of an international foundation for the protection of the ozonosphere. Regarding the problem of protecting the ozonosphere, our principled stand is that ozonospheric protection is in the common interests of all the people in the world, that the Chinese Government supports all activities aimed at protecting the ozonosphere, that the destruction of the ozonosphere is caused mainly by the developed countries' emission of hazardous substances over a long period, that the extra burden incurred in ozonospheric protection should not be shifted to the developing countries; and that, in this connection, a mechanism of special foundations and technical transfer should be set up to provide aid for the developing countries.

The meeting maintained that, as China has a large population and a long coastline, weather changes will produce an important influence over it. Our Government pays close attention to this problem. To prevent the weather from continuing to warm up, control of the emission of carbon dioxide should become a task to be persisted in over a protracted period. To this end, vigorous efforts should be made to conserve energy, readjust its structure, increase the proportion of coal's conversion to electric power, and speed up the development of energy which does not pose a pollution problem.

The meeting also discussed vegetation destruction, soil erosion, acid rain, cross-border transfer, and proliferation of toxic and hazardous chemicals and rejected materials, the variety of the species of living things, and other global ecological problems to which the international community pays close attention. The meeting presented the basic attitude that we ought to take in international activities.

More than 70 people, including deputy secretaries general Wang Shuming and Liu Zhongde of the State Council and vice chairmen Li Xue, Chen Guangjian, and Qu Geping of the State Environmental Protection Committee, participated in the meeting.

China Appreciates Finnish Cooperation in Environmental Research

OW2806212590 Beijing XINHUA in English 1744 GMT 28 Jun 90

[Text] London, June 28 (XINHUA)—China today expressed its appreciation of the cooperation with Finland in environmental protection research and hoped to continue to work with it in the field for a better world environment.

Wang Yangzu, China's deputy administrator of the Environmental Protection Agency, told the Finnish delegation to the London international ozone conference that three environmental experts sent by the Finnish Government to China had made great contributions to the completion of the "country study," which concerns the financial necessity for ozone protection in China.

A Chinese delegation to last year's Helsinki ozone conference discussed scientific and technological cooperation in the field of environmental protection with Finland on May 7, 1989.

Helsinki hence announced to contribute 2 million dollars to the United Nations Development Program, used in China for practical research and economical calculations in this field.

Wang thanked the Finnish delegation, headed by Lauri Tarasti, the secretary general of the Ministry of the Environment of Finland, for the help Helsinki had given in the environmental research and expressed his hope that the cooperation will continue.

Wang, also head of the Chinese delegation to the London meeting, told the Finnish friends that China will consider signing the Montreal protocol, that requires the phasing out of the use of chlorofluorocarbons (CFCs).

He said there has been great progress since China initiated a proposal at the Helsinki ozone meeting last year that an international fund be established to assist developing countries in getting ozone-friendly technology.

Delegates to the London meeting are considering entering the Chinese proposals into the amendment of the Montreal protocol, which is expected to be approved here.

Malaysian Foreign Minister Opens Kuala Lumpur Environment Seminar

BK0907075090 Kuala Lumpur BERNAMA in English 0717 GMT 9 Jul 90

[Text] Kuala Lumpur, July 9 (OANA-BERNAMA)—Malaysia believes that environment-related policies are not a hindrance to economic development but an integral part of socio-economic development and economic growth.

Foreign Minister Abu Hassan said Malaysia has always tried to integrate environmental considerations in its economic planning and decision-making process, particularly in the five-year development Plans.

Opening the three-day national seminar on United Nations Conference on Environment and Development here Monday [9 July], he cited the recent decision by the

government to cancel the Bakun hydro-electric project in the East Malaysian state of Sarawak as an example.

Abu Hassan said that while the search for solutions must necessarily begin in each country, a global response requiring cooperation among all countries was imperative.

He added that the problem of environment could not be addressed in isolation of equally urgent issues, such as the question of poverty, disease, hunger, and of general backwardness which are major causes of environment degradation in the South.

It also should not be isolated from international economic factors that continue to perpetuate poverty and general backwardness such as external indebtedness, declining commodity prices and terms of trade and access to markets.

He said that these constraints to development and growth, brought about largely by an increasingly hostile global economic environment, compelled developing countries to harness their natural resources as they have no other option.

ETHIOPIA

State Forest Management Plan Studied

34000810 Addis Ababa THE ETHIOPIAN HERALD in English 17 Jun 90 pp 1, 6

[Article by Letekidan Berhane]

[Text] The State Forests Conservation and Development Department of the Ministry of Agriculture has accomplished commendable work of conserving expanding and developing state forests in different parts of the country.

This was disclosed by the public relations office of the Ministry of Agriculture.

"Since its establishment 10 years ago, the department has been busy expanding existing state forests and developing new ones" a news letter published by the office disclosed.

Currently, the department is exerting special efforts in the conservation and development of 40 state forests in different parts of the country. Accordingly, the department has prepared 20,000,000 fuel and timber tree seedlings which will be planted on a 10,000 hectares of land which the department allotted for the current year, it was stated in the news letter.

In its effort to alleviate the serious timber and fuel problem in big towns and cities, the department has been exerting effort to achieve its plan of developing 12,800 hectares of land by the end of this year. About 22,460,000 tree seedlings are also prepared to cover the area, it was learnt.

The department has also been conducting preliminary study around Awassa, Arba Minch, Sodo, Harar and Jijiga towns. The study will be completed and operations will begin in the near future, the news letter elaborated.

Furthermore, the news letter noted, that during the last nine months of the current year the department has accomplished the forest registration and information gathering on 88,343 hectares of forest land and reservation of 261,766 hectares as against its plan to undertake registration of 224,000 hectares of natural forest and to reserve 390,000 hectares of natural forests. The preparation of development and management plan for four selected forest has also been underway, it concluded.

Agreement for 'Major' Afforestation Project Signed

34000761A Addis Ababa THE ETHIOPIAN HERALD in English 8 Jun 90 pp 1, 5

[Text] (ENA)—An agreement providing for launching a major afforestation project in two localities of Gambella Administrative Region was signed here yesterday between the Refugee Affairs Administration of the Ministry of Internal Affairs, the Development and Aid Department of the Ethiopian Orthodox Church and the office of the United Nations high Commissioner for refugees.

It was noted in the tripartite agreement that vast tracts of land in the Etang and Fugnido areas of the region have been greatly deforested and exposed to denudation and soil erosion, resulting in large-scale migration of wildlife to other awrajas. The decision to open a tree seedling nursery centre in each of the two localities was taken following a serious concern expressed by His Holiness the Patriarch of the Ethopian Orthodox Church (EOC) concerning the gravity of the danger posed by the alarming pace of deforestation in the area.

According to the agreement, the Development and Aid Department of the EOC will invest 85,956 birr for planting 500,000 seedlings in each of the two nurseries over the next two years. The 1,000,000 seedlings will cover 750-840 hectares.

His Grace Abune Timotios, Secretary General of the Church's Development and Aid Department, said following the signing of the agreement that the Etang Fugnido localities happen to be the homes of large numbers of refugees from the Sudan as a result of which the forest stands have been ruthlessly cut down for shelter and firewood. He said coordinated effort will now be made to restore the area's greenery, promote agriculture and attract back wildlife.

Comrade Col Negash Wolde-Michael, Director of the Refugees on Affairs Administration in the Ministry of Internal Affairs, noted on his part that the Ethiopian Orthodox Church's roles in helping activate socio-economic development and preserve the country's cherished antiquities were most commendable. He said the church's contribution to the afforestation programme was showing results.

The church was reported to have built a school for Sudanese refugees settled in the Etang locality and to have provided them with food and clothing.

Meanwhile, nearly 923,000 tree seedlings of different species were planted in Shambu so far this year in Horo-Gudru Awraja, of Wollega Administrative Region, in areas under government and cooperative forestry development projects.

The seedlings were planted to cover deforested areas in peasant associations enclaves, urban centres, and in mountainous and hilly areas in the awraja.

Terracing, construction of roads and harnessing of rivers is already under way in the awraja and students and teachers are said to be active in aforestation activities.

NIGERIA

Industrial Wastes Said Poisoning River in Kano

34000748A Lagos THE GUARDIAN in English 20 May 90 pp 1-2

[Article by Tunde Akingbade: "Industrial Wastes Poison River in Kano"]

[Text] Industrial effluents from over 327 industries have rendered River Challawa, a major source of drinking water in Kano, unfit for human consumption.

Marine life is also being threatened, as dangerous chemicals are believed to be responsible for the death of fish, micro-organisms and water plants in the river.

THE GUARDIAN gathered last week that the industries polluting the river dispose toxic and rust coloured effluents, in utter disregard of warnings by the World Health Organisation (WHO) on the issue.

At least 12 of the companies alleged to be involved are tannery concerns where a toxic chemical known as chromium and other acids are used in the treatment of hides and skin.

These chemicals, experts say, were responsible for the increasing rates and outbreak of intestinal diseases such as cholera. Besides, a publication of the Center for Disease Control, Atlanta, Georgia had earlier reported that chromium causes abdominal pains when ingested by human beings.

Apart from the tannery companies, experts hinted that the other companies involved in the hideous acts include textile factories and vegetable oil companies.

The director of Federal Environmental Protection agency, Dr. Olu Aina, confirmed in Kano during a visit to some of the industries that the effluents discharged into River Challawa were injurious to health.

At the Protein Derivatives Nigeria Limited, a processor of vegetable oil, Aina called on the management of the company to install an effluent treatment plant in order to abate the pollution of the environment. The FEPA director also frowned at the quality of effluent discharged by Deras Nigeria Limited, Challawa, a hides and skin processing company and requested the company's management to embark upon secondary and tertiary treatment of their wastes.

According to Aina, the discharge of untreated wastes by some companies into the river has made the treatment of potable water cumbersome, and expensive. He warned that the agency would invoke provisions of Decree 58 of 1988 on industries which continue to pollute the river if they fail to comply with the guidelines of pollution control.

Mr. Nicholas Bahanatos, Production Manager of Deras Nigeria Limited, Challawa, Kano, had earlier told the FEPA's director that the company would take steps to ensure that effluents generated by the company were treated before disposal.

Bahanatos said his company would comply with the guidelines and standards set by the Federal Government on preservation of the environment, adding that his company would soon begin to re-cycle its wastes.

There were also confirmations last week that River Kaduna which is also a major source of water to the residents of Kaduna has been "killed with dangerous effluents" discharged by the many textile industries in the southern part of the town.

Experts recalled that Lake Washington in Seattle, United States faced a similar problem until that country's government enacted laws for the control and disposal of industrial wastes.

Government To Issue Regulations on Pollution

34000748B Lagos THE GUARDIAN in English 22 May 90 p 16

[Article by Tony Okhamera, Ben Ukwoma and Tony Ndiulor: "Government To Introduce Regulations Against Pollution"]

[Text] Within the next four months, the government will come out with the first set of regulations against environmental pollution and degradation.

Works and Housing Minister Major-General Mamman Kontagora, who is also responsible for the nation's environmental matters, gave this hint at the first national environmental seminar on—"Industries and the Nigerian Environment", which opened in Lagos yesterday. He said the regulations, which would be "homegrown", would not only meet acceptable international standards but strictly avoid the pitfalls into which industries in developing countries have found themselves—a situation in which they make little or no provision for pollution control facilities.

The regulations, expected to be based on the outcome and recommendations of the three-day seminar, according to Gen. Kontagora, would be practicable and enforceable and would emphasise in "letter and spirit" the principle of sustainable development.

He urged participants comprising policy makers, industrialists, scientists and the academia to be firm, realistic and practical in their recommendations, which, he said, should aim at the protection of the Nigerian environment from the adverse effects of industrialisation.

Gen. Kontagora, who said the seminar was "tailor-designed, relevantly-targetted and carefully organised" to achieve the key specific purpose of protecting the nation's fragile environment", blamed the industries for the land and general environmental degradation for their production of untreated and harmful effluents.

In his key-note address titled: "Halting industrial pollution in Nigeria—which way FEPA?" Dr. Evans Olu Aina, director and chief executive of the nation's environment watchers—the Federal Environmental Protection Agency, listed the major evils facing the nation's environmental and various strategies intended by FEPA for effective policing of the Nigerian environment.

Aina noted that waste treatment facilities were virtually non-existent in the nation's industries and that even the few industries, which have managed to install the simplest pollution control equipment, did not take into account the adequacy of such facilities and the volume and type of waste they generate.

Besides, most Nigerian industries, according to Aina, are guilty of discharging their untreated wastes through drains or canal into the nearest body of water, relying on dispersal by dillution.

This he noted, had gone further to compound the pollution problem especially when they contain solid inorganic matter, organic matter,toxic substances, mineral nutrients, acids and alkali.

Such discharges, apart from polluting water sources, channel and atmospheric air, also create aesthetically unsightly surrounding, (as the case of cement factories) and water bodies unattractive for human recreation (in the case of stream/rivers polluted with floating oil from crankcase oil discharges).

Aina also spoke on land pollution, which he attributed largely to the direct discharge and disposal of solid wastes in lands and the careless disposal of industrial products and product containers by consumers especially where the discharges contain chemicals such as polychlorinated biphenyls (PCBS) which are toxic heavy metals.

The president of the Manufacturers Association of Nigeria (MAN), Alhaji Hassan Adamu, who praised FEPA for organising the seminar, suggested a two-way approach to the effluent control problem.

He urged the government to provide every industrial estate with a "central waste treatment plant" for the "secondary treatment" of wastes, while every industry would have to undertake the "primary treatment" of its waste within its factory.

NEST Faces Dilemma of Development, Environmental Problems

34000757 Ikeja NEWSWATCH in English 11 Jun 90 pp 16-18, 21-22

[Article by Onome Osifo-Whiskey with Yakubu Mohammed, Abdulrazaq Magaji, Mercy Ette, Nats Abgo, Janet Mba and Felicia Anidu]

[Text] It is a normal June day in Victoria Island, the fashionable Lagos district for Nigeria's moneyed and influential elite. A threatening rainstorm early in the night, discouraging the usual pleasure and business evening rides, keeps most of the suburb's residents indoors and its roads free of its rugged traffic. Suddenly, with no early warning system in place, the Atlantic Ocean, as though possessed and furiously driven by a condominium of enraged gods, lets loose its waters, hitting the beach in powerful, high, unrelenting waves. Within three hours, most of the island's estimated 1,400 properties are submerged in the roaring Atlantic, leaving the last few floors of high-rise buildings to play a largely symbolic, somewhat metaphoric modern-day Noah's Ark. As a presidential order commands the minister of works, the armed forces and the fire brigade to embark on immediate rescue operations, news reaches Lagos that Sapele, Warri, Port Harcourt and Calabar, the nation's other port cities, have been swallowed by the rampaging ocean surge. Conservative estimates put the casualty at two million dead and N100 billion in damages to property, goods, installations, factories and farms.

This gripping, H.G. Wells-like science fiction is not a far-fetched, other-worldly scenario. Thursday, May 24, the Atlantic, in a re-enactment of what has become a periodic ritual surged again, throwing panic and fear over the land as the Bar Beach, the nation's most popular beach, was reduced to a giant flood plain. Many buildings and roads, including the prestigious Ahmadu Bello Way and the Bishop Oluwole Street which both house some 80 percent of the state liaison offices in Lagos, were mere frail reeds against the sweeping blitzkrieg of the ocean. In just 24 hours, Mamman Kontagora, a major-general and works and housing minister; and Augustus Aikhomu, the chief of general staff and a vice-admiral, visited the Bar Beach. The latter officer, President Ibrahim Babangida's second in command, expressed great dissatisfaction with existing attempts to tame and contain the ocean at the beach. He immediately ordered the erection of enormous barriers, as is the case in las Palmas, Spain, and Los Angeles, United States, to contain future surges of the Atlantic.

Along Nigeria's 800-kilometer long coastline, unreported marine developments in obscure areas give further credence to the possibility, if not reality, of the frightening scenario. According to Tade Aina, an outspoken senior sociology lecturer of the University of Lagos and an executive of the non-governmental Nigerian Environmental Study/Action Team (NEST), says that a NEST profile of coastal parts of Akwa Ibom, Cross River, Rivers, Bendel and Ondo states, reveals the submergence in water of "buildings and other structures," He particularly cites the Okitipupa area of Ondo State where he judges this phenomenon most pronounced.

What has gone wrong? Global warming, say the experts. According to them, the world has grown warmer, particularly in the last decade. The great ice-caps of Greenland and the Arctic region of the North Pole and the Antarctica of the south are gradually melting and, with the assistance of warmer winters, sending immense waters into the oceans and seas. The result is a global swelling of

sea levels, a development that pushes the excess waters over the coastal regions of the world. Thus, climatically, Nigeria and Canada's Tundra region and the Soviet Union's Siberia are inextricably linked like a set of Siamese twins.

Man and development, earth watchers say, are the cause of the historic, potentially dangerous climatic changes. NEST's Aina goes philosophical in his account of this intriguing phenomenon. According to him, original Western Thought, in its idyllic, pre-industrial milieu, is conservationist. The Bible and the Koran are equally conservationist. And in Africa, traditional society, in its superstitions and folklores, was run on a rail-track of quintessential conservatism. But in this setting was order, a natural order that ensured balance between man and nature, an order that "maintained ecological balance." But modern Western thought, "with the onset of capitalism," reasons Aina, introduced a concept of progress that means the conquest of nature. "So, Western man has always been a dominant, all-conquering man" who sees nature meaning no more than mountains to be climbed, streams to be tamed, oceans to be governed. In this, argues the sociologist, is a commitment to an ideology of conquest, domination, exploitation and economics.

According to Aina, this is the genesis of today's serious environmental problems because man's quest for development has destroyed the harmony between man and nature. But in less elevated rhetoric, scientists say that the giant strides of industrialization witnessed in this century are the cause of the trouble. Industries and fossil fuels pollute the atmosphere with their carbon dioxide emissions which trap the heat in the earth's atmosphere, resulting in global high temperatures. Industrial activities and countless manufacturing processes release carbon dioxide and other gases classified as chlorofluoro-carbons, CFCs, which deplete the earth's protective ozone layer. Air-conditioners, refrigerators, plastic materials, cleaning agents, coal mines and oil products are common sources of these emissions. The depletion of the ozone layer, experts generally agree, leads to direct solar radiation reaching the earth, a development that could cause diseases, ranging from skin cancer to lowered resistance to infection.

As factories release thousands of tonnes of sulphur, nitrogen and other CFCs into the atmosphere, these noxious chemicals could either become smog or return to earth as acid rains that devastate the forests and much of the ecological balance. The overall result is a greenhouse effect producing an endangered earth with infinite possibilities that may mean anything from warm winters to buried coastal communities to the cultivation of bananas and sugar canes in the Sahara. The center of these changes is the developed industrial society.

Nigeria is, however, not free from the dilemma of economic development with its accompanying severe environmental problems. Though the total picture is yet to emerge, a glimmer of the lean statistics available is enough worry for government and environment watchers. In a contribution in NEST's yet-to-be-published Nigerian Environmental Profile, E.O. Oladipo of the department of geography, Ahmadu Bello University, ABU, Zaria, reveals that a study of the ancient university town of Ile-Ife, Oyo State, "shows that dust mobilization resulting from vehicular activity produces suspended particulate matter per vehicle-kilometer that are higher than those of London, England." He also postulates that "one million vehicles on Nigerian roads" produce a "national utilization intensity of 80-billion vehicle kilometers" that result in a high emission of carbon monoxide.

Oladipo's other findings are frightening. According to him, by 1986, Nigeria was flaring 16.8 billion cubic meters of natural gas a year, resulting in annual emissions of 2,700 tonnes of particulate matter, 160 tonnes of oxides of sulphur, 5,400 tonnes of oxides of nitrogen. He caps all this with a portrait of Izombe, a flow station where gas flaring has led to 100 percent loss in the yield in all crops cultivated about 200 meters away from the station, 45 percent loss for those about 600 meters away and about 10 percent for those some one kilometers from the flare.

NEST's Aina has another account of the danger of industrial pollution. The cement factory at Ewekoro, Ogun State, has been profiled as hazardous to health. He revealed that the baale (traditional chief) of the town claimed that many of his citizens, including all his age-mates, are now dead from "strange diseases associated with the cement factory." Though a number of residents confirmed to NEWSWATCH the claims of the baale, authorities of the factory, both at the Ewekoro plant and their Ikorodu Road, Lagos head office, would not discuss the matter, shifting responsibility for this to one another. The magazine, however, learnt last week that a team of the Federal Environment Protection Agency (FEPA) that visited the factory was told that there was no truth in the baale's claim as the company ensures good anti-pollution controls.

The violation of environmental purity is not limited to fledgling industrial estates sprouting all over the country. Nigeria is notorious for its gross mismanagement, treatment and disposal of wastes. Entire streets in many an urban center may be closed to vehicular traffic because of mountains of refuse that block many of them the way an athlete's foot warmly fits into an Addidas. The situation has not experienced a dramatic change for the better in spite of the dramatic, much celebrated monthly environmental sanitation programme that mandatorily requires citizens, nation-wide, to clean their immediate homes and offices.

A senior official of the Lagos State Waste Disposal Board in Ikeja, who lists lack of funds, lack of vehicles, lack of spare parts and lack of public co-operation as serious problems militating against effective performance of the board, however, claimed last week that in the state,

refuse clearance and disposal is now a successful exercise. Why the public believes otherwise, he said, was itself ironically the problem of the public whose members immediately refill a dump as soon as it is cleared. Against the claim that decomposing or burnt garbage in the state is a major source of environmental pollution, he held that the board buries all wastes in remote centers and thus cannot be held accountable for pollution.

Less controversial is the poor treatment and handling of the human waste of the estimated six million inhabitants of Lagos and of those of the other cities. The case of lagos is peculiar. It throws the odious waste into the lagoon at Idumota and the Iddo jetty where fishermen, stalking the several schools of fishes that troop there for food, have a field day. Akin Sotuminu, head of the sewage unit of the health and environmental services department of the Lagos mainland local government, contends that the waste is well treated and sanitized before it is disposed of. He regrets that because the place is not being dredged, the tide has not helped in sweeping away the mountain of human waste which now has left "the place congested." He says that though the waste does not pose a threat to health, the workers there have to receive "occasional treatment" as "malaria is a most common" occurrence. Health experts, however, put Sotuminu's claim down as a laughable understatement. They believe, tough in terms they cannot precisely measure, that the wastes pollute the environment and a large portion of the lagoon.

Population is another threat to a clean environment. Nigeria's quantum leap from a population of 55 million in the early 1960s to today's estimated 110 million, an increase of a 100 percent, means rapid urbanization and tremendous pressure on land, particularly the forests, through a growing need to farm more in order to grow more food. Both steps destroy the forests and set in motion a chain reaction that culminates in the removal of the vegetation cover that protects the land and in turn leads to a direct contact with the soil by the rains. Either because of the loss of the protective vegetation cover or because of the absence of the beneficial consumption of carbon dioxide by trees, the nation's atmosphere becomes more heated, achieving a variation of the greenhouse effect that the industrial societies impose on the earth's atmosphere.

For Nigeria, the term "greenhouse effect" may not be esoteric. David Okali, a University of Ibadan professor of forestry and coordinator of NEST, simply calls the greenhouse a kind of glass house through which light penetrates. Whereas one can grow plants in such a house, Okali says that the radiation from below in the greenhouse cannot escape. "It is trapped within the house. It is the warming that makes it impossible for the radiation to escape. That is what is called greenhouse effect," he said. His allusion goes further to make the term mean any warming effect on the atmosphere, particularly of gases emitted from the earth. This makes deforestation a threat to the earth, though in a lesser order than that of industrialization.

Even so, the loss of the forests in a place like Nigeria may prove equally, if not more, devastating in its impact. Deforestation in the Nigerian setting is aggravated by bush-burning, a phenomenon that has proved difficult to control. One result of the vanishing forests is the encroachment of the desert on the northern parts of the country particularly Sokoto, Katsina, Kaduna, Kano, Bauchi and Borno states. Another is the growing incident of soil erosion which comes about when the rains tear through an move the loose soils unprotected by vegetation covers. All over the country, especially in Anambra, Imo, Benue, Akwa Ibom and Bendel states, soil erosion has ruined farmlands, residential quarters and highways, imposing adverse economic calamities running into billions of naira.

Okali, also in a contribution in NEST's proposed Nigerian Environmental Profile, writes: "Today, soil erosion either by water or wind, is clearly the most serious form of environmental deterioration across the country directly associated with deforestation." He presented signets of the problem: The country in the last 30 years has been losing an average of 23,000 hectares of gazetted forest estates per annum—22,301, hectares in Bauchi between 1979 and 1986, 14,650 hectares in Orle, Ohosu, Emu-Ologholo, Ehor and Urhonigbe in Bendel; 7,420 hectares for Army School Artillery and Nigerian Defence Academy in Kaduna; 12,260 hectares and 7,000 hectares respectively for urban expansion and cattle ranch projects, and the Tiga Dam, all in Kano. There are many such gazetted lands lost over the years. But many more ungazetted lands are lost whose extent cannot be estimated.

Environmental abuse or neglect largely accounts for some of the most serious floods the nation has experienced in contemporary years. For instance, poor urban planning and indiscriminate encroachment on the land has led to disastrous floods nation-wide. In Ibadan, the 1978 Ogunpa floods, Oladipo records in his paper, resulted in damage to property worth over N2 million and 30 deaths. Two years later, the Ogunpa again flooded its heavily built-up banks killing 300, rendering 50,000 homeless and destroying property worth N300 million. and in August 1988, Bagauda Dam, near Kano, collapsed, worsening the rainfall-induced floods in the state which, according to Oladipo, claimed 146 lives, destroyed 18,000 houses, displaced over 200,000 people and damaged residences worth some N650 million.

These and other environmental disasters, taken together with Nigeria's growing industrialization with its considerable potential for environmental abuse, have led local earth watchers and nature-loving academics to sound a knell of an approaching danger. They made very little impressions on the public and the government whose shared apathy waxed strong under the questionable belief that Nigeria's was a unique case of fortuitous nature's blessings. The 1988 Koko toxic waste saga changed all that overnight. In the nation-wide furor that the Italian wastes generated, the FEPA that was all along doing its tortoise-like rounds in the federal bureaucratic

pipeline, was rushed to life, armed with Decree 58 of that year. As its name implies, the decree charged the agency to police the Nigerian environment.

Since then, the federal government has been giving some signals that it means business. Proof: Under the 1989 budget, N23,750,000 was voted for the agency. A year later, the vote climbed to N33,250,000. Government's financial commitment to organized environmental control may mean more than this. Though Evans O. aina, director and chief executive of FEPA, would not discuss the agency's finances with NEWSWATCH, the indications are that a lot more has been sunk into the agency. The April 17 issue of The Punch, a Lagos daily, reported that some N500 million would be spent that month in equipping the agency's N3.5 million environmental waste processing laboratory built in Surulere, Lagos. Another issue of the paper exclusively reported a special federal government grant of N100 million for combating ecological problems such as erosion and floods nationwide. There are reports of other but smaller votes for the war against the dangers of the environment.

Besides FEPA, NEST, a non-governmental action group established in 1987, has turned up on the scene, seeking to study and provide solutions to the Nigerian environment and sensitizing the Nigerian public to the degradation against, and threat to, their own portion of the earth. This week's June 5 World Environment Day would, for instance, be marked by NEST in collaboration with CUSO, a Canadian development organization, by taking journalists on a fact-gathering tour of Lagos "to see first hand 'what we are talking about.'"

But can FEPA, even with the assistance of NEST, prove to be the messiah the abused Nigerian environment needs: FEPA's Aina thinks that the agency can do the job. With much enthusiasm, he told NEWSWATCH last week: "Yes, we have the capability/" In doing so, he counts on the enabling law (Decree 58 of 1988) which empowers it to ensure an enforcement of a clean, pollution-free Nigerian atmosphere. This law provides stiff penalties against those who discharge "harmful quantities of any hazardous substance into the air or upon the land and waters of Nigeria..." The penalties are a fine of N100,000 or imprisonment for 10 years or both for individuals; and for corporate bodies, a fine of N500,000 and an additional fine of N1,000 for everyday the offence subsists.

Aina also counts on the rich expertise of the personnel of the agency, most of whom are drawn from the sciences and engineering faculties of Nigerian universities. In separate interviews, Okali and Tade Aina of NEST agree that Nigeria has no problem in providing the right manpower for policing the environment. But manpower may prove a less critical factor in this assignment. The obvious problem is that of funds. At an April 1988 workshop in Abeokuta, Ogun State, Benjamin N. Akpati, a professor and an assistant director at the Nigerian Institute for Oceanography and marine Research, NIOMR, estimated that $150 million (about N1,350 billion) would be needed to save the Bar Beach from its perennial ocean surges.

Even if 1988 prices remain constant, that looks an intimidating amount for the government, particularly under the nation's poor economy. Besides, the amount covers only Victoria Island which is one of the 25 coastal areas in six states judged by the World Meteorological Organization and NIOMR as being vulnerable to ocean surges. Afforestation and the combating of decertification, all manner of floods, soil and marine erosion and other ecological problems may need more than N10 billion, as experts estimate, to tackle.

There is no doubt that the government has promoted the protection of the environment to a top-drawer social issue. But desire may not be matched by executive capability. Even with FEPA's skilled manpower, the tools, usually of hi-tech, for tracking down every aspect of industrial pollution may be difficult to come by, given the well-known lack of funds. That may be just one aspect of the problem. Cadbury Nigeria Limited, makers of Bournvita, and a line of other beverages, showed NEWSWATCH round its effluent plant. Built in 1981, the plant was described by Kevin Ejiofor, the company's corporate affairs manager, as "the best in the country."

Some far-sighted companies like Cadbury have installed plants for the treatment of their industrial waste. In Europe, America and Japan, industries have begun a costly replacement of their noxious CFCs with hydrochlorofluorocarbons, HCFCs, which break down more easily and cause 95 percent less damage to the ozone layer. Other companies are also going for the HFCs, hydrofluorocarbons, which eliminate the problem CFCs. Can Nigerian companies afford the change now? Can FEP, even if it proves equal to the task, arm-twist industrial corporations that are daily being wooed to invest in Nigeria?

The problem of detecting environmental pollution may prove easier than that of policing Nigeria's porous borders and 800-kilometer coastline against the dumping of toxic waste. "We don't have the capability now," says Okali, pointing out that a law controlling fishing along the Nigerian coast and which is enforced by the navy and the federal fisheries department, looks as good as unenforceable as there is just one boat for the job.

So, is doomsday imminent? Not exactly. Aina and Okali think that their organization, NEST, and FEPA can do a lot to awaken environment consciousness in the Nigerian public. Said Okali in Ibadan last week: "The government appears to be more committed now than they were five years ago." Saying a lot more has to be done, he mused: "The approaches are not yet the ideal approaches. In terms of percentage, I can score the government 40 percent. That is just a pass mark. Five years ago, they would have scored zero percent to 10 percent." But Okali, Tade Aina and the latter's namesake, Evans Aina of FEPA, are quick to point out that in

a successful war against the abuses of the environment and its dangers, the citizen has a great role to play. Again Okali: "Government does not live on every inch of Nigerian soil. It is the individual who does. And it is the individual in the final analysis who benefits. But the government has to create conditions which will bring out the best reaction from the individual." Tade Aina says that the way out cannot be in Nigeria's capability to "cure" its damaged environment but in sensitizing everybody in guiding against damaging it. To ensure this, he suggested the setting up of an environmental court in line with the revenue and industrial courts.

Even as the case for a healthier environment is being vigorously fought, its staunchest protagonists are not ignorant of the international politics building up around the global warming phenomenon, a fact that makes critics of heavy financial votes for the environment charge that nature-lovers are merely pursuing a faddish pastime. That may sound too simplistic for the simmering politics of the greenhouse effect. The British are for the abolition of CFCs. The Americans, still depending much on their vast coal resources, say no, arguing, largely correctly, that there is yet no clear-cut scientific evidence of just how much the earth has grown warmer by today's industrialization. If the greenhouse effect is a baby of science and technology, then only science can solve it. Science will not do so, the Americans seem to hold, in a setting still governed by cloudy environmental mathematics and apocalyptic rhetorics. For it to do it, time is required.

Many Africans think differently. They think it would be immoral for the developed world to halt their industrialization after the latter group ad caused the global warming. Asked by the British Broadcasting Corporation, BBC, whether he would stop each of his countrymen from owning a car in order to save the earth, Zimbabwe's President Robert Mugabe, gave an emphatic no. For Tade Aina, the African position of industrializing first and talking about the environment later, is wrong politics. "I think we can industrialize in a way in which we balance our natural resources, balance the preservation and conservation of our natural resources and environment. And this is the idea of sustainable development."

SOUTH AFRICA

Chemical Firm To Resume Importing Mercury Waste

MB1007075990 Umtata Capital Radio in English 0700 GMT 10 Jul 90

[Text] The (Saw) Chemicals Company has been given the go-ahead to resume imports of toxic mercury waste. The company's plant near Pietermaritzburg had its mercury waste processing operations stopped earlier this year after it was found to have leaked a large amount of toxic waste into a nearby river. But a top water affairs official, (Lynn Graveth-London), said after talks with Cyanamide, the American company which sends mercury waste to South Africa, that he had no objection to (Saw) inporting waste so long as it complied with the required effluent disposal regulations. He says since the mercury disposal operations were stopped, (Saw) has been cooperative in improving pollution controls at its plant.

International Body Studies China's Environmental Problems

90WN0004 Hong Kong LIAOWANG ZHOUKAN (OVERSEAS EDITION) in Chinese No 11, 12 Mar 90 pp 28-29

[Article by Li Xiguang [2621 1585 0342] and Sun Yinglan [1327 5391 5695] "Experts from Many Countries Discussed China's Environmental Protection in Beijing"]

[Text] The International Conference on China's Environmental Protection convened by the United Nations Development Program, the China State Science and Technology Commission, and the China State Environmental Protection Bureau was held recently in Beijing. Fourteen eminent environmental protection experts from around the world and forty Chinese representatives were present at the conference. The World Bank, the Asian Development Bank, the United Nations Environmental Program, the Ford Foundation and other international organizations, and a number of foreign embassy staff in China also participated in the conference.

In the week-long conference, experts in China and from overseas researched and discussed in earnest the environmental problems facing China and their solutions. They gave suggestions of international cooperation, and suggested an emergency action plan to control China's environmental pollution.

This plan suggests that in China's process of industrialization, factories and workshops must utilize technology that minimizes pollution. Also, in considering investments and projects, international lending agencies must consider the details in the prevention of pollution in such projects.

Researcher (Se Ruiluo) of Argonne National Research Laboratory, an American institution, observed that industrialization will produce pollutants. The question becomes how does one develop an industrial economy and control the associated pollutants and keep both in check. China's Eighth 5-Year Plan will provide opportunities for tackling this problem. He suggests the Chinese government should have an objective and scientific method to deal with the environment.

The participants in the conference feel that since the 1972 Stockholm Conference, China has already taken active steps in controlling environmental pollution. This however has not caught up with economic growth. neither the urban nor the rural situation is an optimistic one, with general health being threatened at this moment. Water pollution, hazardous waste, and atmospheric pollution have become grave problems in China that beg for urgent solutions.

Water Pollution and Its Control

According to a conference report by Cheng Shengtong [4453 5116 6639], head of the Environmental Engineering Department at Qinghua University, the annual waste water volume has reached 36.8 billion cubic meters, of which 26.8 billion cubic meters were industrial waste water. Most of this was untreated. Of the 532 rivers under surveillance, 463 of them have suffered different degrees of pollution. Of the 15 major cities that seven of the major rivers flow through, sections of the rivers within 13 of these cities have suffered severe pollution. Organic and nitrogenous pollution are also on the rise.

(Ao Kun), an American professor of water resources at the University of North Carolina commented that China is an agricultural nation, and at the same time is the most populous country on earth. Accelerated urbanization and industrialization, and the increased demands on water usage by cities and towns have made water supply an urgent situation in many parts of China. This is true especially in Northern China. At the same time, new economic policy has changed agricultural production in China. In particular, the use of chemical fertilizers as opposed to organic fertilizers has intensified regional water hygiene and water pollution problems.

To this end, Deng Nan [6772 2809], the Director of the Social Development Bureau of State Science and Technology Commission, warns that the discharge of untreated waste water from industry and residential use has damaged water resources. The lack of water resources has already stifled economic development. This is especially true in Northern China and in some cities. The effects are losses in fisheries, and the lowering of industrial and agricultural production.

Representatives at the conference feel that reusing treated waste water for agricultural and municipal uses is a partial solution in the alleviation of China's critical water-supply situation in municipalities and in the control of water pollution. This is also a widely used method in other countries and regions in the world. Professor (Ao Kun) said that if expenses in the treatment and recycling of waste water are lower than supplying fresh clean water, then the greatly increasing demands on the water supply in cities will greatly promote China's technology in the treatment and recycling of waste water. This technology is applicable to all municipalities and regions. Studies done by Chinese officials and the East-West Institute in the United States show that in order to replenish the water supply in areas with excess demand for water such as the Beijing-Tianjin region, the treatment and recycling of waste water can be the preferred way of development.

Treatment of Hazardous Waste

The huge amounts of solid waste discarded daily from industrial, business, residential and other areas have already become a grave environmental protection problem in China. According to the 1988 survey, industrial solid waste has reached 560 million tons, of which only 26 percent can be consolidated and reused. Almost all the cities are surrounded by garbage dumps. There is no legislation in the treatment of hazardous waste in

China, nor has there been formal research on the classification and treatment of hazardous waste. Participants at the conference feel that as China's economy develops, in particular that of the municipalities, hazardous waste pollution will worsen daily.

Wilson, head of the Alberta Environmental Technology Center, said how to safely treat these pollutants is a global problem, as in the control of acid rain and the prevention of damage to the atmospheric ozone layer. Because of the high probability that uncontrolled and unsafe waste treatment will have prolonged damaging effects on humans and their environment, this is especially important for rapidly industrializing countries such as China. This is mainly because of the lack of the institution and technology of waste-product treatment. Also, there is a lack of experts and well-trained technicians experienced in waste-product treatment.

Thomas, an American expert in environmental protection from New York State, said that in the next 10 years, as technology and lifestyles change, the composition of waste products will also be different. Chemical compounds and chemical products develop very rapidly in new ways. The unknown poisons contained within cannot be treated. In many developed countries and each of the developing countries, environmental conditions and natural resources both sustain grave pressures.

Thomas suggested at the conference that China provide a combined treatment and prevention method to deal with environmental pollution: first, try to transform pollutants so that they cannot continue to create pollution problems. Second, to the greatest degree possible, reduce waste and thereby reduce the latent problem of pollution.

Atmospheric Pollution Control and China's Energy Policy

Following the rapid development of China's industry and rural industry, the release of industrial gases has been increasing. Atmospheric pollution has become a fairly outstanding problem.

There are two main problems with China's atmospheric pollution. These are the pollution problem of suspended particles (soot and dust) in Northern China and of carbon dioxide and acid rain in the South and the Southwest.

The increase of suspended particles in the atmosphere has increased human respiratory diseases. According to surveys, in 1988, China's atmospheric soot and dust was 14 million tons, sulphur dioxide was 15 million tons. There are many acid rain areas in the nation. These figures of atmospheric pollution show that China has become one of the more serious affected countries in the world.

Zhang Yaomin [1728 5069 3046], Chief of the Environmental Protection Institute of the Chinese Ministry of Agriculture, said that the atmospheric pollution in China has already had grave effects on agricultural ecology, with direct damage to produce, silk worms and farm animals. Some atmospheric pollutants have affected human health through the pollution of agricultural products. He predicted that as the four modernizations of China proceed at a rapid pace, the atmospheric pollution in China will likewise increase annually. This is particularly true in the rapid development of rural industry. Large numbers of construction projects in satellite cites, the introduction of highly polluting industries into the contryside, and atmospheric pollution have sprawled from cities to suburbs and the countryside. This has gradually reduced the quality of the atmosphere in the immense agricultural areas. The agricultural ecological environment in China's main agricultural economy regions and agricultural production have already been directly affected and endangered by atmospheric pollution, which has resulted in grave economic losses. Therefore, the protection of agricultural ecological environments and agricultural natural resources from pollution and damage, and the promotion of the sustained, stable, and harmonious development of China's agriculture is an important task facing China.

Experts feel that the situation of atmospheric pollution in China and energy waste and the composition of energy sources are directly related. For many years, the composition of energy sources in China did not vary much. Of these, 75 percent was coal, petroleum was 15 to 20 percent, and natural gas and hydroelectricity were less than 10 percent. Last year, China's coal consumption was 1 billion tons; this stand for an annual of 1 ton of coal per person.

Shu Huifen [5289 5610 5358], Vice Chief of the Safety and Environmental Protection Bureau under the Ministry of Energy Resources, revealed that the pollution caused by soot has attracted the full attention of the Chinese government. This is especially the case as 70 percent of the atmospheric suspended particles comes from coal-burning, and 30 percent comes from construction materials and metallurgy. Ninety percent of sulphur-dioxide emission also comes from coal-burning; 10 percent comes from industrial sources (mainly the chemical industry). In order to solve air-pollution problems, the Chinese Ministry of Energy Resources will develop technology in coal-burning. However, the situation of using coal as China's main fuel will not change.

On February 17, Premier Li Peng [2621 7720] met with overseas experts and representatives of international institutions at the People's Hall.

When he talked about the direction and policy of China's environmental protection, Li Peng said that the Chinese government is very concerned about the task of environmental protection, and it is treated as a basic national policy. He said that in order to implement the policy, four areas have to be achieved: strengthening the enactment of environmental protection laws; establishment of a nationwide environmental protection network; establishment of a complete mechanism of environmental

protection administration; and reliance on technology to improve environmental protection. The key areas in China's environmental protection are atmospheric, water, solid waste, and noise pollution.

Premier Li Peng also said that China is willing to cooperate with the United Nations Development Program and other international organizations as well as authorities on environmental protection in various countries of the world. The Chinese government will seriously consider the suggestions from experts and welcome overseas experts at the conference to continue to provide inquiry and assistance.

According to the description of Qu Geping [2575 2706 1627], the Chief of the State Environmental Protection Bureau, the environmental protection establishment is currently under legal protection. Since 1984, the Chinese government has enacted more than twenty different laws and regulations including the "Water-Pollution Prevention Law," "Atmospheric pollution prevention law," "Environmental protection law," "Ocean protection law," "Forest law," and "Mineral law." In addition, China's annual spending on environmental protection is almost 10 billion yuan, and is 0.7 percent of the gross national product. This is the highest rate in the Third World. China is seeking to increase its spending on environmental protection. By 1992, China hopes to spend 1 percent of its gross national product on protecting the environment.

New Regulation Controls Discharge of Pollutants Into Seas

OW0507082390 Beijing XINHUA in English 0736 GMT 5 Jul 90

[Text] Beijing, July 5 (XINHUA)—A regulation on the control and treatment of pollutants which threaten the seas, promulgated by order by Premier Li Peng, has been approved by the State Council and will go into effect on August 1.

The 37-article regulation stipulates that any units or individuals who discharge pollutants into seas or near seas must report to and get the approval of local environmental protection administrations.

Under the regulation, no noxious, radioactive, liquid or volatile wastes may be stored in the open at designated waste storage sites.

The regulation also bans the discharge of poisonous or harmful liquid waste near seashores by means of improper dilution or permeance.

In addition, the regulation prohibits the discharge of radioactive wastes, oils, acids, alkaline and poisonous liquids, and disease carrying liquid wastes into seas.

Commentator Links Development, Environmental Protection

90WN0061B Changsha HUNAN RIBAO [HUNAN DAILY] in Chinese 10 Apr 90 p 1

[Commentary: "If We Really Want To Develop the Economy, We Must Be Earnest About Environmental Protection"]

[Text] The recently adjourned, province-wide Environmental Protection Conference has charged the entire province to struggle hard to clean up and beautify the environment. This is a matter of grave importance to the region and the welfare of our descendants, and one that calls for close links between the Party and the masses. The party machinery and the government structure at every level must strive to make it happen.

In recent years, while the deterioration of the province's environment has slowed, it has not been effectively halted, and still continues to spread. Why? Has it been as some comrades have felt, that pollution is unavoidable if we want to develop the economy? We all know that, starting with the Industrial Revolution in England, capitalist industry developed at the cost of the welfare of countless workers, including their physical health and the health of the environment. But the harm to mankind is ultimately self-destructive. Productivity and living conditions were damaged, and they may not be able to continue to survive. A number of Western political thinkers now realize this, and are paying attention to environmental protection, even to the extent of placing saving the Earth on their political agenda. We are a socialist nation, and developing production is not for any small group or individual, but for all mankind. We can safely manage by coupling economic development with environmental protection, and not retracing the old steps of the capitalist nations which brought the masses so much grief.

If we really want to expand the economy, we must protect productivity. This is composed of three elements: labor, its tools, and its objectives. How can we expand productivity if the capability to produce resource materials is destroyed, or the worker gets sick and cannot work? From this standpoint, environmental protection is productivity protection. We cannot ruin potential productivity for the sake of current acceleration and waste or even destroy irreplaceable resources. We cannot sacrifice the future for short-term gains; it will not only harm us, but also those who come after us. We must properly adjust the relationship between the local and the overall picture. If we place local interests above the overall interest for the sake of benefiting only our own area, we are duping the masses; anyway, this is improper.

We are once again emphasizing the importance of building a socialistic society unique to China. What is that? One of the characteristics is two cultures in tandem. Enterprises also have the problem of two cultures. Of course, enterprises must consider economic benefits, but we are talking about socialist enterprises,

we cannot ignore benefits to the environment and to society. If an enterprise has high economic gains, but pollutes the environment and harms people's health, can we still consider it a socialist enterprise? Achieving environmental protection is a must for top-grade enterprises; the environment must have a veto. Each of us seeks desirable living conditions. If we attach the same degree of concern for society in general that we do for our own families, then things will be easier.

Now, some comrades appreciate the seriousness of environmental pollution, but feel helpless. Such thinking is baseless. We have a superior socialist system. After decades of building, our economic strength has increased, and we have accumulated environmental work experience to the point of having environmental protection policies, regulations, etc. Using this, as well as scientific and technological work, we can develop the economy and yet hold down pollution. Hunan has successful examples. Without great cost, the Bangzhou Yueyang Distillery used waste liquid to convert marsh gas into a gas that could be used by consumers. It changed a pollutant into a gas which could be used by about 2,000 families, almost the entire population of the county. If all of the province's 104 distilleries could do this, could it solve the gas needs of the 100 or so communities in the province? Just think how much coal would be conserved, how much pollution would be reduced, and how convenient it would be! Thus, a new resource is discovered and pollution reduced. We should all rejoice!

The question is how much importance will the leadership attach to the problem. The leadership cannot trail the masses. The masses harbor great activism for socialism. If we rely on the masses, what is seemingly difficult can be done. At the beginning, a minority may possibly not understand and even have a dissenting opinion. But after we set our sights, we should proceed, come what may. If we succeed and the masses benefit, there will be no more dissent. There will be increasing support for each succeeding [project]. We only have to believe in and rely upon the masses, and we will break new ground.

A good living environment is a prerequisite for economic development. If we succeed, then the potential for economic development will increase, and the welfare of the masses will be assured. The Song dynasty's Ouyang Xiu [2962 7122 0208] once said, "Do not seek the glory of this moment, think about the endless benefit." We in the party must work for the benefit of our descendants.

Atlas of Conservation Efforts Published

OW1107130590 Beijing XINHUA in English 1339 GMT 9 Jul 90

[Text] Changchun, July 9 (XINHUA)—An atlas of China's conservation efforts, the first of its kind, has been published by the Science Press.

The atlas, compiled by the Changchun Geographical Institute of the Chinese Academy of Sciences, contains 100 maps depicting natural environment, natural resources, conservation efforts and nature reserves in China.

Scientists say that the atlas is an in-depth description of the current state of conservation in China and reflects the interaction between man and the natural environment.

An English edition of the atlas is expected to come off press later this year.

JAPAN

MITI'S Muto Urges Industry to Cut CFCs by 10 Percent

OW0307054190 Tokyo KYODO in English 1201 GMT 2 Jul 90

[Text] Tokyo, July 2 (KYODO)—International Trade and Industry Minister Kabun Muto on Monday asked Japanese industry to cut chlorofluorocarbons (CFCs) by 10 percent within a year in the wake of a new international agreement to phase out the chemical by 2000, government officials said.

Muto made the request to 54 representatives of CFC manufacturing companies and industrial organizations, officials of the Ministry of International Trade and Industry (MITI) said.

Japanese makers and users of CFCs were asked to cooperate to cut the 120,000 tons of annual domestic supply by 10 percent in the next 12 months, the officials said.

CFC manufacturers and users slashed the amount by 30 percent during the year that ended June 30 in response to a request by MITI last year, they said.

Muto lauded Japanese industry for being "quite cooperative" in reducing CFC production and consumption to protect the ozone layer in the stratosphere, according to the officials.

The latest MITI request came in response to the international agreement last week in London to phase out nine different chemicals—five "fully-halogenated" CFCs, three halons (used for fire-fighting), and carbon tetrachloride—by the year 2000.

Muto called for industries to phase out CFCs as soon as possible, preferably before the 2000 deadline, the officials said.

Katsushige Mita, deputy chairman of the Electronic Industries Association of Japan, said member firms of the organization are striving to phase out CFCs used for washing semiconductors by 1995.

Mita was also quoted as saying his organization will strive to further cut methyl chloroform, which the London conference agreed to trim 70 percent by 2000 and phase out by 2005.

SOUTH KOREA

Lake Environmental Protection Zones Established

SK1107090490 Seoul YONHAP in English 0829 GMT 11 Jul 90

[Text] Seoul, July 11 (YONHAP)—Construction of hotels, golf courses and condominiums was banned around two South Korean lakes on Wednesday.

Two "special environmental protection zones" covering 2,831.25 square kilometers were established around Paldang Lake, 20 kilometers east of Seoul, and Daechong Lake, 160 kilometers South of Seoul, in the second inter-ministerial meeting for environmental preservation, presided over by Prime Minister Kang Yong-hun.

The two lakes supply 18 million people with piped water.

Deputy Prime Minister Yi Sung-yun, Home Affairs Minister An Ung-mo, Energy and Resources Minister Yi Hui-il, Construction Minister Kwon Yong-kak and Environment Minister Cho Kyong-sik attended the meeting.

The meeting designated 1,223 square kilometers as "first-level" area and the rest as "second-level" area. The law on environmental preservation bans farms with more than 1,000 pigs or 100 head of cattle in a first-level area.

A hotel or condominium of more than 400 square meters may not be built in the area, nor a building of over 800 square meters.

Erection of factories pumping out more than 500 tons of waste water cannot be approved.

Golf courses are prohibited within 20 kilometers of the lakes.

In a second-level area, factories that discharge waste water with up to 30 ppm of biochemical oxygen demand are allowed.

The high-level meeting decided to spend 45.7 billion won (64.3 million U.S. dollars) to set up eight sewage disposal plants, 24 sewage treatment plants and 38 works to handle water discharged by livestock farms in the special area.

It budgeted another 14.9 billion won (20.9 million dollars) to pave roads and build toilets.

The Health and Social Affairs Ministry reported that the level of trihalomethane (thm), a carcinogenic byproduct of chlorination, contained in the water at eight water treatment plants near Seoul average less than the permissible 0.1 ppm.

Last week, the Board of Audit and Inspection said the water at the plants was dangerously contaminated with them.

Winds Carrying Pollutants From China Cause Acid Rain

SK2706062090 Seoul YONHAP in English 0612 GMT 27 Jun 90

[Text] Seoul, June 27 (YONHAP)—Pollutants carried by winds from China are one of the causes of acid rain in Korea, the National Institute of Environmental Research (NIER) said Wednesday.

According to NIER officials, a direct relationship has been confirmed between pollutants in winds from China and the acidity of the rain falling in Korea.

In a study begun in mid-1987 and to be completed in the summer of 1991, it was found that when the wind from China is strong, the rain falling in Korea is more acid, and when the wind becomes weak, the acidity goes down.

When strong winds were blowing across Korea from China on Jan. 18-23 last year, rain in Seoul and Kanghwa registered PH 4.3 and 5.3, respectively, against the environmental standard of 5.6.

PH is the unit of acidity, with PH 7 indicating neutrality. Acidity increases as the figure decreases.

On Aug. 13-21, 1988, when air currents from China were weak, rain in Seoul contained less acid than the environmental standard at PH 6.

New Synthetic Pulp Technology Protects Dwindling Forests

SK0607020090 Seoul THE KOREA TIMES in English 6 Jul 90 p 3

[Text] A new method of producing synthetic pulp cheaply has been developed by Korean scientists, enabling replacement of natural pulp to a considerable extent, the Korea Institute of Science and Technology (KIST) announced yesterday.

A fiber high polymer research team at the KIST has found an innovative method of producing synthetic pulp composed of acrylic fibers.

Drs. Yun Han-sik and Son Tae-hwan of the KIST said yesterday that the acrylic pulp was much cheaper than the natural pulp, and there was no need to use the current spinning method.

This is the first time pulp-type acrylic fiber using the non- spinning method has been developed in the world, they added.

So far, the acrylic pulp has been produced through the traditional method of spinning textiles, resulting in high production costs.

Without, the KIST team produced the high polymer fibers directly from acrylic composite under semicrystalizing conditions.

The KIST team first presented the innovative non-spinning theory in 1985 when it developed aramid pulp. Now the theory is widely accepted by fiber scientists around the globe.

Dr. Yun said that the acrylic pulp will replace the natural variety to a considerable extent, paving the way for protecting dwindling forests on the Earth.

To produce 160 million tons of paper, 300 million cubic meters of timber is needed annually. The high demand for pulp resulted in massive cutdown of trees, the sources of oxygen, he said.

Dr. Yun said his team applied for patent rights in Korea and seven other countries on May 30.

TAIWAN

Economics Minister Urges Antipollution Industrial Plan

OW1107053090 Taipei CNA in English 0235 GMT 11 Jul 90

[Text] Taipei, July 11 (CNA)—Economics Minister Vincent Siew told ministry officials Tuesday to develop the country's own antipollution industry. The domestic environmental protection market is almost completely dominated by foreign companies, especially Japanese companies.

Siew heard a briefing at the Commission of National Corporations which supervises the nation's state-run enterprises. He asked commission officials to strengthen pollution prevention work and to play a leading role in improving the nation's industrial production environment.

Big state-owned enterprises such as the Chinese Petroleum Corp. and Taiwan Power Company have reportedly spent up to 10 billion new Taiwan dollars annually to clean the environment. Siew said the national corporations should cooperate with the Industrial Development Bureau to develop the nation's own environmental protection industry in order to reduce dependence on foreign companies.

THAILAND

Cabinet Approves Plan for Environmental Conservation

BK0407085190 Bangkok Domestic Service in English 0000 GMT 4 Jul 90

[Text] The cabinet yesterday approved a master plan for natural conservation which will increase more power for the National Environment Board to handle the country's environmental problems.

The master plan, proposed by the Science, Technology and Energy Ministry, empowers the board to draw up guidelines and follow up on environmental protection in line with the government policy. The plan also calls for the formation of natural conservation subcommittees in various provinces to oversee environmental conservation projects. It proposes the establishment of local-level organizations to administer natural resources which should be conserved in each locality with their own revenue. The organizations will focus on five areas, namely, natural resources management, the control of

environmental pollution, natural and artistic conservation, human settlement, and educational and public relations promotion on environment.

Health Minister on Severe River Pollution

90WN0136A Bangkok SIAM RAT in Thai 22 May 90 pp 1, 3, 16

[Excerpt] On 22 May, Mr. Marut Bunnak, the minister of public health, and a delegation issued a joint statement on the meeting that will be held to enable people to voice their opinion on river pollution. They said that the Ministry of Public Health has been monitoring the quality of the natural water sources, including major rivers nationwide. It has been found that waste water has been released into the rivers by homes, industrial plants, agricultural activities, tourist activities, and mining operations. As a result, the amount of organic matter, bacteria, heavy metals, and poisonous substances has increased to the point where this is affecting the potable water of the communities. This includes the various water works systems that use sources of water in production. This is also affecting the health of people in both urban and rural areas. The number of complaints received by the Ministry of Public Health about this is second only to the matter of air pollution.

The rivers that have a severe pollution problem, which must be monitored closely and solved as quickly as possible, include the Chao Phra, Tha Chin, Bang Pakong, Mae Klong, Pa Sak, Pran Buri, Phet, Wehu, Trat, Phang Rat, Rayong, Nan, Chi, Mun, Sieu, Tapi, Phut Duang, and Pattani rivers. To control pollution efficiently, the headwater areas must be protected. Besides this, legal measures must be used. The various acts, regulations, decrees, and measures for controlling this must be revised, and the role of the organizations responsible must be increased. Also, public-private sector cooperation must be improved, and suitable technology must be used.

"The various measures that should be stipulated will probably have both positive and negative effects. Some people will benefit while others will be placed at a disadvantage," said the minister of public health. He added that in order to give those concerned both directly and indirectly a chance to hear the views of different groups concerning water pollution, legal, political, administrative, and developmental measures, and technological control measures and stipulate operations lines, the Ministry of Public Health, in conjunction with the Engineering Institute of Thailand under the patronage of the queen and the Environmental Research Institute of Chulalongkorn University, will organize a public meeting to hear people's views on water pollution. This meeting will be held from 0900 to 1630 hours on 30 May at the auditorium of the Environmental Research Institute.

Mrs. Nitaya Mahaphon, the director of the Environmental Health Division, said that the poisonous substances most prevalent in the water sources include bacteria, organic matter, chemicals, and heavy metals such as mercury, lead, and cadmium, with mercury being a very serious concern. Besides this, it has been found that the amount of waste water being released by hospitals is increasing. [passage omitted]

INTRABLOC

Bulgarian Groups Organize Protests Against Alleged Romanian Pollution

AU2806190290 Sofia BTA in English 1736 GMT 28 Jun 90

[Text] Silistra, June 28 (BTA)—The Ecoglasnost Independent Society in Silistra insists that the issue about the transboundary air pollutions be included in the negotiations between Bulgaria and Romania on issues of ecology. Late last night the citizens of Silistra received again a new portion of gasification by the neighbouring city of Calarasi. In spite of the talks held between leaders and experts from the Romanian and Bulgarian towns, the situation still remains unchanged. The necessity is stressed to build a laboratory for tests and analysis by the Ministry of the Environment.

Momchilgrad, June 28 (BTA)—The 24-hour warning ecological strike in the educational and medical establishments, in the production, trade and public catering projects in the town and the neighbouring villages ended today. It was organized by the ecological protection movement of the Momchilgrad Municipality (southern Bulgaria). The protest was addressed against the operation of a perlite workshop, polluting the environment ten-fold above the admissible limits, against the asphalt base and the consequences of the cancerous soot, deposited with no protection equipment. Over 120 ha [hectares] of fertile land have been destroyed in the same region.

Concern over the health and life of the citizens in Ruse, whose air has been regularly polluted by the chemical combine of Giurgiu [Romania] for nine years now, gathered today at a meeting the leaders of the major political forces and representatives of the city state power.

It was decided to found a united centre for salvation of Ruse.

The declaration of the Union of Democratic Forces [SDS]—Ruse which was circulated around the city today and which calls on the citizens of Ruse to join the sit-in strike on the Danube Bridge was discussed at the meeting. The aim includes the immediate termination of the Giurgiu Combine chemical production until an experts assessment is made by an independent international commission on ecological problems. Whether the strike declared for June 29 will be actual or token will depend on the results from tomorrow's meeting in Sofia of a representative group of the Ruse political forces and Prime Minister Andrey Lukanov. The participants in this meeting will insist for prompt international demands for settlement of the Ruse issue.

Bulgarian Danube Bridge Blockade Ends; Token Strike Continues

AU3006164890 Sofia BTA in English 1535 GMT 30 Jun 90

[Text] Sofia, June 30 (BTA)—The five-hour blockade of the traffic through the Danube Bridge border checkpoint on the Bulgaro-Romanian border was lifted shortly after midnight without incidents.

Several hundred people responded to the Union of Democratic Forces' appeal for a token strike in Ruse in protest against the chemical pollution of the city from Giurgiu, Romania, which has been going on for nine years now. The union intended to carry on the strike around the clock until the meeting between the prime ministers of Bulgaria and Romania next week and, if the citizenry found its results unsatisfactory, to go ahead with an effective blockade of the border crossing. Part of the strikers did not comply with these plans last night and turned the token occupation of Danube Bridge into an effective stoppage of the cross-border traffic in both directions.

The coordinating strike committee today called on the people of Ruse for calm and public order.

The situation at the border checkpoint on the Danube is calm now. Several dozen citizens peacefully continue their round-the-clock token strike, waiting for the results of the forthcoming intergovernmental meeting which they want to lead to an "immediate shut-down of the plant in Giurgiu and to an expert appraisal by an independent international commission on ecological problems."

Bulgarian Diplomatic Protest to Romania Over Giurgiu Pollution

AU2906183890 Sofia BTA in English 1746 GMT 29 Jun 90

[Text] Sofia, June 29 (BTA)—By order of the Government of Bulgaria the head of the Department for Eastern Europe of the Ministry for Foreign Affairs, Mr. Ivan Katrandzhiev, today presented a note of protest to Mr. Constantin Petrescu, ambassador of Romania in Sofia, in connection with the regular poisoning of Ruse by hydrogen chloride coming from the chemical plant in Giurgiu and in connection with the latest pollution of the city on June 29, 1990, with ammonia.

A message from the prime minister of Bulgaria to the prime minister of Romania, Mr. Petre Roman, was also handed over to the ambassador, along with an address of the representatives of all political forces and public movements in this city. In the document of the public in Ruse it is insisted to settle the problem by referring the matter to an international commission of experts and to stop the chemical works in Giurgiu.

Lukanov Discusses Romanian Pollution With Ruse Delegation

AU2906183790 Sofia BTA in English 1729 GMT 29 Jun 90

["Stop Giurgiu Plant and Refer to International Expert Commission, Ruse Demands"—BTA headline]

[Text] Sofia, June 29 (BTA)—The only way to clean the air in Ruse is to stop immediately the plant in Giurgiu (Romania), it is said in an address the public of Ruse has sent to the leader of Bulgaria's Government. The inhabitants of the Danubian city insist that the matter should be referred to an international commission of experts. They insist that the Bulgarian Government should take urgent measures for the settlement of the problem, otherwise the declared mass actions, civil disobedience included, will become effective.

Today a delegation of the public in the city, together with some national representatives at the Grand National Assembly, had a discussion with Prime Minister Andrey Lukanov that lasted more than three hours. He called upon the citizens of Ruse to seek to enhance their public contacts with the Romanian town of Giurgiu and hold a dialogue on the ecological problems of Ruse. The prime minister backed up the idea for referring the matter to an international commission of experts. He said that the Bulgaro-Romanian dialogue has still untapped possibilities and informed the delegation about the representations that will be made to the Romanian side.

Ruse has been suffering because of the air-pollution problem for nine years. Now a token strike has been declared and the people are ready to block the "bridge of friendship" spanning the Danube. Representatives of all political forces in the city act together and insist on the government's taking immediate measures for the settlement of the problem.

Bulgarian City Again Polluted by Emissions From Romanian Plant

AU2906183690 Sofia BTA in English 1605 GMT 29 Jun 90

[Text] Ruse, June 29 (BTA)—The transboundary pollution of the air in Ruse is continuing, its source being the gas emission of the chemical plant in Giurgiu. Today the culmination was between 0900 and 1030 hrs. There was no wind. The greatest concentration of chlorine compounds was measured in the eastern parts of the city where it exceeded the admissible limit 2.5 times; in other parts it exceeds the admissible limit 1.5 times. It has been established that the riverside is also contaminated by chlorine ions. From the talks of representatives of the Municipal People's Council of Ruse and of the authorities of Giurgiu it became clear that about eight o'clock this morning there was a break-down in the ammonia installation in the chemical plant which was rapidly removed.

Besides the chlorine pollution, as there was no wind in the morning, nitric oxide piled up near the thoroughfares. Although the concentration was found to be within the admissible limits, the concentration of sulphur dioxide was extremely high.

Bulgaria's Lukanov Visits Ruse, Speaks on Pollution

AU0307204390 Sofia BTA in English 2010 GMT 3 Jul 90

[Text] Sofia, July 3 (BTA)—The ecological problems of the town of Ruse, whose residents have been for nine years now suffering from constant gas poisoning by Romanian Chemical Works, is exacerbating.

Prime Minister Lukanov started talks today in Ruse with representatives of the political parties.

The already mistrustful Ruse residents due to the repeated assurances that their problem will be settled are holding a symbolic relay strike at the border check point. The Civil Disobedience Committee is holding every evening from 19 to 21 hours [1600 to 1800 GMT] a strike on the bridge.

The Striking Committee said it will resort to an occupational strike of Danube Bridge as of 19 hours [1600 GMT] on July 4 if Mr. Lukanov fails to fulfill his commitments taken on Friday in Sofia.

The Ruse public wants a closure of the Giurgiu [Romania] Chemical Works and an independent international expertise. The public requested the prime minister to clarify the results from his talks with Romanian Prime Minister Petre Roman. The two are to have talks tomorrow.

Today Ecoglasnost, the Green Party and the Podkrepa TU [Trade Union] Federation urged Sofionites to back the Ruse residents.

The BTA Ruse correspondent says 16 percent of the Ruse children have diseases. Out of 3500 children checked, 236 have respiratory diseases which shows the poor state of the environment, 85 have nervous diseases, while 30 have blood vessel diseases.

Bulgarian Ruse Anticipation Rally, Actions Reported

AU0407210990 Sofia Domestic Service in Bulgarian 1730 GMT 7 Jul 90

[Text] Several thousand Ruse citizens this evening besieged the Danube Bridge Border Checkpoint in anticipation of the news that Andrey Lukanov, leader of the Bulgarian Government, was to bring from Bucharest.

At precisely 1900 [1600 GMT] for the fourth night in row, supporters of the Civic Disobedience Initiative, carrying national and black flags, blocked the border checkpoint and closed the border along the bridge on the River Danube for all vehicle transportation for 24 hours

in protest against the continuing chlorine emissions and in the memory of the victims of the unannounced chemical war against Ruse, which has continued for almost 10 years.

At about 1930 [1630 GMT], a rally began near the border checkpoint. Premier Andrey Lukanov, who just arrived from Bucharest, announced that an agreement had been reached with the Romanian Government on immediately stopping production at the second plant of the Giurgiu Chemical Works, and that economic experts will produce a competent opinion on all issues related to ecology in the Bulgarian-Romanian section of the River Danube, especially in the Ruse-Giurgiu area.

Bulgarian-Romanian Anti-Pollution Protocol Detailed

AU0607160190 Sofia TRUD in Bulgarian 5 Jul 90 p 1

[Excerpts] Bucharest, 4 July (BTA correspondent Petyu Petkov)—At the invitation of Romanian Prime Minister Petre Roman, Council of Ministers Chairman Andrey Lukanov paid a working visit today to Romania. [passage omitted]

Council of Ministers Chairman Andrey Lukanov and Prime Minister Petre Roman signed a protocol which states that they decided on the following:

1. A joint commission of government experts will be set up within one week to analyze the technological and technical condition of the chemical installations at the industrial sites in Giurgiu and Ruse, in order to determine possible sources of poisonous discharges and to establish the potential risk to the environment. The commission will present its conclusions to the two governments.

2. The two governments have resolved, on the basis of the findings of this commission, to shut down all installations which emit poisonous substances or present a danger to the environment, in order to eliminate this danger.

3. The Romanian side resolved to temporarily shut down for technical inspection and examination the epichlorohydrin installation at industrial site No. 2 in Giurgiu.

4. The two sides agreed to inform one another within 20 days of the measures undertaken or planned by them to bring the chemical installations in Ruse and Giurgiu respectively within the parameters adopted internationally with regard to environmental pollution.

5. The Romanian side will hand over within one month to the Bulgarian side information on the installations, technologies, and future production capacities at site No. 3 of the Giurgiu Chemical Combine.

6. Both sides agreed to immediately reinstitute the exchange of information on measurements of the parameters of the quality of the atmosphere, according to the procedures used hitherto. In addition, and in order to maintain simultaneous continuous monitoring of the degree of pollution in the Giurgiu-Ruse region, both countries' specialized environmental protection organs will determine a common methodology for assessing the quality of the environmental factors in this zone, using jointly agreed apparatus for this purpose.

7. It was agreed that the same procedure would also be used for the nuclear power plants on the Bulgarian bank of the Danube.

8. The two sides agreed in principle on the possibility of using by mutual agreement international experts to conduct examinations on matters concerning environmental pollution in the regions adjacent to the Romanian-Bulgarian state border, giving priority at the present stage to completing such examinations in the regions of Ruse, Giurgiu, and Kozloduy.

9. The two sides agreed to ensure the necessary publicity in order to better inform the public on matters concerning environmental protection in the transborder regions adjacent to the Bulgarian-Romanian border.

10. The Ministries of Foreign Affairs, with the participation of other competent government departments, are to speed up the work on creating a draft convention between the Bulgarian and Romanian Governments on cooperation in the field of protecting the environment from pollution in the zones adjacent to the Bulgarian-Romanian state border, with a view to ensuring that the text is ready for signing before 30 July 1990.

BULGARIA

Post-Chernobyl Radiation Levels Falling

AU2806130490 Sofia DUMA in Bulgarian 27 Jun 90 p 1

[Report by Lyubomir Rozenshtayn: "Chernobyl Radiation Is Disappearing"]

[Text] The quantities of cesium radionuclides (cesium-134 and cesium-137) contained in the bodies of groups of people from the population of southern Bulgaria and Sofia have fallen in the period since 1987 to the present.

The averaged values of the specific activities show that for practical purposes the Bulgarian is now free of the harmful accumulations caused by the Chernobyl disaster.

This unexpected news was announced for the first time on 26 June at a meeting in the Ministry of the Environment by the new first deputy minister, Docent Valentin Bosevski.

Docent Bosevski was one of the scientists who did everything possible to disclose and bring into the public domain the full truth about the consequences of the Chernobyl disaster. Under his leadership specialists of the Military Medical Academy and the Nuclear Physics

Department of Sofia University carried out a field research study of the dynamics of the cesium radionuclides in groups of the population.

The regions chosen were those in which people had been subjected to the greatest amount of radiation both because of meteorological conditions and because of the failure to take the necessary preventative measures.

The highest values of cesium-134 and cesium-137 in the bodies of the groups of people studied were reached in April 1987, when in the regions monitored average specific activities ranging from 63.6 to 221 becquerels were measured per kilogram of body weight in women, and even higher values—from 98 to 318 becquerels per kilogram—in men.

In the following year these figures fell sharply, but still remained above the amounts contained in the body of the average European in 1964, which was use as a basis for comparison.

In May and June 1989, however, the contents of cesium radionuclides fell by approximately 100-200 times as compared with 1987. In the following months the amounts were so insignificant that it was difficult to record them even with the sensitive apparatus used by the scientists.

The figures show that within four years the human organism succeeded in freeing itself from the accumulated cesium.

These figures supplement the facts concerning cesium content in the organism collected in extensive research work carried out by the Institute of Nuclear Medicine of the Medical Academy.

The researchers intend to make a professional assessment of the amount of radiation to which the Bulgarian was subjected, which will be used as a basis for recommendations on radiation protection. A special commission has already been set up for this purpose at the initiative of the Ministry of Public Health and Social Welfare.

When asked at the end of the news conference about the reasons why the amounts of cesium contained in the bodies of women are less than that in men, Prof. Tsvetan Bonchev, chief of the Nuclear Physics Department, joked: "Cesium is accumulated in the brain."

'Radioactive Contamination in Sofia Plain' Announced

AU1007174790 Sofia DUMA in Bulgarian 6 Jul 90 p 1

[Report by Stanislav Kolev: "First Figures on Radioactive Contamination in Sofia Plain"]

[Text] Research work and analyses carried out into radioactive contamination in the regions surrounding the villages of Yana, Gorni Bogrov, and Dolni Bogrov, caused during the mining of uranium, prove the existence of a serious radiological problem, which can, however, be overcome, it was stated on 5 July at a meeting at the Ministry of the Environment chaired by Deputy Minister Valentin Bosevski, senior scientific associate.

For the first time representatives of the mass media were given access to figures and charts showing the radioactive contamination in this part of the Sofia Plain, which for decades had been stored under "Top Secret" classification in the safes of the Rare Metals Company and the state institutions. In some parts of the polluted area, covering 1,183 decares, radium contents ranging from 226 to 10,000 becquerels per kilogram had been recorded, which is hundreds of times higher than the permitted concentration.

Construction of Reservoir Near Lovech To Continue

AU0307085390 Sofia DUMA in Bulgarian 29 Jun 90 p 1

[Report by Dora Chichkova]

[Text] There are no grounds for halting the construction of the "Cherni Osum" Reservoir. This would mean an unnecessary delay in solving the vital problems of water supplies to Lovech, Pleven, and other populated areas. The construction of the reservoir will not be ecologically harmful, but will be of benefit to the region.

This was the conclusion reached after a three-day meeting of the Supreme Council on Construction, Architecture, and Urban Development under the Ministry of Construction, Architecture, and Urban Development. Representatives of Ecoglasnost, the public, and other interested government departments took part in the discussions.

The hydrological and water management research studies were accepted almost without objection, as also were the conclusions on the safety of the reservoir dam wall. However, the representatives of Ecoglasnost and the local population stood by their original demand for an ecological examination by experts. They insist that construction should be halted until a complete expert assessment has been completed.

It was recommended that the route of the linking roads should be altered in answer to objections of the inhabitants of Cherni Osum. It was also proposed that a public council should be set up, which would guarantee the interests of the population. This council will also be able to react in a timely way in the event the builders show blatant disregard toward nature.

GERMAN DEMOCRATIC REPUBLIC

Joint Environmental Effort Targets Lignite Production

90WN0119A Duesseldorf HANDELSBLATT in German 22 May 90 p 4

[Article by Heinz Boschek: "Stepped-Up Environmental Protection in the Interest of Both Germany's"]

[Text] Leipzig. The first Leipzig Energy and Environmental Conference was not exactly standing under a favorable star last week. The tug-of-war surrounding the main pillars in the data on the State Treaty caused many a minister from East Berlin and Bonn who was scheduled to appear to cancel. Such a short time after the municipal elections in the GDR, wrangling for the town hall coalitions began, so this political level, too, was hardly represented.

Nevertheless 93 exhibitors, a good dozen of whom came from the GDR, and an especially wide array of scientists, made for what was to be a successful initial exchange of contacts in matters having to do with environmental technology.

On the Search for Cooperative Partners

The exchange of experience at the exhibition stands and the symposia all referred to the ecological crisis situation in and around Leipzig. That forced the participants toward concrete offers and scientific standpoints.

Characteristic of this initial Leipzig Energy and Environmental Conference was the fact that ecological concerns were paired with economic ones, namely those of strengthening the middle-class economic structure in the GDR with the assistance of similar firms from the Federal Republic.

For the first time, there was an opportunity for free-lance engineers and small entrepreneurs from the GDR to gather information on the strength of medium-sized producers of environmental technology in the Federal Republic, and to look for a partner for the period after the introduction of monetary union.

Initial discussions concerning cooperation, like the one between Air Filter Technology Wurzen and Delbag Air Filters, Limited in West Berlin, were typical. To that extent, the experts are in agreement that the Leipzig special fair, which is to be an annual occurrence from now on, will function as a signal for the foundation of further firms in the GDR.

In the scientific segment of the Leipzig Energy and Environmental Conference, a broad-based exchange of thoughts developed among experts from Essen, Freiburg, Hanover, East Berlin, Munich, Jaenschwalde, Magdeburg, Halle, and Leipzig. Professor Thomas Bohn, of the University of Essen, brought the results of the discussions to a head: he said it was in the common German interest to reorient the energy and environmental policies of the GDR in the direction of the international standard.

From the European country with the highest per capita SO_2 exposure per square meter, a state had to emerge that made palpable progress in the truest sense of the word in a step by step fashion, toward air that was easier to breathe, it was pointed out.

A significant improvement in the burden placed on the environment would have to be achieved by the use of highly efficient desulphurizing, denitrifying, dust removal, and waste-water purification facilities in power plants, combined heating and power plants, industrial heating plants, briquette plants, and coking plants that are operated by burning fossil fuels.

Toward a Decrease in the Lignite Coal Used

They said that parallel to these measures, a distinct decrease in the amount of lignite coal made available was to be undertaken. The goal was to be a reduction of the present level of approximately 300 million tons per annum to 180 to 200 tons by the year 2000, or 140 to 160 million tons by the year 2010.

The necessary decrease in supplies of raw lignite coal would be offset by decisive increases in the importation of natural gas from the present level of 8 billion cubic meters per annum to approximately 20 billion in the year 2000.

Conference Expresses 'Shock' Over Baltic Sea Pollution

90WN0119B West Berlin DIE TAGESZEITUNG in German 21 May 90 p 7

[Article by "ma": "Baltic Sea Environmental Protectionists Demand Immediate Action"]

[Text] Berlin (taz) [DIE TAGESZEITUNG]. With an open letter addressed to the Environmental Ministers of the Federal Republic and the GDR, the two-day "Conference to Protect the Marine Environment of the Baltic Sea" came to a conclusion in Rostock on Saturday afternoon. In the letter, the 300 participants from the realms of science, municipal administration, and individual collectives, expressed their "shock over the current situation" regarding that body of water.

In their letter, they developed an extensive catalogue of demands that included stopping the increasing eutrophication, or increased introduction of organic substances and substances containing nitrogen, into the Baltic Sea. As an initial measure, an extensive construction program for water purification plants was called for; secondly, the ecological processing of waste liquid seeping through dung to prevent the increasing over-fertilization of agricultural land was demanded; the third demand involved the introduction of combi-farming, involving cattle breeding and grain growing, and the fourth measure

called for the adoption of EC-wide limits on noxious materials. For the first time in the history of the GDR, the experts were able to discuss the problems associated with protecting the Baltic Sea publicly.

Among the list of nations abutting the Baltic Sea, the GDR is considered a small one, because it takes up no more than 1.5 percent of the drainage area. And yet, the burden of pollution it places on the Baltic is—as far as one can tell—enormous. As the secretary of state for the GDR's Ministry of the Environment, Winfried Pickart said at the conference, 1,710 tons of nitrogen, 1,440 tons of phosphorous, and 44,180 tons of oxygen-depriving substances from on-shore sources alone are led into the sea each year. The ecological burden from the Oder, (which is booked entirely to Poland's ledger), is not included in these figures. In addition, there are currently unknown quantities of heavy metals, toxic and persistent waste substances that afford protection to plants. The concentration of nutrients in the Baltic Sea has doubled in the last 10 years alone, and the brackish sea is fighting a "definite increase in the production of algae" (Pickart). But even the secretary of state doubted himself whether his figures were accurate: he claimed that including atmospheric pollution and "diffuse" sources of noxious materials, the actual pollution was increasing by double or treble the listed values. The GDR dumps 20 percent of its garbage into the Baltic Sea; the rest flows, via the Elbe, into the North Sea.

In 30 individual presentations, the speakers sketched out a picture that had many gaps in it, but it was nevertheless a frightening picture of current measures to protect the Baltic Sea. For years now, the general tone of the talks went, the pollution has been known. Despite the presentation of clean-up plans, the SED [Socialist Unity Party of Germany] kept diverting the requisite funds into production. The need for a clean-up in the individual combines kept growing accordingly. The Director of the Peoples' Own water supply and waste-water treatment plant, Rostock, Mr. Siegemund, drew up the dismal balance sheet regarding the waste-water treatment system in Rostock in this way. Only 43.5 percent of the waste water that needs to be treated is being purified in the treatment plants, the sewer system is damaged to the extent of 22 million marks.

Hubertus Lindner, Director of the Coastal Water Management Authority, reported similar horror tales. According to Lindner, for example, the Rostock fertilizer plant, since going on-line, has exceeded the annual maximum allowable nitrogen output by fifty-fold. "When the ammonium nitrate collective's pipeline leaked in 1989 and 535 tons of the stuff ran out of the pipes, the plant paid M 8.6 million in fines rather than do a proper job of cleaning up the soil." Buying your way out of the problem was the operative principle that had functioned up to that time in terms of environmental protection.

The participants at the conference took the GDR sternly to task for its current practices with regard to fertilizers. Dr. Harenz of the Central Institute for Physical Chemistry of the Academy of Sciences pointed out that the average content of phosphorous in land put to agricultural use in the GDR was increasing by 150,000 tons per annum. That is primarily due to the high proportion of mineral fertilizer that was needed 20 years ago, but which is now leading to a condition of hopelessly overfertilization. The chemist made a plea for preparing a natural fertilizer from the water that seeps through manure and using straw as a pre-stage to humus, because, in the meantime, the soil in the GDR has become completely leached out, he said. "The soils can no longer absorb the phosphorous; it is all being washed into the Baltic Sea via the rivers instead." Just how the many measures to protect the Baltic Sea that were proposed by the conference participants could be realized, remained unclear.

Given the new municipal administrations and the new state governments that have as yet to be created, there is now a vacuum of authority; the individual collectives are now powerless to do anything. At the present time, the Minister of the Environment has M 400 million at his disposal for the "transition period" (Pickart).

This year alone, however, the participants estimate, the GDR's Baltic Sea coast needs M 2 billion for immediate measures.

Ecological Cost of Erfurt's Industrial Emissions Cited

90WN0120A Erfurt THUERINGER ALLGEMEINE in German 14, 21 Apr 90

[Two-part series by Elena Sender and Esther Rethfeldt: "Is the Thuringian Forest Dying?" Part One: "Magnesium Deficit—A Fatal Consequence of New Forms of Forest Damage"; Part Two: "The Atmosphere Is Charged—What Happens Next?"—first paragraph of each segment is THUERINGER ALLGEMEINE introduction]

[14 Apr p. 3]

[Text] Dying forests—for years already the term has been bandied about in the international media and has alarmed environmental protectionists and citizens' action groups. And although it was clear that acid rain and sulfur oxides observe no borders, our critical evaluation of this problem complex remained relatively limited for many years. And yet the ailing trees from the Erz Mountains to the Harz Mountains leave no doubt that the cost of ever more consumption and of ever more comfort is high...How sick is the green heart of Germany, and how can one help it? THUERINGER ALLGEMEINE will go into this question in this and subsequent articles.

Statistics show that, in the district of Erfurt, more than half of the existing tree growth is sick. In Thuringia, this is caused above all by so-called new forms of forest damage. In addition to acid rain, sulfur dioxide, ozone,

and hydrocarbons, the nation's green heart is being plagued by oxides of nitrogen. And it is particularly the stress caused by this last-named problem in which the experts, because of the expanding road traffic, are anticipating an increase.

A large part of these pollutants is carried in by the wind from areas located far away, from the FRG, for example, or the industrial areas around Leipzig and Halle. But we have our own homegrown dirt as well. In Thuringia, it is primarily the heating plants along the line of cities Eisenach-Gotha-Jena, the potash districts of Werra, Schmalkalden, and Suhl, and also the glass industry in Graefenroda, Ilmenau, and Stuetzerbach, that are making the Thuringian Forest sick with their gaseous discharges. According to data supplied by the district environmental inspectorate in Erfurt, an average of 3.64 tons (!) of oxides of nitrogen come down each year on each square kilometer of the Thuringian Forest. This equates to almost 22 kilograms of this aggressive material on an area the size of a soccer field.

How devastating the results are can be illustrated by taking the magnesium deficit as an example: Because of the over-acidification of the soil, magnesium, since it reacts like a base, is combined with the acid and is thus not available to the trees for their metabolic process. The vital element is literally leached from the ground and earth. Added to this is the fact that the fibrous roots are injured by the pollutants and are thus all the more incapable of drawing on the already low presence of magnesium. However, as the central atom of chlorophyll, magnesium is essential for photosynthesis, without which nature would lose its green color. And in those cases, the outward appearance of the trees is characteristic. The branch ends of conifers turn yellow, in the second stage they become vulnerable to fungus diseases, until finally they drop off completely. Particularly along the crests of the Thuringian Forest, these symptoms became ever more apparent from the mid-1980's on.

Klaus Weisheit, who was the chief forester in Oberhof at that time, recalls how he tried to help the trees. With the assistance of the chemical plant in Coswig, he developed a magnesium chelate and began to spray sick spruces on test plots with a solution thereof. The experiment was a success, but a broad and above all long-lasting effect cannot be achieved with this process.

Weisheit, who is now the director of the scientific-technical center for forest management for the district of Erfurt, is now pinning his hopes on a newly developed granulate which neutralizes the soil and at the same time enriches it with magnesium.

But this too is not a miracle drug, nor can there be one. They are only remedial measures for trees that insure their survival. Much like a doctor attaching a patient to an IV bottle.

The only long-range chance that the forest has continues to be a drastic reduction in the emission of pollutants. What the technical prospects for this are will be examined by THUERINGER ALLGEMEINE.

[21 Apr p. 3]

[Text] Things don't exactly look good for our Thuringian Forest. The visible damage alone is given as 54 percent. The causes of the ailing green heart are many: Because of the prevailing winds, polluted air from other parts of Europe is being dumped on the green heart of our own territory, the burning of domestic fuels is causing the trees a lot of problems, and last but not least the industrial plants in Thuringia as well.

Expensive Economizing

As recently as 10 years ago, Wutha-Schoenau was a quiet, sleepy village in Eisenach Kreis. Since then its 170 meter high smokestack can be seen from far and wide, unless, of course, it happens to be enveloped by thick clouds of smoke. The reason: in 1984, a thermal power plant of the Ruhla clock works began to operate here. From that moment on, this smokestack belched sulfur dioxide, dust, and oxides of nitrogen into the air by the ton. "We were not happy with this solution. Even though the plant replaced many individual furnaces and was able to heat 3,000 apartments. For up to that point we had been able to offer a substantially more environmentally compatible solution to the problem in Seebach—namely the heating oil-fired power plant," recalls chief energeticist Bernd Zimmermann. In contrast to raw lignite, the emission of dust when using this fuel is practically nonexistent, and that of the other pollutants is likewise much lower. But a Council of Ministers resolution of the year 1979, as a result of which oil and gas were replaced by lignite, put an end to this, and this despite the costs, so that the operating expenses of the clock works increased threefold, for example. What was saved was hard currency, and the saving done at the expense of the environment, which ever since has had to endure 3,004 tons of sulfur dioxide, 507 tons of dust, and 25.8 tons of oxides of nitrogen each year.

But is there a ray of hope, nonetheless? It is at least in sight, even though many types of damage will continue to remind whole generations of the disastrous Council of Ministers resolution. "Until 1995 we plan to fire the power plant with anthracite coal, and thereafter we are contemplating the use of natural gas or oil. Beginning next year, raw lignite is slowly to be replaced by anthracite coal, which contains less sulfur and is more efficient," the chief energeticist of the clock works promises.

"We Are No Worse Than Others"

Station Number 2: The rubber plant Thuringia Waltershausen with its thermal power plant, which all by itself during the past year subjected the environment to 2,524 tons of sulfur dioxide, 55 tons of oxides of nitrogen, and 302 tons of dust. Added to this is the authorized waste incineration on company-owned grounds of approximately six tons of soot-covered paper and wood. Apparently, this pollution of the environment is being viewed

with considerable equanimity. "Our rubber plant, after all, is no worse an offender than other thermal power plants in the region," the chief of the inspectorate for production safety/environmental protection, Werner Rosenbusch, argues. Safety engineer Rolf Boettner cites the approvals issued by authorities. Yet a stamp of approval will not help the environment. "Aside from that, the main wind direction is not toward the Thuringian Forest," he adds. Disagreeing with this statement is the head of the district environmental inspectorate, Dr. Bernd Ponsold. "The toxicilogic evaluation of the materials, the smokestack height, and the immediate vicinity of the forest are factors which muct be taken into account just as much as the main wind direction."

Despite what appears to be a not overly pronounced awareness of the environment, the people at the rubber plant at least feel constrained to do something for the sake of the environment. Inquiries were made in the FRG as to the problems that an environment under stress can bring to the continent. "Perhaps already" in 1993, natural gas will be used here in place of the lignite briquettes used to date.

Pollutants Still Permitted In Huge Quantities

The thermal power plant Gotha-East is being visited one after the other by experts from East and West. Nevertheless, the head of the plant, Dieter Aeustergerling, has time for THUERINGER ALLGEMEINE. "We have for a long time been the target of public criticism—and rightly so," he states. This plant, which began operating in 1976, was conceived for briquettes. "This fact notwithstanding, we also had to use raw lignite and pulverized anthracite coal during recent years," complains Juergen Czerch, a section head. The result has been prematurely worn-out equipment, including filters and screens. Representing the greatest stress for the surrounding residential area is the dust. In January, 255 tons of this dust settled on rooftops, meadows and trees, and in March the amount was still 152.2 tons. The fact that these devastating figures are going down somewhat is the result of the extensive and still ongoing reconstruction of the dust-collection equipment. But even these figures are incapable of allaying the fears, since they are still far above the prescribed limit. And also in setting this limit, the people who were formerly responsible made it rather easy for themselves: In 1979, it was still 24 kilograms of dust that the plant was permitted to emit per hour. Since this was unattainable and horrendous fines were assessed, this figure was simply "corrected" in 1988. Now 180 kilograms per hour are permissible in their view. "It was the residents and we who had to pay the price. For during public meetings it was difficult to defend something not worthy of defense," the head of the thermal power plant concludes. But here too a tiny ray of hope through the huge clouds of dust: in 1992, two of the six steam generators will be converted to gas. In addition, the responsible personnel of the plant are currently on the road, studying the possibilities for a rapid conversion to anthracite coal.

HUNGARY

Polluted Environment, Long-Term Health Risks Described

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30 Apr 90 pp 76-80

[Article by Robert Buchacher: "Health Care Expenditures Rival Military Budget"]

[Text] At the bottom of the Dorog Basin, 38 kilometers northwest of Budapest, there lies a brown veil of haze; when there is atmospheric inversion, it's enough to make a person believe he will choke.

In Dorog, (13,000 inhabitants), inferior lignite coal is broken down and used as fuel in two heating plants right in the middle of town. Each year, the stacks belch 13,000 tons of unfiltered sulphur dioxide into the air, one ton for each inhabitant.

On the grounds of a briquette factory, 10,000 tons of coal dust are stored, and not 25 meters away, children play in the soot-blackened concrete courtyard of an elementary school. The ground level dust concentration at that spot is seven times the maximum allowable concentration. The pediatrician Anna David of Budapest's Institute of the Peoples' Health knows: "These are carcinogenic substances."

David, who practiced in Dorog for 17 years, reports of cases of suffocation involving small children, of pseudocroup, chronic asthma, incipient pulmonary emphysema, diminished developmental opportunities, and a high rate of congenital heart defects: "The situation is dramatic; it will have its effects on the next generations."

Nearly one Hungarian out of two lives in an area of heavy air pollution. In the last 10 years, the number of cases of acute bronchitis has nearly trebled. Deaths attributable to acute respiratory diseases increase constantly, even among children and adolescents.

Hungary's lung cancer rate heads the list throughout the world. In Austria in 1988, 417 persons per 100,000 in the population died of lung cancer; in Hungary, the figure was 598. The risk of contracting lung cancer in Dunaujavros is eight times as high as in unpolluted areas, and near the main thoroughfares in Budapest, it is as much as 20 times what it is in less polluted areas.

When compared with the period 1960-65, the Hungarian people have been robbed of 100,000 years of life in the last five years. "Most significant is the deterioration among men in the age group 40-59," it was said in the most recent report from the Budapest-based Ministry of the Interior. In 1970, 35 out of every 100 deaths affected this group, by 1985, it was 56.

In the industrial city of Ajka (coal-fired power plant, aluminum plant), north of Lake Balaton, the death rate, even among 20- to 39-year-olds is significantly higher than in Papa, a comparable city that has little industry.

Each year, 35,000 Hungarians die as a direct or indirect result of the consequences of pollution.

Experts estimate that in 1986 alone, pollution-related costs in health care and in lost productivity were 4 percent of the gross national product, almost as high as for military expenditures (4.4 percent).

As a signatory to all the major international agreements on the reduction of noxae, Hungary can point to some partial successes, but in some industrial cities, pollution has continued to increase. The distribution of carcinogenic substances is increasing dramatically.

Hungary's biggest polluters are in the Miskolc region in the Northeast, in the region Tatabanya-Labatlan-Dorog, northwest of Budapest, in Varpalota and Ajka, north of Lake Balaton, and in Szazhalombatta, south of Budapest.

When they surpass a limit, the emitters pay a fine, but, in any case, different limits apply in different places (where the technology is older, the limits are higher), and secondly, it is often the plants themselves that decide whether and when limits have been exceeded.

The measurement instruments in use by the authorities are old and faulty. Of the eight on-line air monitoring points in Budapest, four are completely operational, the Hungarian equipment is slated to be replaced this year with OECD development by Western technology.

Budapest's levels of lead are even higher than those in Prague. At a few measuring points along Budapest's Great Ring, lead concentrations of up to 30-fold the maximum allowable concentration were found, in Martirok utja in Buda, one of the most heavily-travelled streets in the city, readings of up to 31 times the limit were measured. Martirok utja is a continuation of the Great Ring, and it extends from Margaret's Bridge to Moscow Square.

Within the context of a study conducted by the WHO in 1986/87, the concentrations of lead in the blood were measured in 467 people from Budapest. Although the lead content of gasoline was decreased in 1985 from 0.7 to 0.4 grams per liter (in Austria, regular gasoline has 0.0 grams, super has 0.15), the levels found in nearly 90 percent of the children studied in the inner city were above the internationally-permitted limit.

Not until a year ago did data begin leaking to the public. Agnes Nagy, a free-lance doll-painter at Martirok utja 73 set up urine tests for lead for her two and a half-year-old son Aron and for an additional 40 neighborhood children.

Some 82 percent of the children surpassed the limit set for adults. In Aron Nagy's case, the reading measured was twice as high, and in another child's case, the reading measured was even three times that of the adult limit.

International studies show that such concentrations of lead can adversely affect a child's nervous system, his ability to concentrate, the ability to learn and modes of behavior in a detectable way. A study conducted at Budapest's Institute of the Peoples' Health uncovered a significant drop in the intelligence quotients of children in Budapest and Romhany due to lead.

The carbon monoxide content of the air is increasing steadily, chiefly as a result of the growing number of motor vehicles. The Hungarian Ministry of Traffic estimates there will be a 50 percent increase in the number of motor vehicles by the year 2000. A leaning toward a catalyzing car is nowhere in sight, quite the contrary: anyone who imports a Western-made catalyzing car has to pay the same duty and value added tax rate (17 plus 25 percent) as he would for an old air polluter, and anyone who replaces his two-stroke engine with a Fiat 127 engine has to pay a reequipping fee of 2,100 florins. Lead-free gasoline also costs more than leaded gasoline.

In addition to the airborne noxae, high levels of formaldehyde exposure from adhesives and glues pose an additional problem in newly-constructed apartments. In many cases, rooms are heated by gas stoves; the exhaust fumes escape to the outside underneath the windows, only to reenter through the windows or through insufficient insulation of the flue, into the walls.

In a questionnaire conducted in 1988, the vast majority of those polled indicated that they would be willing to accept a decline in the standard of living in exchange for a decline of health risks.

They already have the lower standard of living, but the health risks have increased again. In the urban centers and in those areas near industry, not only air pollution, but also soil pollution has assumed alarming proportions. Along the roadsides, soil concentrations of lead are as much as 100 times higher than in slightly polluted areas. Other concentrations of heavy metals exceed the allowable limits several fold.

Hungary produces 6.1 million tons of hazardous waste annually. According to a government report, one-third of the toxic waste is not detoxified; the detoxification system, like the one in Austria, is just now being built.

Experts estimate that there are thousands of illegal dumping sites in Hungary—a ticking time bomb. Approximately 60 percent of the known 2,600 dump sites are not in compliance with environmental regulations.

In 1981, many inhabitants of Vac, an industrial city north of Budapest complained of bouts of vomiting and diarrhea. The drinking water had become contaminated with pharmaceutical waste, and a waterworks was shut down. In Gyal near Budapest, the drinking water was poisoned by a galvanization plant.

Toxic waste from Graz found its way to the dump site for household garbage at Mosonmagyarovar, 15 kilometers from the border crossing at Nickelsdorf. The city fathers

want to use the revenues to construct an incinerator; now they are constructing a communal well, 10 kilometers away from the city.

Some 90 percent of the population of Hungary receives its water from a public water supply system, but only 50 percent are connected to a sewer system. Only 358 of the approximately 3,500 communities have a sewer system.

For decades, untreated household and industrial waste water has been flowing into Lake Balaton. The largest steppe lake in Europe was biologically dead 10 years ago, and the source of drinking water for many lakeshore communities was threatened.

Concern for the tourist trade has, in the meantime, provided the impetus for the construction of an encircling canal, complete with purification plants. Many such environmental projects are surrounded by stories of penury, bungling, and corruption at the ministerial level. The purification plant at Boglarlelle, which was finished 4 years ago, is still not working, and the Zala, replete with household and industrial waste, continues to flow into the western part of the lake.

Cities like Szeged, Szolnok, Debrecen, Pecs, or Gyoer allow untreated household and industrial waste to flow into the rivers to this day. In Budapest thus far, only 20 percent of the waste water is purified, 80 percent flows untreated into the Danube.

In some cities, like Gyoer, Komarom, and Esztergom, purification plants are being built at the present time, but the available purification technology cannot keep pace with the noxae. Budapest could use two large purification facilities right now, but funds are lacking.

In Budapest, the Danube's water contains a series of toxins, including heavy metals, chlorinated halogens, and chlorinated hydrocarbons. Some 90 percent of Budapest's drinking water comes from riverbank filtrate, and 10 percent is taken directly from the Danube.

The Apenta Health and Mineral Water Factory in Budapest-Oermezoe, a plant operated by the Ministry of Health, fills 600,000 half liter bottles annually for babies. The bottles are available at certain grocery stores free of charge, upon presentation of ration coupon. In those areas where the water is undrinkable, and in 1987, there were still 636 villages and towns where that was the case, and today that number includes 570 villages and towns, every child has a right to two liters of baby water per day until he or she has reached the age of three.

To give the water a longer shelf life, it is enriched with carbonic acid, and each bottle's label bears the instructions: "Boil five minutes before using."

The plant's director, Maria Gyarmath, responds after being questioned at length: "The water is piped in from the municipal waterworks on the island of Csepel."

The island of Csepel in the Danube is Budapest's industrial center. There, as in South Buda on the opposite bank, stand many chemical plants that dump their waste water into the Danube in an unpurified state. Water from the riverbank filtrate is prepared physically and chemically. "Our water," says Gyarmath, who is in charge of filling the baby bottles, "is constantly monitored by the health authorities, we're far below the acceptable limits."

But for eight years now the plant has not been allowed to send any mineral water to Austria because of limits that have been exceeded. New purification methods should bring the seltzer up to Austrian standards.

Water that has been purified to Hungarian standards is delivered to the industrial city of Vac, among other things. The tap water there contains nitrate concentrations that exceed the concentration of 40 milligrams per liter by as much as twofold—dangerous doses for babies and small children.

Between 1976 and 1988 approximately 1,600 Hungarian babies suffered from drinking water poisoning; 25 of them died.

Dead babies are a real indictment of the drinking water; it is then delivered in tank trucks, in bottles, or in plastic bags. In many places, as in Nagymaros or in Veszprem, the children go to school with water bags under their arms. Throughout the country, only one-quarter of the water can be drunk without some form of preparation.

In the Southeast, as a result of nitrate poisoning of the ground water, many deep wells have been drilled. In 1983 it proved that, due to prevailing geological conditions, the new water findings are contaminated with arsenic concentrations of as much as fourfold the allowable limit. Sixty-eight communities with a total combined population of 450,000 inhabitants were affected, but the data were kept secret for years. In addition to the arsenic, methane gas also came up from the depths, and there were many accidents involving explosions.

In the meantime, new wells at depths of up to 200 meters in depth were drilled, and highly contaminated water is mixed with water that is contaminated to a lesser degree, so that now those villages are drinking water that exceeds the maximum allowable concentration of arsenic by twofold. Children up to the age of 14 are getting bottled water from the mountains near Pecs.

According to ministerial water management authorities, by the year 2005, all Hungarians will be supplied with pure water. "Then," the Budapest film director, Jozsef Magyar mocks, "a liter of water will cost as much as a liter of Tokay."

The official story has it that the future is rosy, the young democracy will get environmental protection on track. The will is there, but the funds are lacking in all quarters. At the same time, the race is on against the deadly heritage from the Communists.

The six-year-old boy, Peter More from Szazhalombatta, 30 kilometers southwest of Budapest, experienced his

first asthma attack when he was nine months old. Today, he is a chronic asthmatic. His two sisters, 12 and 14, suffered for years from allergic skin rashes, diarrhea, and febrile diseases of the respiratory passages. The children are pale and physically underdeveloped.

The laundry that is hung up outside soon becomes yellow from the sulphur, the garden fence, newly-painted just two years ago, is all rusted and covered with black spots. Black nubs, from the sulphur, form on the cars.

Szazhalombatta (18,000 inhabitants) is one of the dirtiest towns in Hungary. The largest refinery (3,000 workers) and the largest caloric power plant (1,300 workers, a 2,000 megawatt facility) in the country are located here. The high voltage-heat generating plant, in addition to oil and natural gas, burns gudron [as published], a petroleum distillate, not unlike bitumen. The unfiltered exhaust gases are released into the atmosphere, and the unpurified waste water is released into the Danube. The workers have already threatened to give up their jobs due to the pollution—"We are poisoning our children."

Peter Takacs, Director of the Municipal Cultural Center and editor in chief of a local newspaper, wanted to report on the environmental impact as long as several years ago, "but no one wanted to open his mouth." Finally, physicians who felt a high degree of social commitment sounded the alarm due to the extremely high rate of stillbirths. High concentrations of heavy metals were found in the dead fetuses and in the placentas.

Peter Takacs computed that per inhabitant "including infants," 5,000 kilograms of toxic dust descended on Szazhlombatta per annum. The concentrations of benzene, toluene, xylol, sulphur, vanadium, nickel, were 20 to 100 times the level of the less polluted comparison city Budaoers, a suburb of Budapest. Vanadium compounds are carcinogenic.

According to estimates by experts, 20 billion florins would be needed for the environmental clean-up of Szazhalombatta. Instead of doing anything of that kind, the refinery and the power plant, which generate billions, continue merrily paying their fines of a few million for exceeding environmental limits on a regular basis, and send the children who are suffering from severe cases of asthma to the GDR for a salt cure. That helps for a maximum of six months.

In Ercsi, a few kilometers downstream on the Danube, the plants are damaged, and the children are losing their hair.

The pediatrician and Municipal Health Commissioner of Szazhalombatta, Laszlo Benedek, worked in Karcag, in Central Hungary in the 1970's without developing any interest in environmental matters. "Seven to eight children per annum suffocated there," he reported. "Now I know why." Peter Takacs: "My wife died of lung cancer at the age of 40, and she never smoked."

[Box, p. 79]

"The Crippling of Half a Century"

Apajpuszta, known for its riding festival, is now a synonym for the moral collapse of "Socialist" society.

In Apaj, a village of 1,000 inhabitants a good 50 kilometers south of Budapest, the UNESCO protection for a 140-kilometer Biosphere Reservation, Hungary's largest Puszta national park, begins. That is where the romance of the puszta stopped.

Abutting the national park and a meat-processing plant, the State-run Kiskunsag agriculture collective established a 4,500 square kilometer depot for hazardous chemical waste in 1983. "We had authorizations by the carload," says the former Director of the collective, Dezsoe Halsz.

When 17,000 barrels of poison from the Budapest paint factory "Budalakk" and from other chemical plants throughout the entire country were stored at the site, Halasz "invented" a "distillation facility." From a technical standpoint, this was nothing more than a still of the type used to produce alcoholic spirits. As a recycling facility, it was a complete failure. Halasz and others banked hundreds of thousands of florins from the State collective in "patent royalties."

In the next step, the toxic waste was simply burned. Because the neighbors complained of the acrid stench, the health authorities banned the incineration of the waste, and levied a fine of 3.5 million florins against the plant. Then 500 drums of toxins were buried as furtively as could be in the national park. The figure could even be as high as 2,000. Istvan Toth, the Director of the preserve calls this "unique in the annals of national parks throughout the world."

The scandal did not come to light until the political situation had eased up. In 1988, the post of Director of the collective was no longer simply issued to a Party favorite by the Central Committee. Rather, there was an open competition for it. One of the applicants, chief agronomist in the State-run plant, reported in his application concerning the events that had hitherto been hushed up.

The stench that rose from that mess had to do with far more than just some buried drums of toxins; it had to do with the disappearance of 16 million florins, concealment, corruption, fear, and terror. One of the leaders of the collective put his aged grandmother on the payroll as the driver of a tractor at a fantastic salary. Although the people in the town knew precisely what had happened, no one dared open his mouth. They all depended on the State collective, the only employer in the area. The health authorities reported that 80 percent of those living in the place were alcoholics.

When the various machinations at the collective exploded in everyone's faces, an obscure tractor driver hanged himself. Szusza Dorko, an employee of the

environmental protection authorities for the Mid-Danube Region said: "The people were living in fear. To this day, they still cannot understand that it is allowed to talk about the facts. Believe us when we say it was a regular mafia."

In the case of the annual riding festivals, the Communist Party bosses were kept quiet by bribes and orgies. One of the bosses, who regularly had the trunk of his car filled with wine, threatened to have an employee of the collective fired because one the bottles toppled over.

"Riders' festival" ("Lovasuennep") is also the title of a documentary film about the happenings in Apajpuszta. The film, which had its premiere in early February at the Budapest Film Festival, tracks down the social environment in which economic and environmental criminality could flourish, the world of "moral pollution" (Jozsef Magyar, the Director).

Magyar, 61, stumbled onto the topic quite by accident. In February, 1989, the Budapest film studio, Argos, which is, in a roundabout way, a department of the Ministry of the Environment, received a commission to take aerial photographs above Apajpuszta National Park.

By comparing photographs that were 10 years old, it was hoped they could encounter "traces of injury" in the landscape, that is, those areas where the toxic drums were buried.

In point of fact, by comparing the aerial photos, it was possible to limit the 140 square kilometers to relatively small zones. In these zones, damage to vegetation was looked for, and, with the aid of geo-radar, it was found. The drums that were dug up were severely rusted, and, for the most part, empty. The chemical broth had poisoned the groundwater. The water table in the Puszta National Park lies no more than 260 centimeters beneath the surface.

Investigations of environmental damage that had been done brought additional facts to the light of day: drums of poison had also been buried under wheat fields and sunflower fields, and mercury concentrations of up to eight times the allowable limit were found in the plants. It is said the tainted wheat found its way to a Budapest bakery, and the sunflowers that were laced with heavy metals were fed to the collective's animals. The meat was processed for human consumption in the processing plant just a few meters away from the toxic dump site, or rather, the garbage incineration site.

Until that time, it had been impossible to forge a connection between environmental pollution and several children who died in Apajpuszta of leukemia.

In the early 1980's, the Agricultural Collective at Kiskunsag (10,000 hectares, 800 workers) had encountered economic troubles. The socialist managers found the ideal way out of the problem: the "detoxification" of chemical waste seemed to be a sure-fire success, because there was no suitable dumping site for hazardous waste.

As strange as it sounds, Apajpuszta could happen because legal land was in sight for Hungary's toxic waste. In Aszod, near Budapest, Hungary's first state-inspected hazardous waste dumping site was being built, and in Dorog 38 kilometers from the capital, the Austrians and Swiss were building an incinerator for hazardous waste.

Until both sites were operational, interim dump-sites had to be found, and, in all the country, Apajpuszta fit the bill perfectly. Even the environmental authorities sent the chemical plants to Apajpuszta; there they would solve all their waste problems.

In the meantime, the "unsecured final dump-site Aszod" (Pal Rosza, ex-director of the subterranean construction firm Foldgep) and the hazardous waste incinerator at Dorog have long been in operation, and yet, 1,900 tons of toxic waste are standing in Apaj on a giant concrete slab. Some of the drums are severely rusted, and at the present time, their content is being transferred to intake drums. An earthen trench has been dug all around the concrete slab in which, sealed off with a plastic film in a makeshift way, a reddish-brown chemical broth is floating. The authorities suspect that drums lie hidden under the concrete slab.

Toxic drums that were dug up out of the national park are supposed to have been reburied immediately at another location and "sealed" in concrete.

Although the revenue police have also uncovered damning evidence, as have the environmental authorities, a trial never got under way. One of those responsible received a nominal fine of 16,000 florins.

For the ridiculous sum of 5,000 florins, two lowly workers assumed full responsibility for the buried drums of toxin, the wife of the wood technician Istvan Kaposztas.

Kaposztas, who bore primary responsibility for the business with the toxic drums, defends his actions in the documentary film "Riders' Festival" in the following way: "I have children, I was given an apartment and a secure job. What was I supposed to do?—Otherwise, they would have fired me." He speaks out several times in the film. Over the months, as the film was being made, he was absent from time to time, at the end, the film crew went to his funeral. He died of lung cancer.

"It's all blown up way out of proportion," Csiszar Matyas, who has been Director of the chemical plant since last August assures everyone. The dump is being dismantled, and the plant has converting to filling putty.

In the documentary film, which was financed for the most part by the Ministry of the Environment, Janos Varadi, Chief of Police for the collective, who got the job of protecting representatives of the authorities as their excavation work progressed, appears. He pulls out a

pistol and says: "Given the present situation around here, you've got to be ready for anything."

Janos Soos, former Communist Party Secretary from Apaj and former Director of the agricultural collective thought the film was "excellent." The producer, Arisztid Ditzendy said: "These people don't even notice their crippling condition; it's a crippling condition that has lasted for half a century."

[Box, p. 80]

Hungary in Figures

Area: 93,032 km^2, 18 percent of which is forest, one-quarter of which is damaged.

Inhabitants: 10.7 million, 2.1 million in Budapest.

Urban population: 58 percent.

SO_2 output per inhabitant (1988): 115 kg/annum (Austria: 25 kg).

Sulphur exports to Austria: 22,000 tons per annum.

Nitrous oxide output per capita (1988): 28 kg/annum (Austria: 32 kg).

Dust emissions per capita (1988): 75.5 kg/annum.

Life expectancy at birth (1987): 65.3 years (males), 73.2 years (females).

Mortality rate (deaths per 1,000 inhabitants, 1987): 13.4 (Austria: 11.2).

Infant mortality (of 1,000 live births, 1987) 17.4 (Austria: 9.8).

POLAND

Coal Mines: Costly Cleanup, Finance Issue Unresolved

90WN0126A Warsaw RZECZPOSPOLITA in Polish 12-13 May 90 p 4

[Article by Krystyna Forowicz: "Salt and Conscience"]

[Text] A sea of salt—as far as the eye can see. Salt-laden rivers, and meadows and soil permeated with salt. Flora and fauna destroyed. Over the course of a year damage to the tune of 500 billion zlotys. This volatile, polluted water destroys equipment and plants. It becomes a barrier to the development of many branches of industry.

This is not a new topic. For at least 30 years, it has been considered a major "socioeconomic issue." Programs for protecting surface waters against salt-laden mine waters have arisen in the Ministry of Mining and Power [MGiE]. Many research teams have been absorbed in this project. Something more or less has been done: a desalination plant was installed at the Debiensko Hard Coal Mine 15 years ago. But for our overly salty rivers, something is too little. And today, there can be no help from river cleanup strategies without a solid financial resource base. These strategies are a kind of ritual dancing around every sort of depollution plan.

Perhaps Deputy Joachim Masarczyk reproaches himself with the fact that he allowed himself to be duped like a school girl—even much worse. Armed with arguments from the Anthracite Coal Association [WWK], he appealed dramatically before the Sejm Environmental Protection Commission for 125 billion zlotys to finish the construction of a modern desalination facility in Debiensko. "The construction work is already very far along," he said. "At this very moment, ships are bringing the plant equipment from Sweden. Without financial assistance from the Ministry of Environmental Protection [MOSiZN], the implementation of such a great undertaking will be stopped." The deputy made an appeal to conscience: "If the facility in Debiensko begins operation next year, that will permit us to furnish Silesia with an additional 11 million cubic meters of drinking water.

Most people would say that it is crazy to appeal to conscience in order to protect the environment at a time when the science of ecology is becoming recognized as the equal sister of the science of economics. We know that ever since coal mines came into existence, they have been devastating nature. The rich MGiE decked itself out in wood paneling and potted palms while the MOSiZN looked for magic formulas to solve the problems of growing dangers.

These were my thoughts as I made my way on assignment to Katowice.

At the WWK in Katowice, they wonder why the drowning man refuses a life jacket. Dr. Engineer Jan Hycnar, director of the Department of Environmental Protection, considers the salt-laden waters of the Wisla and the Odra to be an extreme ecological problem. We still cannot predict the future if the salinity of our rivers increases, but the words catastrophe and disaster aptly describe the present situation. The salt content of our waters has increased by 20 percent over the last two years. If hard coal extraction continues at a level of 195 million tons, by the year 2000 the salt loads will grow by 93 percent and the sulfate loads will increase by 48 percent (this data applies to mining alone). Director Hycnar does not wish to cause alarm, but in the sewage issuing from Silesian mines, the radium concentration is increasing at a sevenfold rate. The mines "pump" 9,000 tons of salt into our rivers per day. According to Polish standards, the allowable chloride content in water is 300 mg per liter. Two years ago, below the Gostynia River near Krakow, 2,700 mg per liter was noted and 1,700 was noted below Skawa; in the Odra at the mouths of the Olza, Bierawka and Klodnica, the chloride concentration is 1,000 mg per liter.

The subject brought up by Deputy Masarczyk was confirmed here, on location, at the Debiensko WWK. A plant for the utilization of lower river region waters has been in operation since 1975. This plant treats brine from Debiensko mine at a rate of 1,800 cubic meters per day. The plant is an enormous edifice which has almost seven floors. A stream of salt still warm from the centrifuges speeds along in conveyers. Further along it is packed and bagged. The warehouse is stuffed to the gills with 120 tons of pure salt per day, thereby reducing the amount of salt that reaches the Bierawka by this quantity. According to Engineer Antoni Krotki, director of the Debiensko WWK, "If we were to open a second plant, we would catch another 300 tons and an additional 150 tons from the neighboring Budryk Mine. We had planned the startup in August 1989. This was to be the shortest investment cycle—21 months."

Engineer Janusz Sikora from the investment department is concerned: inflation has systematically caught us by the throat. The entire venture at last year's price was planned to cost 30 billion zlotys. There was no concern about monies from the salt fund at that time, since 16 billion zlotys was guaranteed. Now a tenfold price increase for construction-assembly work renders these sums laughable. We need 250 billion zlotys. "There is a serious danger," adds Engineer Sikora. "In the contract with the Swedish firm (the license issues from the American firm Resources Conservation Company) we signed a clause obliging us to set in motion all of the equipment supplied within a year. Otherwise the warranty period is shortened with each month's delay."

"The plant is completely financed by the mine from funds figured in within the framework of the salt fund by the coal industry from beginning to end," adds Dr. Marian Chaber from the Coal Association.

For years, Director Antoni Krotki has advised that ecological needs should be treated on a par with the needs of the mining industry. And so today he takes stock:

"We were the first ones to begin to desalinate and use end lye; before us, no one in Poland had done this. We were also the first ones to embark upon building a prototypical plant based on foreign technology. We are a pilot-experimental plant for the Polish power industry. We are building a first generation fluid boiler, with a circulation chamber. The mine is already more than 90 years old. We could have said environmental protection is not our problem." The director grows indignant. "For 45 years Silesia was exploited so badly that it has become unlivable. Our coal served the entire country. Today the mines are not in a position to deal alone with many years of neglect. They are not in a position to build all of the environmental protection installations by themselves. The cost of the present plant, which will serve the entire country, is higher than the entire year's production from the mine. Where are we supposed to get the money?"

Here, in Debiensko, many people admit to being prejudiced against mining.

The foundations of the new desalination factory are already up. Chief Engineer Jan Piecha takes me through the grounds. "The phenomenon of reverse osmosis, a pillar of all technology, guarantees a low consumption of electrical energy, less than three to five kilowatt hours per cubic meter of brine. Engineer Piecha adds: "A second advantage is that we are obtaining water which is drinkable after very little processing. This is one of the qualities which makes this investment an ecological one."

There are still several other reasons why, in the opinion of the mine management, the MOSiZN should take a more favorable view of what is happening in the ravaged Silesian area. This will be the first experimental plant to settle many doubts, namely: has the choice of technology been the right one, will the experience gained in Debiensko lend itself to take root in other soil, e.g., will it lead to the closing of water cycles in the large electrical power plants and to the solution of many problems in the copper metallurgy extraction industry?

Bronislaw Kaminski, head of the MOSiZN, announced firmly: "We will not finance industrial investments. The coal industry must figure outlays related to water desalination into the price of coal."

Nor will the Ministry of Industry cover the costs of the desalination program, or any investments aimed at saving the environment. Bronislaw Kaminski made this clear when I met with him. The Debiensko Mine, dependent upon the decisions of the two ministries, calls hostages to mind. One ministry says: just let them try to not give, after destroying for so many years. The other ministry replies: if they attempt not to contribute their share, thousands of tons of poisonous salt will completely destroy everything.

ROMANIA

Ecological Movement Deputy Chairman on Future Task

AU0307102390 Bucharest ROMPRES in English 0855 GMT 3 Jul 90

[Text] Bucharest, ROMPRES, 3/7/1990—"The Ecological Movement Will Campaign for the Destruction of the Hotbeds of Pollution..." says Professor Dr. Dolphi Drimer, deputy chairman of the Ecological Movement of Romania in an interview with daily DIMINEATA. "We plan for the period ahead steady political and scientific activity in harmony with our fundamental vocation environmental protection and conservancy" stressed D. Drimer, showing that in future the ecological movement would have extreme exigencies in the observance of the norms of water, soil, subsoil and air sanity.

Referring to the recent setting up of the Ecological University of Romania, Professor Drimer mentioned that it

planned to train experts apt to ensure in future the neutralization in future of the pollution sources in conditions of economic efficiency, for "depollution is a work of intelligence and we are apt to find the necessary solutions." As for the world ecological movement, Dr. Drimer showed: "we have found a great many things in common with similar movements, especially in France, Belgium and Hungary, we have connections with the organizations in Czechoslovakia, Federal Germany and, more recently, with those in Italy and the Republic of Moldova."

INTER-AMERICAN AFFAIRS

Uruguay Charges Brazilian Power Plant Causing Pollution

PY1007125490 Rio de Janeiro Rede Globo Television in Portuguese 2300 GMT 9 Jul 90

[Text] The Uruguayan Government has charged that the thermoelectric power plant in Candiota, Rio Grande do Sul State, is polluting the atmosphere and causing acid rain. The plant expels 60,000 tons of dioxide and sulfur into the air every year. These clouds are alarming the residents of the Uruguayan town of Melo, 50 km from the Brazilian border.

Melo is a small town with no factories. Despite this fact, the pollution index is five times higher than that of Montevideo, the Uruguayan capital. In Melo the rain is equivalent to pollution.

Uruguayan environmentalists have determined that this pollution originates 70 km from Melo, on the Brazilian side. The gas and dust created by the burning of coal at the Candiota Thermoelectric Power Plant, in Rio Grande do Sul State, is reportedly causing the pollution, especially in the form of acid rain. Rain samples have been analyzed in a state-owned laboratory and the studies revealed the presence of sulfuric acid in the atmosphere, which is poison for the environment.

Scientist Juan Corona, who analyzed the rain samples, charged that the Candiota Thermoelectric Power Plant is polluting the atmosphere. He said that the pollution is carried from Candiota to Melo.

The Candiota Thermoelectric Power Plant generates 444 megawatts per hour and uses almost 3 million tons of coal. The power plant directorate guarantees that the level of pollution is in keeping with international norms.

A environmental impact report released by the Rio Grande do Sul Health Secretariat shows that the plant does not have filters to prevent the pollution.

Bolivia, Chile Discuss Plans for Arica Region, Lauca River Study

PY0507120090 La Paz Television Boliviana Network in Spanish 0030 GMT 5 Jul 90

[Text] In a news conference this afternoon, the foreign minister gave a special report on Bolivian relations with Chile and on the Lauca River.

[Begin recording] Bolivia has always held international talks with all countries of the world, particularly with neighboring countries. International talks, however, do not necessarily mean negotiations through diplomatic channels. First, we must point out the initiative for the creation of a corporation for development which would be responsible for the implementation of a development program in the Arica Region area. Officials from the Arica Region have already proposed the creation of this corporation to the Chilean Government. Second, considering that regional authorities made this proposal to the Chilean Government, it is obvious that there is no reason for the Bolivian Foreign Ministry to make any comment on the issue. [end recording]

Regarding the Lauca River, the foreign minister said:

[Begin recording] An interinstitutional committee of experts in hydrology, geology, and ecology has been formed. These experts are members of the Naval Hydrology Service, the National Hydrology and Meteorology Service, and the Hydraulics and Hydrology Institute of the Greater San Andres University. The members of this committee, which will be coordinated by the Foreign Ministry's International Waters General Directorate, have already inspected the (?Ito Beite) border region and the Sajama River basin and charted hydrological, hydrochemical, and ecological data on the region. [end recording]

GUATEMALA

Businessman Notes Causes of 1,000-Sq-Km Yearly Deforestation Rate

90WN0145A Guatemala City PRENSA LIBRE in Spanish 4 Jun 90 pp 26, 89

[Article by Byron Barrera]

[Text] ACEN/SIAG—In less than 40 years the country could be left without any forests, for the destruction of forest resources is moving along at a rate of 1,000 square kilometers per year, due to massive, illegal lumbering activity and the fact that the national reforestation effort covers only about five percent of what is destroyed.

This statement was made by businessman Rolando Paiz Maselli, former director of the National Reconstruction Committee, who has made detailed and reliable studies on the characteristics of the soil and the forest resources of the country.

According to reports from the United Nations, recognized as reliable by government offices, in Guatemala there are about 40,000 square kilometers of forest area, a resource which is being reduced at a rate of 1,000 square kilometers per year.

This situation is caused by two factors: the demand for wood as a source of energy, basically for cooking, and the felling and burning of forests to increase areas available for cultivation.

Of the total amount of forest area only 30 percent is used for industrial and lumber purposes, according to Paiz Maselli, who is also active in that sector of the economy.

In Guatemala about 30 pounds of wood are consumed every day per family. This is the equivalent of three gallons of kerosene.

Other figures reflect the true magnitude of the problem. About 78 percent of the population throughout the country uses wood to cook food. In rural areas, including municipal centers and smaller jurisdictions, the corresponding figure is 98 percent of the people. In municipal centers alone the figure is 70 percent, while in the Department of Guatemala, 33 percent of the population uses wood to cook food.

On an overall basis, the consumption of wood is disproportionate to the size of the population. When wood is used for domestic purposes, about 50 percent of the energy contained in the fuel is wasted. Thus, not only is demand rising but this resource is poorly utilized.

The felling and burning of forests to increase available arable land has reached a critical stage, particularly in the northern region, with the aggravating factor that the wood is wasted but not used.

The problem is all the greater because when the forest is destroyed and the land is planted for use during a period of three or four years, the people who have fields in the region are then forced to move to another area, due to the fact that the soil is burned and only a small layer of fertile land is available. These practices extend the area of deforestation. As the land is used up, it is turned into a desert.

Despite the fact that soil and topographic studies, as well as knowledge on the quality of the soil, are all available, many people continue to believe that Guatemala is a country eminently suited for agriculture. This is not true, since it has been proven that the country is better suited to forests.

According to Paiz Maselli, the problem is that the majority of the people, particularly the indigenous population, are farmers, not because this is what they wish to be but, rather, because they have no other, better alternative. The farmers have been cultivating small parcels of land which, over time, are subdivided from generation to generation until the present, when production and consumption are equal or less than equal. The farmers have to add to their incomes, going down to the South coast during periods of sowing and harvesting of export crops.

On the other hand, insisting on the cultivation of annual crops on a continuous basis on land which is not suited to this purpose has led to a situation where these lands are constantly subject to erosion and lose their layer of humus. This material is carried down to the South coast by the rivers which, as their speed of flow decreases, deposit the solid materials, causing floods which make fertile land unusable.

Of the total amount of land in the country 65 percent is planted with forests, while the remaining 35 percent is barely enough for agricultural purposes.

The fact that land intended for forest use is turned into agricultural land, on the condition that the indigenous population be integrated into the industrial economy, causes the impoverishment of the soil and of the people living on it.

This process of deterioration will accelerate with the latest economic measures adopted by the government, according to Paiz Maselli. Since the government has eliminated subsidies on fuels, the problem of wood consumption in the country will worsen. If the people do not have enough money to buy propane gas, they will return to the use of wood, and it is certain that the percentage of people using this resource for cooking purposes, initially estimated at 78 percent throughout the country, will increase.

According to businessman Paiz Maselli, there are four steps which should be taken to correct this national problem.

First, there would be a broad technical and practical, but not political plan, to establish forests for energy supply and timber purposes. The program could involve the town governments, the General Directorate of Forests, the National Commission for the Environment, and other institutions, with the state providing concrete incentives to achieve broad participation in this effort.

This program could begin to be implemented immediately, making use of the forthcoming winter. In this connection, municipal tree nurseries should be established, and trees should be planted by members of civilian patrols.

On this point he said that civilian patrolmen are a rather numerous and well organized group. Moreover, they know their areas and needs. He said that it is a good idea to turn them into forest guards and caretakers of their own mountains.

The second point which he proposed was to improve the type of stoves available so that better use could be made of firewood and demand for firewood would decline. "Z" stoves developed by the Ministry of Mining, improved Lorena stoves developed by ICAITI [Central American Institute of Research and Industrial Technology], and ceramic stoves, with some further improvements, could be used. In any case, the object would be to obtain up to 80 percent of the calorific value of firewood.

He then indicated that sugar mills should improve their technique of using bagasse derived from sugar cane, since the form and state of humidity of the product only makes it possible to use 50 percent of it. This situation would give the sugar mills a byproduct of raw material which could be given or sold to the people living in the region, [as these are] areas with little forest coverage because of sugar cane cultivation.

The fourth point which he proposed was education for the rational use of firewood and the use of other energy alternatives, such as hydraulic, geothermal, and hydrocarbon energy, as well as solar, wind and biomass energy.

Paiz Maselli concluded: "We are a country with great resources, but they are not exploited adequately. There is a certain inertia in our society and among those who lead us. Petroleum companies come into our country, but they are not allowed to operate because of fear that archeological ruins will be destroyed. Meanwhile, and paradoxically, we do not have the resources to go on importing fuel. Finally, we will have neither ruins nor petroleum, because there will be no money to preserve and reconstruct our archeological ruins."

INTERNATIONAL AFFAIRS

Egypt Joins Regional Convention on Red Sea Protection

JN1007155190 Cairo AL-AHRAM in Arabic 9 Jul 90 p 10

[By 'Ala' al-'Attar]

[Text] President Husni Mubarak has issued a presidential decision allowing Egypt to join the regional convention on environmental protection of the Red Sea and the Gulf of Aden. Egypt is the seventh state to join the convention after Saudi Arabia, Jordan, Sudan, Somalia, Yemen, and Palestine. It was decided to set up a center for exchanging assistance among the seven countries with a view to dealing with potential sea emergencies and pollution disasters in the Red Sea. The center's headquarters will be in the city of Al-Ghardaqah.

According to the memorandum of understanding signed by Dr. 'Atif 'Ubayd, minister of state for administrative development, and al- Muhammadi 'Id, head of the Environmental Affairs Department, the purpose of the center is to help Red Sea countries draft necessary environmental laws and regulations, prepare emergency plans against pollution, and transport men and equipment to tackle sea emergencies.

Dr. Muhammad 'Abd-al-Rahman, a marine pollution expert, said Egypt's joining the convention was required so the necessary measures could be taken to declare the Red Sea a region under international protection, like the Mediterranean.

According to reports, the Red Sea is suffering from pollution from various sources—human, industrial, and agricultural and form metal waste, non-metal waste from mines, and waste from passing ships, oil exploration, beach improvements, and tourist facilities. The Red Sea, as a closed body of water, retains pollutants, according to the reports.

Arab Cooperation Council To Sign Environmental Protection Agreement

NC0907201890 Cairo MENA in English 1532 GMT 9 Jul 90

[Text] Cairo, July 9 (MENA)—Dr. 'Atif 'Ubayd, minister of cabinet affairs and state minister for administrative development, left here today for Amman on a few days visit. Dr. 'Ubayd said before departure [that] he visits Amman to attend the meeting of environment ministers of the Arab Cooperation Council (ACC) member states, due to open tomorrow and run for two days.

A cooperation agreement in the field of environment protection will be signed during the meeting, Dr. 'Ubayd said. He added that the agreement underlines the necessity of cooperation to establish a comprehensive system for environment protection in the (ACC) member states and coordination in this field.

BAHRAIN

Environmental Conservation Seminar Held

44000264A Manama GULF DAILY NEWS in English 22 Mar 90 p 4

[Article by Soman Baby]

[Text] Bahrain and other countries represented at an environmental conference have been urged to improve their energy efficiency by such means as fuel-efficient cars to combat global warming.

The plea came from Dr. Ian Graham-Bryce, head of environmental affairs at Shell International at The Hague.

Climate change was clearly the gravest ecological threat ever to face humanity, said Dr. Graham-Bryce, who chaired a seminar on behalf of the International Petroleum Industry Environmental Conservation Association yesterday.

"World temperatures are expected to rise by 1.5 to 4.5 degrees by the year 2030, but it is still uncertain what all regions would be affected," he said.

"Coastal areas, especially the low-lying states in the Gulf may be affected as sea level rises due to the build up of greenhouse gases, causing the atmosphere to overheat.

The gases which produced the greenhouse effect were produced by burning coal, oil and natural gas, by deforestation and through the release of some industrial chemicals.

Carbon dioxide was the principal greenhouse gas, and its emissions had to be controlled.

That would require programmes to improve energy efficiency through more fuel-efficient motor vehicles and electric lighting, and building insulation, he said at the seminar at the Diplomat Hotel.

Dr. Salih Osman, regional director of the United Nations Environment Programme, said the results of the climate change would be global and hazardous.

"Sea level rise could inundate low-level coastal areas and major seaports; rainfalls and monsoon patterns could shift; and heat waves, droughts and other weather extremes will harm people, crops, forests, plants and animals," he said.

Dr. Osman underlined the need for countries to switch the ratio of fuel use from coal and oil, and especially natural gas, to that produce comparatively less carbon dioxide.

"They will have to increase development and use of renewable power resources—water, wind, solar and tidal power," he said.

Anti-Pollution Assistance Offered

44000264B Manama GULF DAILY NEWS in English 23 Mar 90 p 4

Wednesday [21 Mar 90]

[Text] Gulf states needed to spend about $100,000 million (BD37.8 million) to cut oil pollution from tankers, environmental experts said at a conference in Bahrain.

Pollution in the Gulf, one of the world's busiest waterways, was 47 times higher than the global average, experts told the key conference.

They said that no port in the eight oil exporting nations had facilities to treat tanker ballast, a major source of pollution, and the facilities would cost about $100 million to build.

Commerce and Agriculture Minister Habib Qassim, who opened the conference, said Gulf-wide communications were vital to prevent oil pollution incidents and other serious ecological threats to the region.

Thursday [22 Mar 90]

Bahrain was offered access to a world-class team of anti-pollution experts capable of fighting major oil slicks and other environmental emergencies.

The offer came at the pollution conference organized on the island by the Gulf Area Oil Companies Mutual Aid Organization and the international Petroleum Industry Environmental Conservation Association.

It came from International Maritime Organization senior deputy director John Wonham.

He appealed to Bahrain and other Gulf states to join the new International Convention on Oil Pollution Preparedness and Response, which would finance the trouble-shooter team.

The team would be run by the IMO and would be able to fly out equipment and experts to deal with major pollution incidents, Mr. Wonham told the conference.

EGYPT

Public Works Minister Announces 35-Year Water Use Plan

90WN0123A Cairo AL-AKHBAR in Arabic 23 May 90 p 6

[Article by Karimah al-Suruji: "Plan To Develop Egypt's Water Resources For 35 Years"]

[Text] Engineer 'Isam Radhi, Minister of [Public] Works and Water Resources, announced that Egypt has prepared a plan to develop its sources of water to the year 2025 to cover its increasing need for it and in an attempt to bring the individual's share of water for various uses to a level corresponding to the size of the need, which the world estimates to be 1000 cubic meters annually. The minister said that the problem of a shortage in the individual's share of water on the world level is a natural and well-known fact, and that in more than 80 percent of the countries of the world, the individual's share of the volume of water available is below that level.

The minister of [public] works asserted, in the opening session of the conference on supplementary irrigation and water management which the water distribution research institute in the Ministry of [Public] Works is organizing, that this problem is general and not specific to our area.

He said that the general trend for the use of water resources relies upon their reuse, in addition to a new plan to develop the means and tools of irrigation within the discipline of and in adherence to the laws, embracing the technological aspects and carrying out the dynamic policies which are achieving the goal of good use of our water resources. It is a plan which bears the name: intelligent water resource management.

PAKISTAN

Investors Said Hesitant in Pesticide Manufacture

54004700 Islamabad THE MUSLIM in English 26 May 90 p 7

[Text] Faisalabad, 25 May: Economic conditions in the country were not conducive to manufacture of pesticides and the multi-national companies were hesitant to make investment in this field. This was stated by Tahreem Malik, former chairman [of the] Agricultural Pesticide Association of Pakistan, while talking to pressmen at the conclusion of a workshop on pesticide toxicology here today.

Mr. Malik criticised the attempts being made by certain quarters in the country to introduce [a] generic scheme in pesticides. The generic scheme has already miserably failed in medicine and would meet the same fate in pesticides, as it was based on short term gains. Those advocating [a] generic scheme of pesticides were oblivious of the facts that the generic pesticides had short life duration. When the land and crops develop resistance, some new pesticide has to be introduced and adapted to new conditions, he said. Furthermore he said there was no institution in the country to check up [on] the standards of the imported generic pesticides in the country. The multinational companies, he stated, spent huge amounts of funds in researching new and improved varieties of pesticides which the generic companies would not do. He further stated that presently Pakistan was importing 3.25 billion worth of pesticides annually, which was a substantial amount of foreign exchange, and if the government could provide adequate facilities and protection, foreign companies would be ready to make investment in this field.

Talking of the pesticide cover to agricultural crops, Dr. Tahreem said that while 100 percent cover has been provided to [the] cotton crop, other crops like rice, sugarcane and vegetables have not been provided full pesticide cover as yet.

He dispelled the general notion in [the] public mind that pesticides got filtered into the crops and made vegetables, rice, wheat and sugarcane poisonous and injurious to [the] human body. He categorically emphasised that there was absolutely no danger to public health of pesticides, as extreme care was taken before any pesticide was marketed.

Mr. Malik also disclosed that I.C.I. [not further identified] was establishing a new agricultural containers plant at Sheikhupura to cope with the growing needs of packing material for the pesticide industry. Pre-existence of container material was imperative for the growth and progress of pesticide industry in Pakistan, he said.

Moscow Area Poll Shows Concern Over Environmental Issues

PM0706152490 Moscow MOSCOW NEWS in English No 22, 10-17 Jun 90 p 7

[Vladimir Lupandin and Gennadiy Denisovskiy report: "The 'Greens' Coming to the Fore"]

[Text] The above is the sensational result of a sociological research study carried out by the Institute of Sociological Research of the USSR Academy of Sciences jointly with the Sociological Centre of the University of Houston, USA, in Moscow and the Moscow Region. In the experts' view, this area can be seen as an approximate model of the USSR being 1.5-2 years ahead in its social processes.

How did the respondents understand the "green movement"? They qualified it as non-governmental, non-state initiatives and activities by people against the construction of facilities capable of damaging the environment. This means the struggle to save Lake Baykal, to cancel the projects for changing the flow of northern rivers and building nuclear power plants, the Volga-Chogray canal, the Katun hydroelectric power station, expanding the capacity of the Astrakhan gas-condensate complex, building the factories for the production of protein-vitamin feeds, and many other things. This also implies objective information on the true scope of the Chernobyl disaster, and the aftermath of nuclear tests on the Semipalatinsk and Novaya Zemlya testing ranges.

The findings of the opinion poll (in percentages of the total number of those polled), given in the following table, show the level of people's trust in different public organizations and social structures.

	Trust completely	Trust	Not Very Much	Don't Trust
Church	17.5	46.8	24.1	4.8
Green movement	12.9	41.6	16.3	8.5
Armed Forces	12.3	44.1	33.9	8.0
Judiciary	2.0	18.3	52.1	20.7
Government	4.0	24.3	42.1	22.5
CPSU	5.4	33.4	37.0	17.3
YCL	2.8	23.5	38.0	28.4
Trade Unions	3.8	33.4	39.4	18.7
Militia	3.0	19.9	53.3	20.5

This shows that for level of trust the "greens" compete only with the Church and the Armed Forces. Nevertheless the position of the latter is weaker because the group of those who do "not very much" trust them is twice as large. Besides, almost one in five respondents has not yet defined his attitude towards the "greens" whereas the Armed Forces have no reserve of this kind (for reasons of space these figures are not given in the tables).

One of the poll's discoveries is the prominence given by everyone to the problems of the environment. As is clear from the following table, over 98 per cent of those polled are more worried about these problems than the growth in the rate of crime, the shortage of food products and prime necessities, the threat of AIDS, and interethnic conflicts.

	Very important	Important	Not very important	Althogether unimportant
Shortage of food products	69.4	25.0	4.4	1.2
Shortage of price necessities	63.2	30.2	5.8	0.2
Shortage of durables	41.0	45.1	12.5	1.0
Environmental pollution	74.4	23.7	1.4	0.4
Growing crime	71.8	22.9	3.6	1.2
Threat of AIDS	60.8	23.5	7.2	7.2
Interethnic conflicts	58.8	27.2	6.8	5.0
Alcoholism	43.3	28.0	43.3	10.9
Anti-semitism	21.3	20.3	25.4	0.2

When comparing the ratings of the problems "for myself personally" and "for the state", if became clear that, in the opinion of those polled, the greatest threat to the state stemmed from inter-ethnic conflicts, and for every individual in particular- from the pollution of the environment.

Lastly, 79 per cent of those polled were willing to help ecological movements with their own savings and 76.6 per cent refuse to tolerate environmental pollution for the sake of the country's economic development.

Thus, it looks as if the situation in the country favours the building of a "green" party which could count on substantial support among the population. However, there is every indication that this possibility will remain unfulfilled. The great diversity among the different political and public organizations and private supporters of the "green" movement bears witness to the movement's great heterogeneity. For this reason, the people's vast momentary and moral resources, which could be used to solve acute ecological problems, will probably remain unclaimed and unutilized.

Ryzhkov Interviewed on Chernobyl Aftermath

90UN1746A Moscow MOSKOVSKAYA PRAVDA in Russian 26 Apr 90 p 3

[Report on interview with N.I. Ryzhkov, chairman of the USSR Council of Ministers, by N. Batalova and Sh. Muladzhanov, MOSKOVSKAYA PRAVDA parliamentary correspondents; in Moscow date not given: "Chernobyl: Tragedy and Lesson"]

[Text] **Thinking back to the April disaster of 1986, we say: This must not be repeated. The aftereffects of the disaster will linger on for a long time yet as a heavy social, economic, and psychological burden of society.**

Those April reports stabbed us in our hearts. The documentary of the tragedy that appeared on TV screens had a scope which we could not even comprehend right away. It was all the more difficult because the information was late, from force of habit, and it distorted the unprecedented dimensions of the event. Doctors insisted that the incident was of a localized character and of a limited effect on the people's health. Experts on nuclear energy refused to comment on the events and we could only guess by the totally exhausted look on their faces and their empty stares, by their appeals for an immediate inspection of all the AES's [nuclear electric power stations] in the country that the scientists knew the real meaning of what the others in the country would not know for quite a while yet. Western broadcasts spoke of clouds of radiation but Belorussian children went swimming in their favorite streams on hot summer days. The gloomy forecasts of Japanese radiologists seemed to be near panic. And they do have that experience.

But the curtain finally dropped and we learned about the death of the heroes, about the negligence of the people who caused the tragedy, and about the unselfishness of thousands of people who came to clean up after the disaster. We also learned about the tragedy of dozens of thousands of people who never left the areas hazardous to life and health.

"You know, today I still would like to start by remembering what happened right after the disaster at the Chernobyl AES," USSR Council of Ministers Chairman Nikolay Ivanovich Ryzhkov told us as he was answering our questions between sessions of the USSR Supreme Soviet yesterday. "I want to do it because these days, as we conduct heated discussions, we seem to have forgotten about the people who worked there in mortal danger. And this is immoral. It was a real heroic deed just to be there, to make decisions, not to speak of the physical execution of the necessary actions. We cannot and we must not forget about the scientists, the firemen, the doctors, the transportation workers—all those who tried to contain the terrible danger.

But neither can we forget about those who are still living in the huge contaminated areas. And the problem is not just the estimated 16 billion rubles [R] we need to be able to apply the government program of eliminating the aftereffects of the disaster. We have to consider the social and psychological aspects of the accident."

[Batalova, Muladzhanov] Everybody knows that destabilizing processes are taking place now in our country; in economics as well as in interethnic relations. How will all this affect the realization of the Chernobyl program?

[Ryzhkov] Again I will start in the past. The tragedy of 1986 united our people, it brought them together. The most complicated problems were resolved in no time. Any order from the "Chernobyl zone" was completed in the shortest time possible by the enterprises or organizations of any part of our country.

And what would happen if the current separatist trends continue to develop? If some disaster strikes—how will we cope with it? Where will we find the R9 billion that we have already spent on Chernobyl and R16 billion more for future expenditures? Let me remind you that R16 billion is the exact figure of the annual revenue growth for our entire country. You can ask those questions based on things other than this particular disaster. Did the entire country not rush to help Armenia after the earthquake there, for instance? Unfortunately, tragic moments in history are unavoidable. And I am convinced that we have to strengthen our federation and our Union. Only then we will be able to work efficiently under normal conditions and resolve the most intricate problems in emergencies.

[Batalova, Muladzhanov] What are the general principles of the program on the elimination of the aftermath of the disaster in Chernobyl?

[Ryzhkov] This program was designed in close cooperation with the leadership and experts of the RSFSR [Russian Soviet Federated Socialist Republic], the Ukraine, and Belorussia. It consists of two parts. The first part is planned for three years; it is a concrete plan with financial backing and should be implemented immediately. The second part is a perspective, a concept of further actions to eliminate the disaster aftereffects. And this is where I have to say that unfortunately the scientists are failing us: We still do not have the exact recommendations and conclusions of the scientists on a large number of most important problems. And we cannot establish the maximum radiation doses at rallies or by voting.

The problem of contaminated areas is quite crucial at present. We thoroughly analyzed it at the last meeting of our Council of Ministers Presidium. We planned some measures which should be carried out before the end of this year. I categorically demanded the involvement of international experts and specialists from different countries—all the best forces in the world—in the design of the concept of future actions in this direction.

[Batalova, Muladzhanov] You talked about honoring the memory of Chernobyl heroes, those who managed to contain the disaster and to save many thousands of lives. In what ways do you think we can honor their memory?

[Ryzhkov] I do not want to use platitudes. Let us look at just one concrete issue. As you know, the firemen who died during the Chernobyl cleanup effort are buried in the Mitinskoye cemetery. There are tombstones and flowers there. But there definitely should also be a memorial complex. The Moscow Soviet adopted a decision to that effect some time past. But nothing was done about it. I think this problem should be resolved by the new Moscow Soviet among many other problems. I understand that there are financial difficulties, but maybe the construction of such a complex could become an act of charity.

[Batalova, Muladzhanov] We are sure that all our readers as well as all Muscovites will support the idea. But for now we would like to look at the lessons of Chernobyl in the light of Moscow concerns. There are institutes that work with isotopes, for instance; there are major enterprises in Moscow and our city of nine million needs to have permanent radiation control.

[Ryzhkov] Let me emphasize right away that the radiation situation in Moscow is under a permanent control and, according to the data, it is quite normal now. But that does not mean we can rest easy in connection with the problem you mentioned. We all know that the people in those institutes are not always careful enough and do not always take all safety precautions. We do need to have strict control, and not just general control but also over every area and every potential contamination source.

But neither can we forget about the psychological aspect of the problem. The Chernobyl disaster brought about a sort of syndrome which is going to stay in people's minds for a long time yet. And we have to take this into consideration when we talk about the future of nuclear power and about other problems. I understand perfectly well the emotions of those people who speak against the construction of nuclear power stations. But can we do without them in future? I do not think so. But it is another matter that we have to ensure their safety on a different, much higher level. We have to increase our cooperation with France, the FRG, and other countries where much has been done to automate the process control at the AES and to prevent any possibility of an accident. It is easier to develop the safety systems than to do the cleanup after an accident, even if it is less tragic than the Chernobyl one.

[Batalova, Muladzhanov] This accident, by the way, became an incentive for the development of international cooperation; or, to be more precise, our experts became much more involved in it. It is well known what an active part the representatives of the IAEA [International Atomic Energy Agency] took in the solution of a number of problems. Might it be reasonable to set up an international center in Moscow or in Kiev, for instance, which would provide treatment for the Chernobyl victims as well as develop new methods of fighting the radiation aftereffects?

[Ryzhkov] I would support anything that can enable us to help the people.

We want to remind you that our conversation took place during a break between parliament sessions. The deputies honored the memory of Chernobyl victims with a moment of silence. And during the debate, after a realistic and detailed discussion of every item, they approved the state program of urgent measures for 1990-92. The program was presented by the Council of Ministers and it serves as the first stage of a long-term program aimed to eliminate the aftermath of the explosion that happened exactly four years ago.

Deputy Premier Ryabev Talks With IAEA's Blix

PM2806132590 Moscow PRAVDA in Russian 27 Jun 90 Second Edition p 6

["Own information" report: "On Chernobyl and the AES"]

[Text] L.D. Ryabev, deputy chairman of the USSR Council of Ministers, has received H. Blix, director general of the International Atomic Energy Agency (IAEA), in the Kremlin. During the conversation H. Blix gave a briefing on the efforts being made by the IAEA to resolve a number of problems linked with ensuring the safety of nuclear power generation, and also to provide comprehensive assistance to the Soviet Union in studying and eliminating the consequences of the Chernobyl AES [nuclear electric power station] disaster.

During a detailed discussion of these issues the Soviet side expressed its gratitude to the agency for the help it has provided and expressed the hope that such cooperation will be further expanded and deepened.

H. Blix was briefed on the state of affairs in Soviet nuclear power generation, existing problems, and ways of resolving them. In this connection particular attention was devoted to the need to comprehensively develop glasnost and openness on all issues connected with nuclear power generation, to involving broad public circles in their examination, and to creating an effective system for cooperation with organs of local power.

V.F. Konovalov, USSR minister of nuclear power generation and the nuclear industry, took part in the conversation.

The conference "Nuclear Power in the USSR—Problems and Prospects" (ecology, the economy, law), organized by the USSR Nuclear Society opened in the city of Obninsk yesterday. The conference, called upon to provide scientifically substantiated answers to the main questions of the development of nuclear power generation in the USSR in the immediate period and the more distant future, will listen to reports from leading scientists on questions of creating safe next-generation nuclear reactors and various aspects of the Chernobyl catastrophe.

International Panel To Investigate Chernobyl Aftermath

PM0307131590 Moscow IZVESTIYA in Russian 29 Jun 90 Morning Edition p 2

[Mikhail Shimanskiy report: "International Examination"]

[Text] Gomel—An independent international commission of experts is beginning work on examining the consequences of the Chernobyl disaster.

It has been decided that its headquarters will be in Gomel.

USSR people's deputies and inhabitants of the stricken rayons have frequently asked the country's government to enlist the services of leading foreign scientists and specialists to further study the consequences of the accident at the Chernobyl AES [Nuclear Electric Power Station].

The examination will be carried out by several international organizations jointly.

Approximately 100 leading scientists and specialists have traveled out to the affected areas of Belorussia, the Ukraine, and the RSFSR [Russian Soviet Federated Socialist Republic].

Belorussian SSR Decree On Medical Services for Chernobyl Clean-Up Workers

90UN1843A Minsk SOVETSKAYA BELORUSSIYA in Russian 29 Apr 90 pp 1-2

[Decree of the Belorussian SSR Council of Ministers and the Belorussian Republic Council of Trade Unions of April 28, 1990, No 105, Minsk: "On Measures to Improve Medical and Social Services for Persons Participating in Work to Eliminate the Effects of the Accident at the Chernobyl Nuclear Electric Power Station (AES)"]

[Text] In order to improve the medical and social services for persons participating in work to eliminate the effects of the accident at the Chernobyl nuclear electric power station (AES), and to implement the decree of the Council of Ministers of the USSR and the All-Union Central Counicil Trade Union (AUCCTU) of March 31, 1990, No. 325, the Council of Ministers of the Belorussian SSR and the Belorussian Republic Council of Trade Unions decree:

1. The Belorussian SSR Ministry of Public Health, the Red Banner Belorussian Military District, the Belorussian SSR Ministry of Internal Affairs, the Belorussian SSR Committee for State Security and other ministries and agencies of the Belorussian SSR having medical institutions in their jurisdiction are to:

—organize in 1990 the medical examination of all persons participating in work to eliminate the effects of the accident at the Chernobyl AES within a 30-kilometer area (the relocation area) of this station, or engaged after the accident in operational and other work at this station (including those temporarily sent or assigned), including members of active and reserve military units called up for special duty to perform work related to eliminating the effects of this accident, regardless of where they were stationed and the work performed;

—and provide for continuous outpatient monitoring in the future of the health of such persons and, where necessary, their hospitalization.

2. To ensure the systematic medical examination of persons participating in work to eliminate the effects of the accident at the Chernobyl AES exposed to radiation, the Belorussian SSR Ministry of Public Health is to organize a single state directory of such persons (State Register) based on a republic distributed register.

The Red Banner Belorussian Military District, Belorussian SSR Ministry of Internal Affairs, Belorussian SSR Commitee for State Security and other ministries and agencies are to update agency registers or lists of persons exposed to radiation, and transmit in the first half of 1990 to the Belrussian SSR Ministry of Public Health for inclusion in the State Register the necessary information on such persons, including the periods of their work, irradiation dosages and medical test results.

The Belorussian SSR Ministry of Public Health shall submit questions requiring a decision of the Belorussian SSR government to the Belorussian SSR Council of Ministers.

3. A republic interagency expert council shall be created in the Scientific Research Institute on Radiation Medicine of the Belorussian SSR Council of Ministers to establish the causal relation between illness or disability and the performance of work to eliminate the effects of the accident at the Chernobyl AES. The Belorussian SSR deputy minister of Public Health shall be appointed chairman of this expert commission.

4. The membership shall be determined of the republic interagency expert council to establish the causal relation between illness or disability and the performance of work to eliminate the effects of the accident at the Chernobyl AES in accordance with annex 1.

The conclusions of this expert council, as well as of military medical commissions, shall form the basis for agencies and institutions of public health, social services and trade union organizations in determining the fitness for work and the degree of loss of such fitness by persons performing work to eliminate the effects of the accident at the Chernobyl AES.

In the event of differences of opinion which may occur in preparing expert conclusions, materials for review shall be sent to the Central Interagency Expert Council to

Establish the Causal Relation Between Illness or Disability and the Performance of Work to Eliminate the Effects of the Accident at the Chernobyl AES (Kiev).

5. The Belorussian SSR State Planning Committee, Belorussian Rural Construction Agency, and Belorussian SSR Ministry of Public Health are to include in their 1991-1992 plans the construction of a 150-bed children's facility in the village of Aksakovshchina.

6. The following benefits are to be extended to persons suffering from radiation sickness as a result of the accident at the Chernobyl AES and from performing work to eliminate its effects, as well as persons specified in article 1 of this decree, for whom a causal relation is established of illness or disability from this accident and from performing work to eliminate its effects:

6.1. the right to obtain medicine (prescribed by a doctor) free of charge; annual treatment in a sanatorium or health resort; priority purchase of a "Zaporozhets" automobile with manual control upon presenting the appropriate medical test results; transportation (except by taxi) from place of residence to place of medical treatment or dispensary, outpatient or clinical testing and back, as well as transportation on all types of urban passenger transport (except for taxis) and on public use automobile transport (except for taxis) in rural areas within the administrative district of the person's place of residence; the right to noncompetitive entry into higher and middle special educational institutions, and priority in entering professional technical educational institutions and courses of study of the corresponding professions;

6.2. payment to working disabled persons of temporary disability compensation for up to four months in a row or up to five months in a calendar year;

6.3. payment to working disabled persons and persons suffering from an illness related to the performance of work to eliminate the effects of the accident at the Chernobyl AES in case of transfer to a lower paying, average wage job in cases where the worker's health prohibits performance of the previous work;

6.4. the right to priority allocation of housing for those needing better living conditions, but not later than one year from the day they apply (including the families of persons who are killed or die a natural death);

6.5. payment for housing (within the standards determined by legislation in effect) occupied by such persons and by members of their family residing with them, as well as by families receiving a pension due to the loss of the family breadwinner as a result of the accident at the Chernobyl AES, in the amount of 50 percent of the rent established by rates set for industrial, office and professional workers.

Such persons, as well as families receiving pensions due to the loss of the family breadwinner as a result of the accident at the Chernobyl AES, shall receive a 50 percent reduction from the established rate for heating, water, gas and electricity; those living in housing without central heating shall receive a 50 percent reduction on the cost of fuel obtained within the standards set for sale to the public.

The above benefits are extended to the families of citizens who perish or die a natural death;

6.6. priority service in preventive care facilities and pharmacies;

6.7. the right to use polyclinics after retirement to which such persons were assigned while working;

6.8. the right to take scheduled annual leave at a time convenient to them, and to receive additional unpaid leave for up to two weeks per year;

6.9. payment to working disabled persons of temporary disability compensation amounting to 100 percent of their wage regardless of their continuous length of service;

6.10. priority access to preschool facilities;

6.11. priority in receiving a telephone;

6.12. preference in retaining one's job when professional or industrial personnel are reduced;

6.13. preference in the right to join housing construction cooperatives, cooperatives for the construction and operation of collective garages and parking lots for vehicles and their servicing, gardening associations (with their approval), and to obtain gardening sheds or materials for their construction, industrial goods in high demand, including passenger automobiles, motorcycles and motorboats; priority service in institutions and enterprises and in organizations for communications, household services, public catering, public utilities and intercity transport;

6.14. the right to obtain interest-free loans to members of gardening associations to purchase or build gardening sheds and maintain garden plots;

6.15. the right to obtain interest-free loans for personal housing construction.

7. Persons specified in article 1 of this decree who participated in work to eliminate the effects of the accident at the Chernobyl AES from 1986-1987 shall receive the following benefits:

7.1. the right to a 50 percent reduction in the cost of medicines obtained by doctor's prescription;

7.2. priority in obtaining passes for health and recreation facilities at one's place of employment;

7.3. priority in obtaining housing for those needing better housing conditions.The benefits specified in subparagraphs 6.6-6.15 of article 6 of this decree shall be extended to the persons specified in this article.

8. The persons specified in articles 6 and 7 of this decree shall be exempt from paying the taxes on unmarried persons, single persons and families with few children.

9. Disabled persons whose disability is related to the accident at the Chernobyl AES and to performance of work on eliminating its effects shall receive a supplement to their pension in the following amounts: group I disabled persons—70 rubles; group II disabled persons—50 rubles; group III disabled persons—30 rubles.

10. The following benefits are extended to persons specified in article 1 of this decree who in 1988 participated in work to eliminate the effects of the accident at the Chernobyl AES within a 30-kilometer area (the evacuation area) of the station, as well as those engaged in operational and other work at the station:

10.1. priority in obtaining passes for health and recreation facilities at one's place of employment;

10.2. the right to use regular annual leave at a time convenient to them;

10.3. priority in joining housing and garage construction cooperatives and gardening associations (with their consent).

The benefits specified by subparagraphs 6.6, 6.7 and 6.10 of article 6 of this decree shall be extended to the persons specified in this article.

11. Persons specified in articles 1, 6, 7 and 10 of this decree shall be issued a certificate that they participated in eliminating the effects of the accident at the Chernobyl AES, which confirms their right to the specified benefits, and a badge. The form of such a certificate and of the badge shall be determined by the USSR State Committee for Labor and Social Affairs with the agreement of relevant agencies.

The certificates and badges shall be issued by the ministries and agencies of the Belorussian SSR, executive committees of oblast Councils of People's Deputies, military districts and social service agencies.

12. Commissions shall be formed in the executive committees of rayon, city, city district and oblast Councils of People's Deputies comprised of deputies, representatives of the public and of military districts and participants in eliminating the effects of the accident at the Chernobyl AES to investigate the living conditions of participants in eliminating the effects of the accident at this power plant and assisting such persons in meeting their social and everyday needs.

Such commissions shall be instructed to examine within two months the living conditions of each participant in eliminating the effects of the accident at the Chernobyl AES and their families and their receipt of the benefits and advantages to which they are entitled, and to assist them in meeting their social and everyday needs.

13. It is noted that article 8 of the decree of the Council of Ministers of the USSR and the All-Union Central Council Trade Union (AUCCTU) of March 31, 1990, No. 325, instructs the USSR State Planning Committee and USSR Ministry of Finance to determine the resources for meeting the expenses connected with providing the benefits specified in this decree.

The Belorussian SSR State Planning Committee and Belorussian SSR Ministry of Finances are to determine the resources for meeting the expenses of extending the additional benefits specified by this decree.

14. It is recommended to the ministries and agencies of the Belorussian SSR, executive committees of local Councils of People's Deputies and trade union organizations to undertake additional measures, within their areas of competence, to provide foodstuffs and improve the living conditions and medical and commercial services of persons participating in eliminating the effects of the accident at the Chernobyl AES.

15. The benefits specified by this decree shall go into effect as of May 1, 1990.

V. Kebich, chairman,
Belorussian SSR Council of Ministers
V. Goncharik, chairman,
Belorussian Republic Council of Trade Unions

Gorbachev Sends Belorussian Supreme Soviet Message on Chernobyl

PM0307084790 Moscow IZVESTIYA in Russian 1 Jul 90 Morning Edition p2

[Own correspondent Mikhail Shimanskiy report under the rubric "Direct Line": "At the Belorussian Supreme Soviet Session"]

[Text] Minsk—Belorussian SSR [Soviet Socialist Republic] Supreme Soviet deputies are discussing questions concerning aid to the population of regions hit by the Chernobyl accident.

A group of deputies visited the stricken regions. They were able to see for themselves how terrible life is there since Chernobyl. On their return from the zone, Deputy V. Gribanov said, in particular, that in Krasnopolskiy Rayon, Mogilev Oblast they had seen the harvest ripening in the village of Novoyelnya, feed being procured, and truck gardens cultivated. They had measured the level of soil contamination there and found it to be in the region of 200 Curie units per square kilometer. This is the fifth year people have been living in this sick land.

Deputies heard a report from the republic's government on work done to eliminate the consequences of the accident at the Chernobyl Nuclear Power Plant. The report was subjected to strong criticism and parliamentarians raised a multitude of questions, to which they failed to receive full answers from the government.

The Supreme Soviet adopted a decision to invite USSR President M. Gorbachev to the session, as well as former republic leaders N. Slyunkov and G. Tarazevich. Telegrams were sent to them.

M. Gorbachev telephoned the Belorussian SSR Supreme Soviet and asked that it be conveyed to people's deputies that he shares the misfortune of the Belorussian people and, as president of the country, will do everything to ensure that the state program to eliminate the consequences of the accident at Chernobyl is implemented in full. He also said that he will visit Belorussia if possible by the end of this year and regrets that he cannot take part in the work of the Belorussian SSR Supreme Soviet because of his heavy schedule.

N. Slyunkov said in an answering telegram that he cannot come, because for the last six months his state of health has prevented him from leading a full working life.

G. Tarazevich attended the session in Minsk, gave an address, and gave detailed answers to the numerous, sometimes sharp questions from deputies. We will be frank, however, and say that he had a hard time of it "under the crossfire."

Chairman on Work of Chernobyl Union

90UN1772A Kiev PRAVDA UKRAINY in Russian 19 Apr 90 p 2

[Interview with "Chernobyl" Union Board Chairman Professor G.F. Lepin, doctor of technical sciences by PRAVDA UKRAINY correspondent A. Sokol: "The Concerns of the 'Chernobyl' Union"; date, place not specified]

[Text] **The all-union conference that took place in Kiev in October of last year gave a ticket to life to the new public organization the "Chernobyl" Union. In particular, this has been covered by A.P. Gamza, the chief of the Aleksandriyskaya geological prospecting expedition, Kirovograd Oblast; N.Kh. Kazantsev, a former resident of the city of Pripyat, now living in the Cherkassy area, and S.I. Fedorenko of the Crimea.**

Board Chairman Professor G.F. Lepin, doctor of technical sciences, speaks about the "Chernobyl" Union. He has lived and continues to live in Minsk. He has been in Chernobyl since late 1986. He has been involved in the evacuation of Pripyat, and the decontamination of the roof of the third power unit. He is now a senior foreman of the decontamination department working in the zone of the "Kompleks" enterprise.

[Correspondent] Georgiy Fedorovich! Since your organization is new, the readers are primarily interested in whom it unites.

[Lepin] The "Chernobyl" Union unites the participants in the cleanup of the accident at the Chernobyl AES, as well as individuals who suffered from this accident. Ours is a voluntary, public organization.

[Correspondent] What are its goals?

[Lepin] Our main goal is to help the victims, to defend their interests. Approximately 600,000 military and civilian persons have passed through Chernobyl; an incomparably greater number live in territories contaminated by radiation. The state has helped and is helping the victims. Several Government decrees, and the President's ukase on this matter have recently been made public. Yet far from everything has been done. Many Chernobyl people have proven to be socially undefended, and frequently are not getting attention. Our union is fighting so that such a thing not repeat itself. Incidentally, the slogan of our organization is "Humaneness and compassion!"

I would like to highlight this aspect. Even though the 4th anniversary of the Chernobyl tragedy is drawing near, the public conception of it is still far removed from the reality. Correspondingly, so is the attitude toward the victims. We set as our goal telling the people the entire truth.

The Chernobyl people experienced a nuclear fire not in theory, but in real life. And life calls upon them to fight—against nuclear war, for safe nuclear technology. We want to have our say abroad, too. There is an idea for the long term: to create a museum in Kiev, perhaps a center, "Chernobyl and the World." All mankind must know about the Chernobyl tragedy and its consequences. Otherwise, we will not learn our lesson.

[Correspondent] Six months have passed since the "Chernobyl" Union conference. What have you managed to do in this time?

[Lepin] We have established contacts with state organs, with organs of power in the provinces; in the beginning, they did not accept our organization. We are currently meeting with representatives of the governments of the country and the republics, and with the deputy chairman of the USSR Council of Ministers. The Kiev party obkom allocated us a work room in their building. And the main thing is that the Ukrainian SSR Council of Ministers has finally registered our union.

All of this has had a positive influence on our affairs. Union representatives have gone to Moscow to the session of the Government committee, and participated on an equal level with ministerial and departmental leaders in the preparation of a Government draft decree on privileges for participants in the cleanup. Not everything the union proposed made it into the given document, but its importance is obvious. It has already been adopoted; that has been reported.

Cooperation with the Ukrainian SSR Ministry of Health is being established. The attitude toward the Chernobyl people changed noticeably when Yu. Spizhenko became minister. The new minister demonstrates participation,

and aspires to break the stereotype according to which medicine is supposedly incapable of helping the ailing Chernobyl person, let alone to cure him. Something has already been done in this direction.

With the assistance of the Ukrainian SSR Ministry of Health, the union established contact with the Dnepropetrovsk NII [Scientific Research Institute] of Gastroenterology, an institution that employs untraditional treatment methods, utilizing only medicines from grasses and plants. We have already directed individual patients to this institute. Its director, Yu. Filipov, offers a broad treatment program. Free.

The Kiev city diagnostic center has flung open its doors to the Chernobyl people—this is a powerful, well-equipped institution. The union has been granted the opportunity to send up to 10 people per day here for observation: those who worked in the zone for a long time, who received high radiation, and naturally, those who are ill. There are two more analogous centers in the republic; there is an agreement that they will help us as well.

Apiary products are useful to the radiation victims: honey, pollen, royal jelly, bee glue, and especially bee venom. The union is taking measures to organize the wide production of these products, and to create centers for their application. This problem is already being taken up in the apiaries of the All-Union NII of Beekeeping.

The creation of specialized rehabilitation points is proposed, with 40-50 people in each. The site for two of them has already been chosen: in Krasnaya Polyana near Adler and in Moldavia's Orgiyevskiy Rayon. It is hard to overestimate the importance of this work. Yet for the time being, it is in the organizational phase. We are asking for help. We will be grateful for everything: for material support, for assistance, for good advice.

Our union has repeatedly proposed that an all-union subbotnik be held and that the funds earned during it be transferred to the victims of the Chernobyl accident. We are glad that the country's authoritative public organizations and many labor collectives are in favor of this. We believe that the subbotnik will take place. We are also preparing for the Chernobyl telethon.

There is no need to say a great deal about what has been done. Our union is still in an organizational period.

[Correspondent] What are the union's local organizations? And which of them is in best fighting form, and how did it get to be so?

[Lepin] There are territorial organizations, city, oblast, republic. There are production organizations. They are created primarily in the labor collectives that work in the zone, that participate in the cleanup after the accident.

The country's first organization of Chernobyl people was created in Kharkov. That was in August 1988. Today, this is an oblast association, numbering almost 2,500 members. Acting in conjuction with local organs of government, the Kharkov residents managed to develop practical work. In particular, they render feasible material assistance to those in need; they have gotten free transportation on city transit. The allocated the Chernobyl people a special pharmacy, without waiting for special decisions.

Association members have the corresponding identification. It contains notations on payment of membership dues. Incidentally, the problem of dues has not yet been resolved in the charter procedure. For the time being, this is a voluntary matter. The union sets high hopes for donations.

[Correspondent] What troubles the union's board today?

[Lepin] Issues of organizational fortification. Our organizations, some regional, some primary, are functioning in 11 union republics. The figure would seem to be impressive. Yet the union unites an insignificant portion of the Chernobyl people. There is one reason for that: People do not know of our existence.

A number of new organizations emerged after the conference that took place in Kiev—in Barnaul, for example, and in Belaya Tserkov in the Kiev area. A kray association is being formed in Krasnoyarsk. But in Kiev, for example, there is no city organization. Nor is there a Ukrainian republic organization.

The convocation of the first congress of the "Chernobyl" Union is planned in Kiev in June of this year. It is desirable that those who wish to do so create their own organization by that time and inform our headquarters of this.

[Correspondent] Incidentally, our readers are asking for your mailing address.

[Lepin] This is it: **255620 Chernobyl, "Chernobyl" Union.** The following numbers may be called: In Chernobyl, 5-16-19; in Kiev, 296-84-95.

Chernobyl Union Chapter Formed in Sverdlovsk

90UN2198D Moscow POISK in Russian No 20, 18-24 May 90 p 6

[Lidiya Usacheva report: "We Shall Help You Ourselves"]

[Text] Sverdlovsk—This is what was decided by the people of Sverdlovsk who took part in the cleanup following the accident at the Chernobyl Nuclear Power Station, who have united in a "Chernobyl" alliance in Sverdlovsk Oblast.

The impetus for creating the new public formation was last year's hunger strike by eight "Chernobyl people" who were dissatisfied with treatment in one of the city's hospitals.

"Earlier," Vladimir Dyemin of the "Chernobyl" alliance told us, "each of us had worked on the cleanup after the

accident and had himself tried to resolve his own health problems, but essentially just had one ailment after another."

The forced measures attracted the attention of officials to the needs of the "Chernobyl people." And as a result the Sverdlovsk oblast executive committee was almost the first in the country to make provision, without waiting for any government resolution, for a set of benefits for "cleanup people" that included the creation of a medical rehabilitation center, priority allocation of housing and places in children's preschool establishments, and the provision of passes for sanitoria and resorts, and so forth. But the activity of the alliance is not restricted to help for victims. It is written into its charter that it will do everything possible to prevent any repetition of the Chernobyl tragedy—wage propaganda about radiation safety for the population, organize expert inspections of atomic projects, and insure extensive publicity.

Today, throughout the country there are more than 50 such alliances in the various regions. Their cooperation in finding solutions for common problems is one of the tasks facing the first Congress of the All-Union Voluntary Public "Chernobyl" Alliance that will open on 14 June in Kiev.

Chernobyl Victims Demonstrate Outside Kremlin

LD0707195790

[Editorial Report] Moscow Television Service in Russian at 1700 GMT on 7 July in its "Vremya" newscast carries a three-minute video report by correspondent Dmitriy Kiselev on a demonstration by Chernobyl victims outside the Kremlin in Moscow.

After an interview with a woman from Mozyr who says that one of her grandchildren is suffering from radiation sickness, a demonstrator identified as M.T. Prokofyev from Slavgorod interrupts and says:

"If you can't go into the woods, gather berries and mushrooms, and enjoy nature's bounty and the produce grown in our gardens, it means you can't live there. Therefore, people absolutely must be evacuated. But the millions of rubles being allocated are still being buried in the ground, to all intents and purposes. In other words, housing is still being made to improve living and working conditions in these selfsame regions. Furthermore, the truth is still being concealed from the population. The most elementary measures are not being taken."

Kiselev then draws attention to a placard calling for "free radiation dosimeters for every family" and asks whether they are in fact available. Another demonstrator, identified as A.F. Fedorov from Mogilev, says:

"These instruments are not being manufactured—and deliberately so. They don't want the inhabitants of contaminated regions to know the true situation they are in. If they knew what the true situation was, they would definitely rise up and fight against this genocide being committed against them."

A man identified as A.Z. Rubanov, a congress delegate from Bobruysk Rayon, adds: "During the war, Belorussia lost one in four of its people. What annoys us is that an oblast which actually lost one in three of its population—Mogilev Oblast—is losing still more of its people now. The entire world community must give us massive aid. This is what we are hoping for."

His remarks are backed up by L.V. Barabanov, a congress delegate from Gomel, who says: "The point is radiation spreads. They don't want to forecast which regions will be affected in a year's time, in three year's time. In fact, we will then be talking about this very zone here—where the congress is taking place today. That is what we are talking about. Therefore, there must be a political assessment, firstly of the attitude toward this tragedy and, secondly, towards those leadership bodies, including the Ministry of Health and the USSR Academy of Science, which still have not worked out the conceptual plans which I have been talking about."

National Conference on Future of Nuclear Power Held in Obninsk

PM0307093790 Moscow Television Service in Russian 1700 GMT 29 Jun 90

[From the "Vremya" newscast: Reportage by Aleksandr Fedorovich, identified by caption, on Obninsk "Nuclear Power in the USSR" conference, including brief interview with V.V. Orlov, president of USSR Nuclear Society]

[Text] [Newscaster] An all-union conference "Nuclear Power in the USSR—Problems, Prospects, Ecology, Economy, and Law" has ended in Obninsk. It was organized by the USSR Nuclear Society in cooperation with the IAEA [International Atomic Energy Agency].

[Correspondent] A four-day discussion has taken place here which has been rated as useful and necessary by experts. A wide range of questions from the current situation in the nuclear power industry to the view taken of this situation by the public has been discussed. Naturally, the discussion was devoted above all to the atom which brings light, heat, and other benefits to people. This means 35 years of the development of nuclear power engineering in the USSR; it means 15 operational AES's [nuclear electric power stations] which produce 12.7 percent of the electricity generated in the country; unfortunately, it also means the catastrophes in the southern Urals and Chernobyl, tragedies which people must learn to understand and draw lessons from, no matter how bitter these lessons are.

AES's have become the target of public criticism. A devaluation of confidence in science has taken place. So what is to happen next? Alas, there is no real alternative to nuclear power engineering as yet. This means that

what we need are a new generation of safe nuclear reactors and many other things, including also a law on nuclear power engineering in the USSR.

Scientists have proposed that the viewpoint of the country's nuclear community be defined, and scientifically substantiated answers provided to key questions of the development of nuclear power engineering at present and in the future.

The nuclear forum went beyond a national framework. Leading scientists and experts from 15 countries of the world were present. The conference is planning to issue a final document—a white book on the nuclear power industry.

Here is a brief interview:

[V.V. Orlov, president of the USSR Nuclear Society and Lenin Prize winner, identified by caption] I consider that the dialogue with the public which has been under way in our country for several years now, having started in the wake of Chernobyl, is exceptionally important, both for society itself and for nuclear power industry workers. It is our task to continue and maintain this dialogue and make it increasingly sophisticated and competent.

Khmelnitskiy Holds Ecological Meeting 27 May

LD2705223490 Kiev International Service in English 2000 GMT 27 May 90

[Text] An ecological meeting was held today in the city of Khmelnitskiy. Taking part in it were residents of this city and the entire region, because the question on shutting down the Khmelnitskiy Nuclear Power Station evokes concern on the part of all people of the region. People's attitude to the nuclear power plant can be well illustrated by the multithousand meetings; picketing of the project; refusal of the (Dovhuny) cement factory to supply its product to the construction of the nuclear power station; hunger strikes. As is known, the 15 people from Khmelnitskiy today suspended their hunger strike. However, the strikers' protest continues.

Today dozens of large industrial enterprises in the town of Khmelnitskiy, and the region, announced a two-hour-long warning strike. A coordinating strike committee has been set up and a plan of actions worked out. The people of Khmelnitskiy region demand that the Ministry of Nuclear Power Engineering give a written confirmation of a moratorium on the construction of the nuclear power plant.

Oblast Decision To Halt Rostov AES Construction

PM0307093390 Moscow IZVESTIYA in Russian 30 Jun 90 Morning Edition p 4

[Vladimir But report: "Construction of Rostov AES To Halt"]

[Text] Rostov-na-Donu—This decision was made at an extraordinary session of the Rostov Oblast Soviet.

Construction of the nuclear power station on the banks of the Tsimlyansk Reservoir has created a complex sociopolitical situation in Rostov Oblast.

People have been saying that the site of the station was chosen in violation of the basic regulations for the siting of AES's [nuclear electric power stations] and that the quality of construction does not guarantee that there will be no repetition of Chernobyl. People are demanding an independent scientific survey of the Rostov AES.

The decisions to halt construction of the AES were made at sessions of the Volgodonsk, Tsimlyansk, Semikarakorsk, and Rostov City Soviets, and the Volgodonskiy and Bagayevskiy Rayon Soviets.

During the oblast session people with placards calling for construction to be halted and for no repetition of Chernobyl stood outside the building. Deputies permitted members of social formations taking part in the survey of the station to be present in the auditorium.

The oblispolkom [oblast soviet executive committee] was instructed to determine together with the USSR Ministry of Power and Electrification, the Ministry of Nuclear Power Generation and the Nuclear Industry, and the Volgodonsk City Soviet the possible options for remodeling the construction project in line with the oblast's power generation program and to take measures to utilize the workers and specialists released on power generation and sociocultural projects in the oblast.

The vote was taken by name and its results will be published in the local press.

Residents Protest Pollution at Zaporozhye Nuclear Power Plant

LD0907121990 Moscow Television Service in Russian 2000 GMT 7 Jul 90

[From the "Television News Service" program]

[Text] [Announcer] An ecological row is brewing at Nikopol. Residents are demanding that the country's Supreme Soviet set up a commission to make a scientific survey of the area around the Zaporozhye power generating complex. [video shows distant view of six large buildings seen from the far side of a very wide river]

[Reporter G. Klimov] Exactly eight km separate the town from the Zaporozhye Nuclear Electric Power Station [AES], one of the biggest in the country. The sixth generating set is being built here. It is designed to produce 1 million kilowatts of electricity. And there, where you see the two tall chimneys, is the Zaporozhye State Regional Electric Power Station [video cuts to show another section of river bank, showing two tall chimneys and three large buildings]

The concentration of power generating capacity in this area is greater than anywhere else. People are alarmed, not just in Nikopol but in other neighboring towns, about the expansion of the power complex. Poisonous emissions of gaseous sulfur from the thermal power station, coupled with heat given off from the nuclear power station, are causing acid rain. There are constant rumors in Nikopol about the presence of radio-nuclides in the water of the Dnieper and about equipment failure at the AES. [video shows people walking in a street, cuts to show T.G. Plokhiy, chief engineer at the AES, speaking]

[Plokhiy] Our modern equipment has not been able to detect any effect on the environment caused, first and foremost, by radiation. No chemical impact has been discovered either. However, it goes without saying that heat emissions have an effect on the environment. Unfortunately, at present, scientists simply do not know and cannot evaluate the degree of thermal pollution or the harm done by it to the surrounding area.

[Klimov] The demands being made by the people of Nikopol include a scientific assessment of the power complex's impact on the environment and a suspension of work on the sixth power set until the commission has reported. But the construction of the nuclear power station is continuing. When the sixth set is brought on line, the Zaporozhye AES will become one of the biggest in Europe. [video shows shot of hydrofoil on the river and a building with "Energodar" picked out in large letters on it]

Press Conference on Semipalatinsk Truth, Inventions

LD2906203790 Moscow TASS in English 1919 GMT 29 Jun 90

[Text] Moscow June 29 (TASS)—A press conference on the Semipalatinsk test site, the truth and inventions connected with it, was held here today. It was attended by USSR people's deputies, representatives of the Nevada-Semipalatinsk movement working for the closing of the test site, of some ministries and the management of the Semipalatinsk test site.

Deputy Maira Zhangelova and other Kazakh legislators pointed to the growing number of suicides in the area adjacent to the test site, of congenital defects and nervous disorders resulting from nuclear explosions. They stressed that residents of the Semipalatinsk region threatened to dismantle a railway line in order to block the transportation of cargoes to the test site. A three-day protest hunger strike declared today in all Semipalatinsk hospitals is also proof of such feelings. Kazakh deputies demanded that a "competent international commission" be sent to Semipalatinsk for determining the damage inflicted by nuclear explosions to people's health and the region's ecology.

Valery Devyataev, representative of the Soviet Health Ministry, refuted with the help of documents the statements of the Nevada-Semipalatinsk activists. He said that after the stopping in 1963 of ground and air explosions the radiation level at the test site and the areas adjacent to the Semipalatinsk region was within the limits of radiation safety. At the same time, he admitted that the health of some 10,000 people was undermined by consequences of nuclear explosions before 1963. They are under continuous medical observation.

"I am sure that humanity will eventually come to a nuclear-free world. However, there will be a lot of difficulties on this way, " said USSR Deputy Atomic Power Engineering Minister Viktor Mikhailov. "It is not this country that started nuclear tests. Our tests sites stood idle for two years and a half out of the past five years, while the U.S. did not stop its nuclear explosions."

While nuclear tests were suspended in this country, Americans mastered the production of neutron howitzer shells and created a new generation of Trident-2 missiles. The Soviet side has to take reply measures in response to the creation of new types of nuclear weapons by America, including for the strategic defence initiative.

It was reported that this year the strength of underground nuclear explosions at the Semipalatinsk test site will be under 30 kilotonnes, and in 1991 and 1992—under 20 kilotonnes. In 1993 they wil be stopped altogether.

More on Semipalatinsk Test Site Press Conference

PM0307093590 Moscow Television Service in Russian 1700 GMT 29 Jun 90

[From the "Vremya" newscast: Reportage by O. Bobin, V. Krasnoyarskiy, identified by caption, on press conference at USSR Supreme Soviet on Semipalatinsk test site]

[Text] [Newscaster] The Chernobyl tragedy has forced us to view many things in a different light. The question of the nuclear test sites at Semipalatinsk and Novaya Zemlya has acquired particular urgency. People want to know what is happening there, they want to know about the impact of the tests on the ecological situation and people's health. The veil of secrecy which hung over nuclear tests for many years has induced people to seek the truth themselves. Following another test in February of last year, the first antinuclear movement in our country—the Nevada-Semipalatinsk Movement—was organized in Kazakhstan. From the outset it declared its intention to strive for nuclear-free zones not just in Kazakhstan and the USSR, but throughout the world.

A press conference devoted to the Semipalatinsk test site was held at the USSR Supreme Soviet.

[Correspondent] "Semipalatinsk Test Site—Truth and Fabrications"—this was the title of the press conference convened by USSR people's deputies and attended, in

addition to Soviet and foreign correspondents, by Kazakh people's deputies, representatives of the Nevada-Semipalatinsk public movement, and military and scientific staff from the test site.

The fraught atmosphere in the hall, which was reminiscent of rallies at times, was affected by the echoes of explosions in Nevada earlier this month and a warning one-hour strike in Semipalatinsk today. [video shows delegates in hall, and a shot of a newspaper article on the Nevada explosions]

[M.B. Zhangelova, Doctor of Medical Sciences, identified by caption] We have held a public referendum among the inhabitants of the oblast; 97 percent of the people questioned gave their names and addresses in the questionnaires and expressed themselves unequivocally for the immediate closure of the nuclear test site.

[Correspondent] A group of USSR people's deputies who visited Semipalatinsk recently published the following data: The incidence of cancer per 100,000 inhabitants totals 350 in the United States, 250 in the USSR, 290 in Moscow, and in Semipalatinsk 208—which is below the average for the country as a whole. What is the reason for the heated arguments of those who actually live there? If it is a case of radiation phobia, people are not to be blamed for this. It has come to light that 456 explosions were carried out in Semipalatinsk. Nevada responded with 1,000. It appears that our approach to these tests is more sensible, but for many years this has been subject to such secrecy and surrounded by such legends and rumors that it is virtually impossible now to destroy the stereotypes which have taken shape.

The test site is currently being blamed for all the ecological sins in that region, even those which it is not responsible for, and this is further exacerbating the unhealthy atmosphere. Furthermore, the region's needs in the social sphere were ignored for many years. Many problems need to be resolved. The main point is that all the participants favor silencing the nuclear explosions. Their approaches differ, however.

'Whole Truth' on Semipalatinsk Nuclear Test Site Urged

PM0307085790 Moscow IZVESTIYA in Russian 1 Jul 90 Morning Edition p 1

[A. Stepovoy report under the rubric "On Topical Subjects": "No One Wanted To Understand; Notes From a Press Conference Which Was More Like a Rally"]

[Text] This press conference, held in the press center of the USSR Supreme Soviet on 29 June, was rather scathingly named "The Semipalatinsk Test Site: Truth and Fiction." Soviet and foreign journalists had been invited to a meeting with people's deputies of the USSR and Kazakhstan; representatives of the USSR Defense Ministry, the USSR Ministry of Nuclear Power Generation and the Nuclear Industry, the USSR Health Ministry, and the "Nevada-Semipalatinsk" social movement; and inhabitants of cities and villages situated in the nuclear test site area. The press conference had been initiated by a group of USSR people's deputies headed by N. Petrushenko.

The body of press conference participants said that at least two points of view on the problem would be voiced at the meeting: The view of those with an interest in preserving the test site, on the one hand, and the view of those anxious to protect the interests of people living in this region, on the other. But these points of view are already fairly well known, as they have been given broad coverage in the mass media. Consequently, all the journalists attending the press conference naturally expected to hear something new, hitherto unknown, and necessary and useful to the broad public. Unfortunately, these expectations were not lived up to. What is more, there was no actual press conference as such. Journalists did not even get clear, unambiguous answers to the many specific questions they raised. They did not even manage to obtain reliable information that would either confirm or refute the conjectures (of which a fair number have accumulated, of course, in the 40-year vacuum of top secrecy) which, according to those in favor of retaining the Semipalatinsk test site, are inciting local inhabitants to ill-considered, dangerous behavior and action. Those opposed to nuclear tests on Kazakh soil (or, to be more precise, in the bowels of the earth) had not made the best job of preparing their defense either. They used arguments which, with all due respect for their views, could hardly be called serious. That, of course, is not so much their fault as their misfortune. But the pressure they brought to bear and their reluctance to even hear out the arguments of their opponents created the atmosphere of a rally and open confrontation in the hall.

Well, and what did those with a monopoly on all available information about the test site—namely, the representatives of the Defense Ministry, the Ministry of Nuclear Power Generation and the Nuclear Industry, and the Health Ministry—have to offer instead of turbulent emotions? Virtually nothing. Everything they said amounted to assurances that the Semipalatinsk test site is now virtually the safest place in the country in environmental respects. Yes, they were forced to admit, 30 or 40 years ago it had all been quite different, but now.... And so on in the familiar spirit. They did not mention a single one of the problems which are doubtlessly being encountered by the people developing the latest types of nuclear weapons.

But we now know the cost of the triumphant reports and historic achievements with which we have been so lavishly regaled for decades by ministries and departments. The people have developed a strong immunity of distrust of everything that comes from the higher authorities. The same would be true even if they were now being given totally reliable information. He who has deceived once will never be believed, as the old saying goes. So can one really feel resentful against people from whom **the whole truth** about the Semipalatinsk test site has been concealed and is still being concealed?

The "defense" sees the other side as solely to blame for the situation that has developed around the test site, accusing the "attackers" of being unpatriotic, short-sighted, and even of engaging in blatant political intrigue. We will not completely deny that some forces are trying to exploit the "test site allergy" that has arisen among a considerable proportion of the local inhabitants in their own interests. But this is, after all, a consequence rather than a cause.

The cause really lies in the top secrecy. We are still hiding more from our own people than people in America know. So is it any wonder that people here are increasingly skeptical of Soviet specialists and demand the opinion of independent, international panels of experts?

The organizers of the press conference urged journalists to persuade people living in Kazakhstan that the test site is harmless, remove the tension and mistrust toward those carrying out the tests, and open their eyes to the state of affairs. It grieved us to hear this. Because laymen cannot and do not have the right to do what nuclear specialists cannot (or do not really want to?) do. The task of journalists is to distribute reliable information. But reliable information is something that is still in extremely short supply.

But that is our point of view. Representatives of the military-industrial complex assured us at the press conference that they have in fact given away too much to the public. They expressed fears that their excessive candor could be detrimental to the Soviet Union's defense capability. Even if you agree with this highly debatable argument, what has information locked away in the Health Ministry's special safes, hidden from glasnost, got to do with "defense"? Eighty percent of all information on the effects of nuclear tests on people who either have lived or are living now in the Semipalatinsk test site region has been declassified, according to a spokesman for this department. One must assume that not the most inoffensive information comprises the remaining 20 percent that is still classified....

But in the meantime.... On the day the press conference "The Semipalatinsk Test Site: Truth and Fiction" was held, journalists were informed by Doctor of Medical Sciences Professor M. Zhangelova from Kazakhstan, a one-hour warning strike was held in Semipalatinsk and patients announced a three-day hunger strike. They want to know the whole truth about the test site. And no one can deny them that right.

Semipalatinsk Hunger Srikers Protest Nuclear Tests

PM0307214190 Moscow TRUD in Russian 4 Jul 90 p 1

[V. Gafiatulin report: "Camping Out in the Square"]

[Text] Alma-Ata—Rumors of a mass hunger strike by inhabitants of Semipalatinsk Oblast have spread across Kazakhstan. Yesterday, TRUD's correspondent telephoned N. Zhotabayev, chairman of the oblast trade union council.

"The rumors are greatly exaggerated. In fact O. Bekishev, a labor veteran and holder of many orders who comes from the 'Turksib' State Farm, did erect a tent in the oblast center's central square, put up a few posters protesting against nuclear tests, and declare a hunger strike. Physicians, worried about the old man's health, persuaded him to call the action off. Patients in a number of hospitals in the oblast staged a three-day hunger strike. All this is connected with the nuclear weapons test range. People have grown tired of waiting for the country's government to break the protracted silence. A special commission headed by I. Belousov, deputy chairman of the USSR Council of Ministers, went to Semipalatinsk. They promised to resolve the question back in March, and now it is July. A group of USSR people's deputies headed by N. Petrushenko, cochairman of the deputies' commission, went to Semipalatinsk Oblast... The Semipalatinsk people, addressing rallies and meetings, are saying that time and again people have tried to convince them that the range is harmless, but they do not believe it."

Radioactive Roadway Removed from Semipalatinsk

PM0307144390 Moscow KRASNAYA ZVEZDA in Russian 24 Jun 90 First Edition p 4

[Colonel A. Ladin report under "Alarming Situation" rubric: "Burying... A Road"]

[Text] The KRASNAYA ZVEZDA correspondents' center in Alma-Ata received a telephone call from USSR People's Deputy Colonel N. Petrushenko, who reported that a section of highway contaminated with radioactive elements had been discovered in Semipalatinsk.

Our correspondent asked Major General N. Khlyupin, chief of the Kazakh SSR [Soviet Socialist Republic] Civil Defense staff, for an explanation. Here is what he said.

On 13 June, during a routine gamma-ray background survey, "Volkhovgeologyia" specialists discovered a radioactive anomaly on a highway in the area around an accessories plant in Semipalatinsk. The extent of the contamination is 600 square meters. The degree of contamination is several dozen times higher than the natural background figure. An examination of samples showed that the increased background radiation was coming from pieces of smelting oven cinder in which cesium-137 was discovered.

Where did they come from? Who buried them so irresponsibly in the road surface?

These questions have still not been answered. But it is clear that when carrying out construction work, some leaders forget to consult with hygiene and epidemiology center radiology specialists.

As Colonel N. Sukhov, chief of a department of the Kazakh SSR Civil Defense staff, told me, it is perfectly possible that through someone's carelessness a standard source of ionizing radiation fell into the furnace during smelting operations at an enterprise in Semipalatinsk.

Here, at the staff headquarters, I was shown a whole dossier recording all incidents of carelessness involving radioactive and chemical waste products dangerous to people and all life. There are quite a few such cases, unfortunately. The latest is the one at Semipalatinsk.

Now, thanks to the efforts of the oblast's civil defense specialists, the top surface has been stripped from that ill-fated section of road and taken 17 km away from the oblast center.

But this doesn't completely solve the problem. Another question has arisen: Where is this vast quantity of radioactive road surface material to be buried? There is a proposal to bury it on the Semipalatinsk nuclear range. But even if that decision is adopted, it will take considerable resources to equip a special tomb.

RSFSR Resolution on State Program for Nuclear Waste

PM0207133190 Moscow SOVETSKAYA ROSSIYA in Russian 28 Jun 90 Second Edition p 1

["Congress of RSFSR People's Deputies Resolution on Elaborating a State Program on Radioactive Waste and Spent Nuclear Materials, Their Utilization, Their Burial, and Urgent Measures To Improve the Radioactive Environmental Situation on RSFSR Territory"—SOVETSKAYA ROSSIYA headline]

[Text] Bearing in mind the increasing volume of radioactive waste formed and stockpiled on RSFSR [Russian Soviet Federated Socialist Republic] territory as a result of the operation and decommissioning of obsolete atomic facilities and nuclear installations belonging to the USSR Ministry of Nuclear Power Generation and the Nuclear Industry, the USSR Ministry of the Maritime Fleet, and the USSR Defense Ministry, and also the low technical standard of the departmental approach toward resolving the problem of collecting, processing, and eliminating radioactive waste and the dissipation of resources allocated to this end, which has created an unhealthy environmental and sociopsychological situation in a number of RSFSR regions, the Congress of RSFSR People's Deputies resolves:

1. To deem the problem of dealing with radioactive waste and its utilization and burial to be a task of particular state significance.

2. The RSFSR Supreme Soviet is to submit a proposal to the USSR Supreme Soviet to instruct the USSR Council of Ministers to elaborate before June 1991 and submit for ratification to the USSR Supreme Soviet a state program for dealing with radioactive waste and spent nuclear materials and their utilization and burial in the USSR, stipulating the time frame and people responsible for implementing the program.

3. It is advisable to link the program in question with the discussion and adoption in the USSR Supreme Soviet of a Law "On the Use of Atomic Power and Nuclear Safety in the USSR."

4. The RSFSR Council of Ministers, together with the USSR State Committee for Environmental Protection and the USSR State Committee for the Supervision of Safe Working Practices in Industry and the Atomic Power Industry, is to implement concrete measures relating to RSFSR environment protection interests, for inclusion in the state program.

5. The RSFSR Council of Ministers is instructed to carry out an audit of all installations on RSFSR territory for the long-term storage and burial of radioactive waste and spent nuclear materials and to prepare recommendations on their siting and the procedure for their operation on RSFSR territory.

6. Pending the adoption of the program, the start of the construction of new nuclear power industry facilities on RSFSR territory is deemed inadmissible as from 1 January 1991.

7. The RSFSR Council of Ministers is instructed to prepare proposals to prohibit the burial on RSFSR territory of end products of nuclear facilities' activity from other republics and countries as of 1 January 1991.

The Kremlin, Moscow, 22 June 1990.

Safety Worries Over Scrapping Nuclear Subs

PM0207122790 Moscow KRASNAYA ZVEZDA in Russian 28 Jun 90 First Edition p 2

[Interview with Rear Admiral D. Alpatov, deputy chief of the Navy's Main Directorate for Operations and Overhauls, by own correspondent Captain First Class A. Pilipchuk: "Where to 'Bury' Nuclear Ships"—date and place unspecified, first paragraph is editorial introduction]

[Text] As has been reported in the press, the public in the city of Sovetskaya Gavan and the settlement of Vanino has protested the work in Postovaya Bay on the reactors of decommissioned nuclear submarines. Numerous telegrams to the USSR president, the country's Supreme Soviet, the Congress of RSFSR [Russian Soviet Federated Socialist Republic] People's Deputies, the Defense Ministry, and the Navy commander-in-chief categorically demanding a complete ban on the work have arrived from the Far Eastern region. Just what is the

threat to the people of the Far East? That was the first question to Rear Adm. D. Alpatov, deputy chief of the Navy's Main Directorate for Operations and Overhauls.

[Alpatov] Some of the mass media, in covering what has happened, have used a number of incompetent judgments liable to whip up feelings. One article talked about the military department's desire to turn Postovaya Bay into a "carving plate." Another article claimed that "work to dismantle power plants" was planned. Neither of these is true. But the idea was planted. Behind each of these frightening terms people saw a danger where none really existed. In this instance we are talking only about removing reactor cores from two decommissioned nuclear ships and putting them aboard a technical support ship. It should be stressed that this will only increase the radiation and nuclear safety of ships standing at their moorings. These operations are not only carried out on decommissioned submarines. Each nuclear ship, from the moment it is launched until the time it is decommissioned, is repeatedly "refueled" with nuclear fuel. This work has been carried out for more than 30 years at ship repair enterprises or in the nuclear submarines' area of deployment. And practice convinces us that the operation is safe enough provided the technology is strictly monitored.

[Pilipchuk] And where are the decommissioned submarines we are talking about "registered"?

[Alpatov] In Postovaya Bay. Incidentally, the areas in which nuclear submarines are based are dictated by the state's security interests and are determined by government resolution. Documents defining the procedure for work in the Navy with radioactive materials have been elaborated in accordance with basic all-union sanitary regulations and radiation safety norms. In this connection the claim made by one newspaper about the "ecological extraterritoriality" of the military is confusing. We are prepared to ensure that there is full glasnost as regards work with radioactive substances.

[Pilipchuk] Nonetheless, Dmitriy Mikhaylovich, people cannot fail to ask the following question: Today we're talking about two submarines in Sovetskaya Gavan, tomorrow there will be more than twice as many, and the day after tomorrow—as part of the arms reduction process—the number of decommissioned nuclear submarines could rise many times over. What is the procedure for scrapping them?

[Alpatov] It was laid down in 1986 by a CPSU Central Committee and USSR Council of Ministers resolution (incidentally, it also covers nuclear-powered Ministry of the Maritime Fleet ships), and it has not been broken in this instance. But, in my view, the resolution does not yet ensure an appropriate material basis for working with a large number of ships. When the Soviet nuclear submarine fleet building program was being implemented, it was closely scrutinized by the government. But today, it seems, the problem of the mass decommissioning of nuclear-powered naval ships and their utilization have been classed as departmental problems for the Navy.

[Pilipchuk] What brings you to that conclusion?

[Alpatov] I will mention the most substantive point. The Navy command proposed that the USSR Council of Ministers, the Ministry of Nuclear Power Generation and the Nuclear Industry, and the USSR Council of Ministers State Commission for Emergency Situations set up a single sector (or firm) to collect, stockpile, and process radioactive waste and to develop with the help of big-league science the modern technology and base required to utilize ships and vessels with nuclear power plants. However, we were refused: It was thought that there was not a problem. And if there's no problem there's no money. Today it seems that the situation is changing for the better. Not so long ago V. Konovalov, minister of nuclear power generation and the nuclear industry, expressed the idea in a PRAVDA article that a corresponding state program was needed. I would go further: We need a union law.

[Pilipchuk] Incidentally, Dmitriy Mikhaylovich, KRASNAYA ZVEZDA was the first to raise the question of the need for a fundamental solution to this problem (the article "Nuclear Submarines on the Scrapheap?" of 6 April this year). Does the problem exist in the U.S., British, French, or Canadian Navies?

[Alpatov] All naval powers with nuclear submarines have similar problems. Only the United States, as far as I am aware, has experience of burying submarines' reactor compartments. In my view, there is a need for an international exchange of experience on the mass decommissioning of nuclear submarines from navies. This would be a logical continuation of the joint efforts to cut armaments.

[Pilipchuk] One last question. In covering events in the Far East, one newspaper called naval seamen "bureaucratic optimists." What's your attitude to that?

[Alpatov] Our optimism is by no means explained by a bureaucratic approach to the job. It is based on our great experiencing of operating nuclear power plants, our sense of responsibility, the men's level of training, and our multilayered and constant monitoring of the radiation situation. As you will understand, for us this is a question of the security of the crew members of nuclear ships and of their families living in the garrisons.

Public Fears Over Mukachevo Radar Station Rebutted

PM0207145190 Moscow KRASNAYA ZVEZDA in Russian 29 Jun 90 First Edition p 1

["Viewpoint" article by Candidate of Medical Sciences K. Nikonova, senior scientific staffer of the USSR Academy of Medical Sciences Scientific Research Institute of Labor Hygiene and Occupational Diseases, Dr. of

Medical Sciences Prof. V. Shekhadyrov, deputy scientific director of the USSR Health Ministry's Biophysics Institute, Candidate of Medical Sciences V. Stepanov, head of the Hygienic Norm-Setting Laboratory of the USSR Health Ministry's Biophysics Institute, and Candidate of Mathematicophysical Sciences V. Yemelyanov, head of the Biophysics Laboratory of the USSR Health Ministry's Biophysics Institute: "Radar Station in Transcarpathia: Emotions and Facts"; first paragraph is KRASNAYA ZVEZDA introduction]

[Text] The question of the construction of a radar station in the region of Mukachevo has recently been debated in a number of mass information organs. Unfortunately, this problem is frequently examined one-sidedly and emotions prevail over a sober assessment of the facts. We offer for readers' attention the opinion of competent specialists on this question.

Certain public statements by a number of scientists of Uzhgorod University and articles in the press (IZVESTIYA 12 May 1990) devoted to the radar station under construction in the Mukachevo region make what is, in our view, a not quite correct assessment of the possible effect of radio emissions on the population. It is emphasized, in particular, that the rated flux density of the radar station's radiating power close to population centers exceeds the normatives.

Despite feeling the utmost respect for the opinion of Transcarpathian Oblast scientists, we believe that the question of the permissibility of particular levels of radar station radio emissions on adjacent territories can and must be decided only by specialists with the appropriate competence from the USSR and the Ukrainian Soviet Socialist Republic Ministries of Health, who bear full responsibility for the decisions adopted.

The desire to avoid a future repetition of situations analogous to that which has taken shape in Transcarpathia requires broad circles of the population to be informed that the present "radiophobia" is not substantiated by the actual state of affairs. The USSR Council of Ministers State Commission under the leadership of Academician Ye.P. Velikhov, vice president of the USSR Academy of Sciences, in whose work we participated, established that the actual rated power of the station's electromagnetic flux will not exceed the normatives laid down in the "Provisional Sanitary Norms and Regulations for the Population's Protection Against the Effect of the Electromagnetic Flux Created by Radiotechnical Installations."

Levels of the effect of electromagnetic radiation (for working specialists and the population) which fully ensure people's safety have now been laid down in the USSR. At the same time the hygienic normatives that apply in the USSR are substantially lower than the national standards of other countries and the international recommendations of the Committee for Protection Against Nonionizing Radiation. Thus the density of the radiation energy flux created by a radar station of the Mukachevo type on the territory of populated places must not exceed 10 microwatts per square centimeter. This value stands at 1,000 microwatts per square centimeter in the United States, 2,500 in the FRG, 400 in Britain, and 200 in Canada. The level of 200 microwatts per square centimeter is also defined in international recommendations. Thus, the levels of radiation energy flux density in the USSR are 100 times less than in the United States and 20 times less than those recommended by the International Committee for Protection Against Nonionizing Radiation and do not cause biological effects which result in a person's health being impaired.

Under international treaties space tracking stations are based on the territory of various countries. And in not one country today do they arouse such negative responses as is the case in Transcarpathia. There can be just one explanation for the situation that has taken shape: the growth of democratization and of public activeness when the population is inadequately informed. An unhealthy atmosphere was being fueled in the district for many months. Absurd rumors were being spread about the siting of a unit of the Chernobyl Nuclear Electric Power Station on the radar station's territory, about the possibility of the mushroom (?!) contamination of the population with radiation, etc.

We would like to urge the population to make a sober assessment of the current events. We live in times when we must in each specific case assess the positive and negative aspects of particular deeds of man. As regards the radar station in Transcarpathia, as we have shown, it poses no danger to the population's health. And it seems to us that no one disputes the installation's importance for the country.

Farms Receive Radioactive Fertilizer From Syria

PM2806152590 Moscow Television Service in Russian 1400 GMT 26 Jun 90

[From the "Vremya" newscast: Report by V. Chistyakov and Yu. Opelyants, identified by caption]

[Text] [Newscaster] Now about something else. Life is full of hazards. There are all kind of signs to caution us against them. For instance: "Caution: High Voltage!" or "Danger!" But nowhere will you find a sign reading: "Caution: Irresponsibility!" Although we could well do with such a sign. This is illustrated by the following report about phosphate fertilizer delivered to our country from Syria.

[Correspondent] Fertilizer containing Uranium-238 began to arrive in April. There is some 800 tonnes of it now. Approximately one-third was applied to the soil back in April and early May. It would have been much more had not the Kostroma Oblast branch of the State Committee for Environmental Protection intervened.

What is the radiation level here?

[D.K. Gareyev, State Committee for Environmental Protection specialist, identified by caption] It is slightly higher than normal background radiation, by some 30 microroentgens/hour. On the heap over there it was 70 microroentgens/hour.

[Correspondent] Tell me, what will happen if this fertilizer is ingested?

[Gareyev] Ingestion of uranium leads to internal irradiation, which is very dangerous.

[Correspondent] I have a document here signed by Prof. Ramzayev, director of the Leningrad Radiation Hygiene Scientific Research Institute. According to this document, if you are prepared to believe it, it is possible to utilize the phosphate fertilizer from Syria provided that certain precautions are observed. You must avoid inhaling the dust.

Another interesting feature of the Leningrad Institute's reply is that it is not based on an analysis of the Kostroma phosphate fertilizer, but was supplied at the request of the Kaliningrad Oblast chief physician, who also expressed doubts, though much earlier, about the safety of imported fertilizer.

Yevgeniy Nikolayevich, tell me: How did this fertilizer get to your [Buyskiy] rayon?

[Ye.N. Shikhalev, chairman of the rayon "Agropromkhimiya" Association, identified by caption] As usual, we were allocated the fertilizer by the oblast "Selkhozkhimiya" Association.

[Correspondent] Should there be any accompanying documents?

[Shikhalev] All fertilizers should be accompanied by a certificate.

[Correspondent] Did you receive it?

[Shikhalev] No, we did not.

[Correspondent] The Buyskiy Rayon "Agropromkhimiya" Association did not receive the certificate for a very simple reason. There is no such certificate at the oblast association. Nor has such a document been received from the dispatch address—Isma'iliya.

[Newscaster] It would be interesting to hear the opinion of the Rosselkhozkhimiya [Russian Soviet Federated Socialist Republic Science and Production Association for Agrochemical Services to Agriculture] on this account. Or do they eat only organically grown produce?

'Peace to the Oceans' Committee Formed

LD0307140890 Moscow Maritime Service in Russian 0615 GMT 3 Jul 90

[Text] The inaugural conference of a new public organization has been held in Moscow. About 200 representatives of the Soviet public—generals, admirals, lawyers, scientists, writers, and journalists—who were invited to the conference gave their unanimous backing to the idea of setting up a Soviet committee for peace, disarmament and ecological security on the seas and oceans, abbreviated to the Soviet Committee for Peace to the Oceans [Sovetskiy komitet Mir-Okeanam], which will have the rights of a full legal person. Elected chairman was Barabol [name as received], a merited lawyer of the Russian Soviet Federated Socialist Republic, candidate of judicial sciences, and a retired major-general of justice. The world, he stressed, is tired of the arms race, especially that of naval weapons, the development of which has taken on a menacing character. That is why it is extremely important at present to organize still more profound study and comprehensive discussion, both by the military and by scientists, lawyers, diplomats, and representatives of people's diplomacy on all the problems connected with the search for ways of averting a further naval arms race.

Causes of White Sea Poisoning Remain Obscure

PM0307095590 Moscow IZVESTIYA in Russian 26 Jun 90 Morning Edition p 2

[Report by correspondent Viktor Fridman: "Mystery Remains Unsolved"]

[Text] Arkhangelsk—The ecological situation remains complex following the tragedy in the White Sea. A government commission of scientists and experts has spent three days studying the situation on the spot. So what happened?

After checking all the materials placed at our disposal, we cannot say for certain that it was all due to the effect of radiation on the flora and fauna of the White Sea, B. Tenyakov, deputy chairman of the RSFSR [Russian Soviet Federated Socialist Republic] State Committee for Environmental Protection, said. The analyses did not confirm either that components of the rocket fuel dropped by the military in an emergency last December were involved. The theory that it was due to canisters containing mustard gas, allegedly dropped in the water in the fifties, was also rejected. The government commission reached the conclusion that the starfish had been killed by toxic agents. What toxic agents? In what volume? There was no answer to these questions. The main thing now is to establish the cause of the death of the starfish. Samples will be taken of the water, the soil, and the fauna, the investigation program is being expanded, and the country's leading scientists are being brought in. They have the requisite equipment at their disposal. In particular, a special trawl net that enables them to take samples of soil, vegetation, and fish at great depths. Marine fauna will be carefully studied...

So the cause of the ecological disaster has not yet been established. Will it ever be established? The commission has gone to Moscow. The shore where the disaster occurred is empty: the dead starfish have been gathered up and buried. There is another theory, however—we

quote from a letter to the Arkhangelsk Oblast Soviet Executive Committee by war veteran Z. Ivanova: "Perhaps the mysterious disaster in the White Sea is the first news of a disaster caused by extraterrestrials, who are paying more and more frequent visits to Earth? A kind of retribution for the way people, including scientists, have neglected nature..."

What can one say about extraterrestrials and extraterrestrial interference? As for neglect, that is absolutely true. The question is how long will it go on and lead to further tragedies?

White Sea Fishing Suspended Due to Poisoning

LD0907163490 Moscow World Service in English 1500 GMT 9 Jul 90

[Text] The executive of the local government of the Arkhangel region has suspended fishing in the White Sea's off-shore areas. The measure follows an enigmatic ecological disaster which has affected the region. The waves have carried ashore millions of dead star fish. Mass deaths of seals, mollusks, and even seagulls were registered. All attempts by experts to find the cause of the disaster have been unsuccessful so far. Poisoning of the sea water is the most likely reason. However, it is still unclear what caused it.

Biologist Urges Environmental Action To Preserve Kamchatka

90WN0059A Moscow SOYUZ in Russian No 13, Mar 90 p 16

[Article by V. Kirpichnikov, doctor of biological sciences and professor, Leningrad: "Save The Eighth Wonder Of The World"]

[Text] The Aral Sea is not alone. Many areas of the Soviet Union have found themselves as a result of thoughtless policies and irresponsibility in a state close to ecological catastrophe. For the preservation of nature it is absolutely necessary to create a broad network of protected reserves, game preserves and national parks among other urgent measures. In this area we lag behind many countries.

The main problem lies not only in misunderstanding the role which has been relegated to the national parks and reserves in the preservation of nature, but in underestimating the income that they can bring in (and already do, only not here, but abroad). No matter which unique corner of the country we take, all the misfortunes involving our nature preserves are reflected as clearly as in a drop of water. From this point of view let's have a look at the far reaches of our country, inimitable in its beauty and natural resources - Kamchatka.

It would seem that our duty is to preserve this wonder as the apple of one's eye and at the same time make it a possession of the people and even a source of income for the state. Meanwhile we, quite the contrary, squander our wealth and now a real threat has even arisen to the very existence of Kamchatka as a natural preserve.

The salvation of Kamchatka lies in the creation here of game preserves, natural reserves and national parks as well as a judicious, scientifically-based development of economic activity suitable to the area and which does not destroy nature. The damage inflicted upon Kamchatka through the uncoordinated and uncontrolled activity of various departments - agroindustrial, lumber, mining - and other branches of industry, by geological groups and tourist organizations is great. Loggers barbarously destroy the forests in the Kamchatka river valley, drying up its tributaries and obstructing salmon spawning. The floating of logs tied together as rafts has led to an abundance of "sinkers" in the river, which densely carpet the bottom, and this accelerates the destruction of the main salmon artery of the peninsula.

The environmentalists were able to stop plans for the construction of hydroelectric power stations on local rivers - they would have been disastrous for the fishing industry of the peninsula. But here, in spite of sharp, public protests, the barbaric blasting operations and the removal of dirt from the slopes of the Petrov volcano, completely covered birch forests and rich with mushrooms, continue. It extends above Petropavlovsk for almost 15 kilometers and is a beautiful, natural park. Quickly and carelessly the Avachinskiy Bay, one of the most beautiful in the world, is being polluted. Its state of health is approaching a critical stage. But how can we stop the escalation of these rash, ecologically harmful measures?

Not long ago on the eastern shore the vast Kronotskiy Reserve, formed back in the 19th century, was restored. About two years ago a game preserve was opened in southern Kamchatka which included the deep and salmon-rich Kuril Lake and its environs nestled among three volcanos. A large number of bears dwell along the banks of the lake and the streams and rivers that flow into it.

It is precisely along this path that we must search for the key to restoring the ecological balance. We should organize two or three more preserves, including at least one in northern Kamchatka in the Koryakskiy Autonomous Okrug. Unfortunately, the preserves, as a rule, are accessible only to their staff workers and a few scientists who come here from different places to work. They are visited by "selected individuals" including high-ranking officials, famous scientific and cultural figures as well as, from time to time, distinguished foreigners. For the general public the path to the reserves is closed.

I am by no means against the commercial utilization of the wealth of the peninsula. But after all we don't need to make use of it in the manner that we have, but rather, in a more proprietary manner! In connection with this, something about fishing and fish-breeding in Kamchatka. These fields are very neglected, and we can direct a multitude of complaints against the fishing industry for

this. I'll give only one striking example. In 1987 in the Kuril Lake in southern Kamchatka sometime toward the middle of August more than two million breeding salmon from one of the most valuable species of Pacific salmon, nerka, were released to spawn. The spawning capacity of the lake was exceeded: as is well-known the locally excessive density of spawning fish is very disruptive for salmon reproduction. The collective farm fishermen were ready to continue the catch of the huge quantity of fish which had amassed in the river, but at the nearby Ozernovskiy fish processing plant (millionaire!) there were no tins for the preparation of canned fish nor barrels in which to salt them. More than one and a half million breeding salmon (approximately 4000 tons of fish) were additionally released into the lake owing to the confusion. Because of this, spawning conditions in the lake and its tributaries markedly deteriorated. The same situation repeated itself, albeit on a somewhat smaller scale, in 1988 and 1989.

For a long time only one fish-breeding plant existed on Kamchatka (on Lake Ushki on the lower reaches of the Kamchatka River). This plant only caused problems. An analysis of its lengthy operation undertaken by scientist-ichthyologists showed: the more roe harvested from keta and nerka salmon by the plant's fish-breeders, the younger were the offspring which returned from the ocean to spawn. The taking of breeding salmon for roe undermined the basis for the natural reproduction of salmon in the lake. After several decades of its unproductive (or rather, destructive) work, last year the plant was finally closed.

Purchased in Japan, a fish plant is being built on the Paratunka River which flows into the Avachinskiy Bay. Construction is extremely slow, but more important, the advisability of building the plant on this river, which has few salmon and is extremely polluted, is highly debatable. In my view it would have been better to locate it on one of two main salmon rivers on the peninsula - the Kamchatka River (on the east coast) or the Bolshaya River (on the west coast). In this case it would be necessary to thoroughly consider with which direction and which species of salmon the new factories would operate as well as until what age the young fish would be kept there (and what they would be fed). And it is extremely important to take into account the rich experience of Japan, Norway and other countries.

One of the most important fish-breeding measures is the fertilization of the cold Kamchatka lakes which are poor in organisms which can be used for food. The successful experiments, conducted by specialists from the Kamchatka branch of the Pacific Ocean Scientific-Research Institute of Fisheries and Oceanography (KoTINRO), showed that fertilizer (mainly phosphates) can significantly increase the productivity of the lakes, drastically increase the survivability of the salmon offspring and as a result increase the number of breeding fish which enter the lake each year from the ocean. The economic effect of such an experiment, according to the most conservative estimates, might be 8-12 million rubles annually.

The KoTINRO, as well as expeditional detachments and other industry and academic institutes, are involved in salmon research. Successful work is being hindered by many factors. First of all by the lack of coordination in the work plans of various institutes. Ministries need a united and authoritative coordinating center. Several years ago the USSR Ministry of Fish Industry instituted the All-Union Scientific- Technical "Salmon" Program but, unfortunately, the work foreseen by this program is being carried out poorly.

The condition of KoTINRO's field laboratories and permanent observation posts is catastrophic. In two of the oldest laboratories on the Dalniy and Kuril islands which were founded approximately 50 years ago, scientific work is being carried out now in conditions which are totally unacceptable, in cramped facilities which are not adapted for research purposes. There is not enough housing for the staff and none at all for visiting scientists. Other observation posts are in no better shape. It is essentially impossible to even conduct the most primitive scientific research there.

In conclusion I will say that I see the conversion of the whole of Kamchatka into a protected area as the only correct, radical and farsighted solution unless we want Kamchatka in the near future to become not the eighth wonder of the world but the second ecological disaster zone after the Aral Sea.

Lvov Sulphur Plant To Cut Production, Redistribute Workforce

LD0707153690 Moscow TASS in English 1501 GMT 7 Jul 90

[By TASS Correspondent Igor Bachun]

[Text] Lvov, July 7 (TASS)—The Lvov Regional Council of Trade Unions, Western Ukraine, has agreed with a proposal of the management of the Yavorovsk Production Amalgamation Sera (Sulphur) to reduce the output of this valuable raw material. The trade union council gave its consent after it was convinced that all workers made redundant as a result of this measure would find a job in their home city of Novoyavorovsk. They will work at a factory producing knitted sports clothes, whose construction is being completed there.

People have long demanded that the production of sulphur in that densely populated area be reduced and eventually stopped altogether. Its negative impact on the ecological situation in the region became especially evident recently. Wells began to dry up, large karst caves began to form in nearby villages. The management of the amalgamation outlined a number of measures, intending to meet some of the demands. However, the trade union did not give its consent to putting them into practice, because they involved the dismissal of some 2,000 workers. This is why it suggested that a factory be built nearby and allocated money for it. Equipment is already being assembled in new production shops. The factory will be put into operation before the end of the year.

"It took us two years to resolve the employment problem, but we managed to create jobs for all these workers," said Tamara Shapoval, head of the Regional Council of Trade Unions.

A powerful movement for the closing down of ecologically harmful enterprises is developing in this country. Trade unions support these just demands, but they also take into account the interests of workers. For instance, it is planned to build light industry enterprises in Novyy Rozdol, Stebniki and Chervonograd, all in the Lvov region, where the production of sulphur, coal and potassium salt will be reduced. Special employment and retraining centres were opened there and construction designs and specifications were prepared.

Control over the fulfilment of various social programmes, exercised by trade unions, will facilitate for working people the transfer to a market-oriented system.

Black Sea Beaches Facing Pollution Threat

PM0207150190 Moscow IZVESTIYA in Russian 22 Jun 90 Morning Edition p 6

[Own correspondent A. Dergachev article under the "Fact and Commentary" rubric: "The Black Sea Is Still Clean"]

[Text] Sochi—A report citing the French environmental organization Robin des Bois has appeared in the press and has somewhat clouded the opening of the bathing season on the Black Sea beaches.

The question which interests everyone is whether the beaches at Sochi can expect to receive barrels of the toxic waste secretly dumped at sea by order of the former Ceausescu government, some of which later surfaced on Turkish beaches during a storm.

Our correspondent met with R. Stepanova, deputy chairman of the Krasnodar Kray Soviet Executive Committee.

"I can reassure you: The Black Sea off our shores is still clean at the moment. We are constantly monitoring the sea water—its radioactivity is normal. We have checked the cesium and strontium content of fish caught specially for the purpose, and found nothing alarming. In my view, however, far more dangerous than these barrels is the threat posed by our own... sewage systems between Sochi and Anapa. The season had only just begun when we were immediately forced to close several beaches at Adler because of mishaps at effluent discharging stations. The situation at Gelendzhikskaya Bay is even worse. This jewel of our coast has effectively been turned into a cesspit: The low-capacity sewage treatment works cannot process even one-half of the polluted water being discharged into the bathing area. It is no accident that the incidence of acute dysentery last summer rose 20 times (!) at Gelendzhik. Storm drains are still being planned, but at the moment torrents of mud pour into the bay each time it rains..."

[Dergachev] "Raisa Petrovna, many people complain that the construction of the second section of the Tuapse-Adler railroad along the coast is causing beaches to disappear..."

[Stepanova] "Unfortunately that is so. According to figures from the 'Krasnodarberegozashchita' [coastline protection] Association, almost one-half of the beaches in the 119 km coastal strip of greater Sochi have been destroyed because of it recently. They have been 'consumed' by support walls with concrete wave-suppression installations designed to protect the embankment against storms on the second section of the railroad now under construction. Admittedly, the Tuapse Division of the North Caucasus Railroad did agree to build wave-resistant beaches while carrying out this work, but it has forgotten to do so. An incomprehensible position. How can you compare the second track of a railroad with a national asset such as a beach?"

[Dergachev] "The hygiene and epidemiology service has a major complaint against the Sochi agrarian sector: Until last year the amount of pesticide used per hectare in Sochi was 50-100 percent higher than the kray average and, as is well known, this kray's 'indicator' is one of the highest in the country. How could that be tolerated?"

[Stepanova] "The agricultural people, who have 29 enterprises in Sochi, state that it is impossible to produce tomatoes, cucumbers, cabbage, or any other vegetables without using toxic chemicals. Such a huge resort cannot manage without vegetables. Vegetables could be imported from the Kuban steppes, but that means shipments of 300-350 km (!) in just one direction. It is simply essential to switch to environmentally clean production techniques right now.

"This is a special problem, but at the moment we are busy on operational questions—how to receive the 'tidal wave' of 13 million vacationers who will be coming to us this year. Our zone is receiving this workload because of the difficult political processes in the Baltic, Georgia, and other traditional vacation areas. However, our vacation areas are not limitless, and the kray's resorts are already on the brink of environmental catastrophe now because of the excessive load."

Kazakh Prime Minister on Aral Sea Project, Siberian River Diversion

LD0307221390 Moscow TASS in English 2013 GMT 3 Jul 90

[By TASS correspondent Raisa Ioffe]

[Text] Alma-Ata, July 3 (TASS)—A large-scale state programme to salvage the Aral Sea is being developed in Kazakhstan, a Soviet Central Asian republic. Kazakh Prime-Minister Uzakbay Karamanov commented on its main elements in a TASS interview.

"The programme envisages several stages in the effort to prevent a further drop in the level of the sea, which only

30 years ago was one of the largest and unique fishery reservoirs, stretching over an area of more than six million hectares," Karamanov noted.

"Among the priority measures, available water resources must be used rationally, water-conserving farming systems must be introduced and all of the local land improvement systems must be reconstructed. We also intend to address once again the project to divert part of the water from Siberian rivers to the Aral Sea as the most viable way to salvage the dying sea."

Karamanov recalled that the Aral Sea's agony was the sorrowful result of irrational economic activity. In some places the sea's shores have receded 100 kilometers. Harbours and bert[hs] are deserted. One more desert, dubbed by people as Aral-Kum, has appeared on the joint of two great deserts—the Kara-Kum and Kyzhyl-Kum.

"Up to 75 million tons of sand, dust and salt are annually lifted into the atmosphere from the 25,000 square kilometers of dried sea bed, spreading over hundreds of kilometers. The tragedy of the Aral Sea is ranked as one of the most serious among the world's ecological cataclysms.

"Attaching much importance to international efforts to save the Aral Sea, the Kazakh Parliament approached the Soviet Government and the USSR's deputies with a request to draw the attention of such international organisations as the United Nations, the U.N. Educational, Scientific and Cultural Organisation (UNESCO) and the World Health Organisation (WHO) to the problems of the Aral Sea.

"An international project to restore the Aral Sea, which was signed by the USSR and the United Nations Environment Programme (UNEP), was the first collaborative effort in this direction."

Karamanov said that according to plans, almost 400 million roubles will be allocated from the state budget over the next five years to improve the ecology and the social infrastructure of the region.

The programme also envisages setting up a special economic zone here and introducing several benefits for the population, specifically, supplements to wages, reduced income taxes and longer holiday.

Pollution Forces Closure of Dagestan's Caspian Beaches

PM2606140790 Moscow IZVESTIYA in Russian 23 Jun 90 Morning Edition p 7

[Own Correspondent A. Kazikhanov report: "Dagestan's Beaches Becoming Deserted"]

[Text] Makhachkala—The Dagestan ASSR [Autonomous Soviet Socialist Republic] Council of Ministers has adopted a decision to close beaches on the Caspian shore because of the adverse epidemiological situation.

This news has stunned everyone. It seemed that here in Dagestan, with its golden beaches, the sea's waters would always be curative as the scientists claim—the rodony [as transliterated; meaning unknown] beat against the shore. But according to a report from the Makhachkala Hygiene and Epidemiology Center, the bacteriological pollution indicators here are 48 times above the norm, and the figure for chemical pollution is 10 times above the norm. Within the city boundary, 60,000 cubic meters of untreated effluent are discharged into the sea every 24 hours. A large part of the city has no storm drainage. The drainage that exists is used very badly.

Essentially the Caspian is being turned into a gigantic cesspool, if it has not become one already. Typically, instead of building treatment works and obtaining help from the republics whose citizens vacation here, people in Dagestan are holding countless conferences on "improving" and "intensifying" the situation.

BELGIUM

Flemish Liberals Develop Environmental Program

90WN0109A Brussels KNACK in Dutch
2 May 90 pp 18-19

[Article by Peter Renard: "A Blue Idea About Green"]

[Text] On Saturday and Sunday, the PVV [Party of Liberty and Progress] will discuss the liberal environmental program. A preview.

The PVV environmental program is based on two basic points: the bureaucratic government approach has failed and we must strive for a balance between economic growth and ecological development. Hence, the Flemish Liberals also want to limit the government role with regard to the environment. Because, according to their argument, the ever increasing meddlesomeness of the government has failed to produce positive results. On the contrary: all the regulations, rules, laws and decrees were unable to prevent the situation from being what it is: painful.

The failure of the centralized bureaucracy as an all-knowing deity is a structural fact, and consequently the government will also be unable either today or tomorrow to accumulate the knowledge necessary for a rational and efficient environmental policy. The government lacks the necessary flexibility for that: furthermore, its policy is not determined by objective criteria but by political game rules and is thus a reflection of the power of the respective pressure groups. Government intervention not only puts a break on economic activity, it also falsifies competition at the ecological level (in favor of large enterprises which maintain a specialized environmental staff). According to the PVV, the role of the government could be limited to determining the goals and creating a climate in which the market mechanism can go its own way with as little disturbance as possible.

Unlike the (political) Greens, the PVV believes that economic growth is the best guarantee for a cleaner environment. And in an obvious next step they argue that it will be possible to reduce the basic pressure only when production becomes more environmentally friendly and thus becomes more oriented toward the recycling of raw materials. Given that environmental investments are expensive, economic growth is a condition for a shift in the direction of less pollution.

However, less government and more economic growth are not enough. The sense of responsibility of the citizens and industry must be sharpened through financial stimuli. Those who produce waste will have to pay for the reprocessing; those who make attempts to limit their amount of waste will be granted higher investment deductions; bottles and drink cans will be subject to a deposit.

In its 150 page long basic document, "Choosing or Losing," the PVV follows the timetable of the Dutch environmental plan (three phases: 1995, 2000, and 2010). But the Flemish program is substantially less far-reaching than the plan proposed by Dutch Liberal Ed Nijpels, who broke his political neck on it. Guy Verhofstadt's Flemish Liberals do not want to push that far. Like all the other parties, the PVV wants to embroider a small green border around the traditional party colors as soon as possible. In the case of the PVV this has led to a serious looking document with an interesting overview of the environmental situation in Flanders and the world, produced—fully according to party philosophy—by a private firm.

Right To Pollute

The main ingredient of the liberal environmental concept is that love of the environment goes through the purse. Inappropriate environmental behavior is not rewarded in and of itself, but neither is it punished. The PVV is making an effort to couple economy and ecology, and the entrepreneurs must also be satisfied. Given that people believe in something—let us say the environment—only when there is money involved, the party is proposing an economic-fiscal system in which environmental investments will improve competitive positions and will be rewarded by the government. Those who are environmentally friendly can also become rich to boot. And in such a system, repressive measures by a government, which after all did not do so well itself, would not fit.

On the contrary, according to the PVV program it is private enterprises which will protect us from further environmental disaster. Consequently, a substantial share of the government tasks in the environmental sector are allocated to them. In an extreme concession they allow that the (selective) pick up of household waste could be entrusted to intermunicipal administrations, but for cleaning up the black points of industrial waste and the purification of all Flemish waste water they turn to the private sector.

Liberal thought goes even a step further: there is also talk of tradable emission rights, although during the first phase they would be limited to water purification. This reasoning involves the setting of global pollution levels per water purification plant. Next, this figure is divided among the respective companies connected to the sewer network and thus to the water purification installation. If one of the companies makes an effort to purify its own waste water, then it can sell its pollution rights to another company.

The plan also includes the ideas of fiscal circles surrounding residential centers previously launched by Guy Verhofstadt. Those who live farther away from developed areas will have to pay for it. The closer people live to the center of a municipality or a city, the less registration costs and the less land taxes they will have to pay, and the more they will be able to deduct their mortgage payments from their personal taxes. If essential and public services are also charged at the "real cost price,"

then people living in remote developments will have to pay more for their gas, water, electricity, or cable connection, and postal rates as well as the price of household waste pick up would go up and thus lead to what is called spontaneous concentration. Following the same logic, companies would have to pay for the construction of their sewers if they do not purify their own waste water and if they locate in an area without sewers.

Sacred Cow

The liberal environmental plan includes a number of interesting lines of thought, but it is also very sensitive to trends. This is expressed specifically in the strong distaste for everything that is government related. It does not say so, but it sometimes seems as if those nice sheep, the companies, are only being misled by the government which has falsified the competitive situation through all possible kinds of intervention and which, through all kinds of cunning tricks, has made clean industry impossible. In this respect they like to point—and rightly so—to the Flemish Water Purification Company (VMZ) which, because of this far-reaching politicization, is indeed unable to present very uplifting results. Obviously, there is no mention in the report of the PVV share in that abhorrent appointment policy. Neither is there any reference to the Official Flemish Waste Company [OVAM], which is also subject to a great deal of criticism, but which as government institution boasts a respectable company audit.

Other accents also betray the latest environmental fashions. Thus, a remarkably large amount of attention is given to water purification and the agricultural sector. Nobody wears a high hat with water purification in this country, and it is obvious that major investments will have to take place (and thus that a great deal of money can be made). Neither can it be denied that agricultural industries, whether land related or not, are responsible for major environmental disturbances. But it is typical of a liberal program that the accent falls there, and not first of all on the enormous amount of industrial pollution (these are international problems and they endanger the competitive situation). The solutions suggested for agriculture are presented in the imperative mood, and are followed as a final bombshell by an ultimate attack on the position of the Land Company which, indeed, is acting more and more like a super-parastatal company oriented toward defending the agricultural interests.

In terms of industry, the PVV wants negotiations, or they want to strive for, or they talk more about exemption from levies than about the levies themselves. For example, there is no word about the near-monopolies in the electricity sector, except for the fact that the PVV continues to stand behind nuclear energy. The plan has hardly anything to say at all about the kind of stick the government needs to keep behind the door for unwilling industrialists.

In one area the document is less sensitive to fashion: when it involves a reduction in the use of automobiles. Alas. Because, aside from the obligatory sentences about carpooling and more attractive public transportation (no sinecure following the policy of, among others, the Liberal Herman De Croo), the sacred cow is not touched. Of course, the PVV also pleads for tax deductibility for the use of public transportation to travel between home and work. But aside from that, automobile transportation is stimulated by a five frank reduction of the levies on leadfree gasoline, by additional infrastructure, and by recovering the cost of road transportation through car stickers for foreigners. And the solution to absorbing carbon monoxyde emissions is to plant more trees.

The question is how much this environmental program is worth. If it is taken seriously by the PVV then it would mean a real turnaround in a number of areas for a party which has worried least about the environment. Perhaps this could best be tested by comparison to the activities of PVV Minister Louis Waltniel who is responsible for regional planning. Like his liberal predecessors Pede and Beysen, he does not conduct what one might call a progressive green policy. And the question is whether this will change rapidly. Certainly if the idea of subordinating regional planning to a structural plan once again turns up in the liberal program. The regional plan, the only handle for the environmental movement, is put at risk. A more flexible approach to regional planning may not lead to more trees and more nature, but probably to more industrial zones and residential areas. But were there not enough of them already according to the Liberals?

FEDERAL REPUBLIC OF GERMANY

Bonn, Industry Agree on Fluorocarbon Phaseout

90WN0137A Duesseldorf HANDELSBLATT in German 31 May 90 p 3

[Article by rei: "Chemical Industry Promises to Stop Production"—first paragraph is HANDELSBLATT introduction]

[Text] Bonn. The Federal Cabinet passed a resolution that will forbid the use of fluorocarbons (FC's) and halones by 1995. Both destroy the ozone layer and contribute to the greenhouse effect, that is, the warming of the earth's atmosphere.

The ban will take place in degrees. Beginning in 1991, fluorocarbons will be banned as the propellant gas in spray cans. At that time, packages and equipment pepped up with the "ozone killer" will have to disappear from the market. Beginning in 1992, the producers of large refrigeration and freezing systems, cleaners, solvents, and foams, will have to do without fluorocarbons. As of 1995, the last year of the discontinuation scenario, even small refrigeration and freezing units, as well as insulation material, will have to be produced without this dangerous substance. The grace period for halones, which are used primarily in fire-fighting equipment, comes to an end in 1996.

Klaus Toepfer, Federal Minister of the Environment (CDU) [Christian Democratic Union] claimed the ban was a "decision unique throughout the world." Most other countries do not want, as was agreed to in Helsinki in 1989, to discontinue using FC's until the late 1990's, but "we were of the opinion that the industrial nation of the Federal Republic of Germany should do it sooner," said Toepfer.

He wants to consolidate his position by the meeting of the EC Ministers of the Environment conference, to be held on 7 August in Luxembourg, so that other member nations will quicken their pace to keep tempo with Germany, but his chances of success are slim. It is said that some Ministers of the Environment even consider a discontinuation by 1997, which is the goal the EC has set, as too ambitious.

Simultaneous to the ban on fluorocarbons' use, the two German FC producers, Kali-Chemie AG and Hoechst AG will discontinue production of the ozone killer. The Vice President of the Chemical Association, Wolfgang Hilger (who is also Chairman of the Board at Hoechst), handed Mr. Toepfer a declaration. In the declaration, the firms also assert that their discontinuation will also extend to their affiliates in foreign countries. Mr. Hilger did point out, however, that the foreign governments in question could compel the firms to continue production as part of a licensing requirement. He also said that in the interim, the companies wanted to begin reclaiming FC's from refrigeration systems, climate-control systems, and insulation foam and reprocessing it.

Mr. Toepfer justified the discontinuation by degrees by the fact that replacement substances were not available for all applications. The industry will rely, to a high degree, on R 22, which is not completely "friendly to ozone or the climate," a so-called partially halogenated fluorochlorohydrocarbon. To be sure, by the year 2000, a replacement for this propellant and refrigerant will have to be found as well. By that time, even this replacement substance, which many have taken to be the solution to the problem, and not a new problem in its own right, will be on the index. Mr. Toepfer justified this ban by saying that the ban gave new impetus to the search for a propellant and refrigerant that would be completely friendly to the ozone layer and to the climate. He also characterized the warning label "contains ozone-depleting FC's," which will appear on containers in the interim, as progress. "The Federal Republic is thus the first country to discontinue the production and use of FC's," Mr. Toepfer summarized, with satisfaction.

For the SPD [Social Democratic Party] deputies, Liesel Hartenstein and Monika Ganseforth, both members of the Committee of Inquiry on the protection of the earth's atmosphere, the regulation and the voluntary ban come two years too late. They also criticize the "voluntary agreement" with the industry. They claim production bans are more effective, and that the grace periods for halones are too long. They went on to say that substitutes in the form of water and carbon dioxide were already available.

Gerhart Baum, environmental spokesperson of the FDP [Free Democratic Party] faction, called for further international agreements on banning FC's. He said help had to be given to developing countries in producing environmentally friendly replacement products. He regretted that beyond agreements reached thus far and beyond EC regulations, the final production ban in the case of FC's was still an open issue.

FRANCE

New Membrane Process Purifies Drinking Water

90WN0141A Paris LIBERATION in French 1 Jun 90 p 5

[Article by H.C.: "The Lyons Water Company's Magic Membranes"]

[Text] On the one hand, one has the sickeningly yellowish water loaded with particles in suspension, microbes, viruses, heavy metals, in short, undrinkable swill. On the other is a consumer demanding that sparkling clean water flow from his faucet. And, in the middle, purification plants are struggling, by dint of chemical reagents, sand or charcoal filtration, and the addition of gluttonous bacteria, to produce the purest possible liquid. The problem: These so-called reagents generate by-products potentially dangerous to health.

To remedy the problem, the Lyons Water Company, the second-largest supplier of water to the French people, has developed a new and almost magical technique: membranes. Already used in desalinization plants, artificial kidneys, the agro-food industry to extract proteins from whey, and the automobile industry to separate solvents from used paint, the membranes had not yet made their entry into the world of drinking water. The technique is expensive and the water does have a low added value.

The principle behind the process starts when water is driven at a very high rate of speed into hollow pipes pierced by millions of microscopic pores. A muddy liquid containing the impurities remains inside the pipe. The clean water emerges on the other side of the membrane in the form of tiny droplets. The advantages: Such a plant is compact, unlike traditional-type facilities which require vast areas exposed to the sun. It is "ecologically sound" in that no reagent has to be used. Nor is there any need to anticipate accidental pollution because the pores filter out anything that might come along. The disadvantages: The process consumes large amounts of energy. Moreover, elimination of the different undesirable components of the water depends not only on the size of the pores, but also on the electrical charge of the membranes. Laboratory research continues.

The Lyons Water Company has already built two such plants in France and has high hopes of marketing the technology to the Americans, whose drinking water standards have become Draconian.

ICELAND

Large-Scale Reforestation Program Announced

90WN0133A Stockholm DAGENS NYHETER in Swedish 30 May 90 p 15

[Article by Soren Lofvenhaft]

[Text] Reykjavik—Iceland's fascinating but barren landscape is slowly being changed. This summer the biggest effort to date will be made to bring back the forest. The entire nation, led by the president, will take part. Every Saturday volunteers will get together and plant birch, larch, spruce, pine, and poplar seedlings on treeless expanses.

Before the chill of autumn sets in, over 4 million seedlings will have been planted at 74 sites at the foot of volcanoes and "jokulls," Iceland's glaciers. An exposed life awaits them, but Iceland's present-day tree growers are hopeful.

At one time 30 percent of the surface of Iceland was covered by low trees. Today only one percent remain. The ravages associated with the mining of bog iron ore in previous centuries, wind and water erosion, and intensive grazing by sheep and horses are the reasons why Iceland lost its forests.

"We have lost two-thirds of the island's green mantle. That is what we now intend to restore as much as possible. We will plant trees and grass to bind the soil," President Vigdis Finnbogadottir told DAGENS NYHETER.

Icelanders have collected 45 million Icelandic kronur (4.5 million Swedish kronor) for seedlings in connection with the 60th anniversary of the Forestry Society this year. And when the president celebrated her birthday in April, tens of thousands of inhabitants subscribed to a tree fund that was the nation's gift to the very popular chief of state.

DAGENS NYHETER went along when 70,000 birch seedlings were planted in Mosfallsbaer north of Reykjavik to the strains of a wind ensemble. Retirees, parents of young children, and young people all joined in, using Swedish planting tools from Kopparfors in Dalarna.

Iceland's leading forestry figure, former chief of the National Forestry Service Sigurdur Blondal, gave a speech.

"I call you tree planters the island's salvation army."

Last year Sigurdur retired but he continues to work hard for forests in Iceland. Some 40,000 hectares of land have been set aside for forestry. The state owns 30,000 hectares of this land. So far around 10,000 hectares have been planted, large areas with foreign tree species, mainly from Siberia and Alaska.

"We are planting trees to check erosion and create recreational forests," Sigurdur Blondal said during a round trip to various stands of trees, a tinge of green in the gray volcanic landscape.

It is a tough job that requires a lot of patience to be a tree farmer in Iceland. The strong winds are a big threat to the seedlings.

Winter northeasters kill all but the hardiest vegetation. And the storms also carry destructive ocean salt far inland. Otherwise the soil layers in many places are fertile with high pH values. Volcanic eruptions have also produced ash fertilizer that is beneficial to forestry.

Sheep Destructive

But to get anything remotely resembling forests, fenced plantations are required. Otherwise the sheep will eat the seedlings. They wander freely all over Iceland.

Trampling by the sheep also injures the grass, allowing the wind to dig in and dislodge the soil, a destructive long-term process that is the subject of a lively debate in Iceland.

Forestry people and farmers who raise sheep are now beginning to cooperate more, however. Farmers are setting aside land for planting trees following successful trials of allowing sheep to graze in birch plantations in the 1950's.

Iceland's pride and future hope for tree cultivation is found in Hallormsstadur in northeastern Iceland. Here we visited the island's only timber forest, a small stand of Siberian larch trees that is exactly 50 years old.

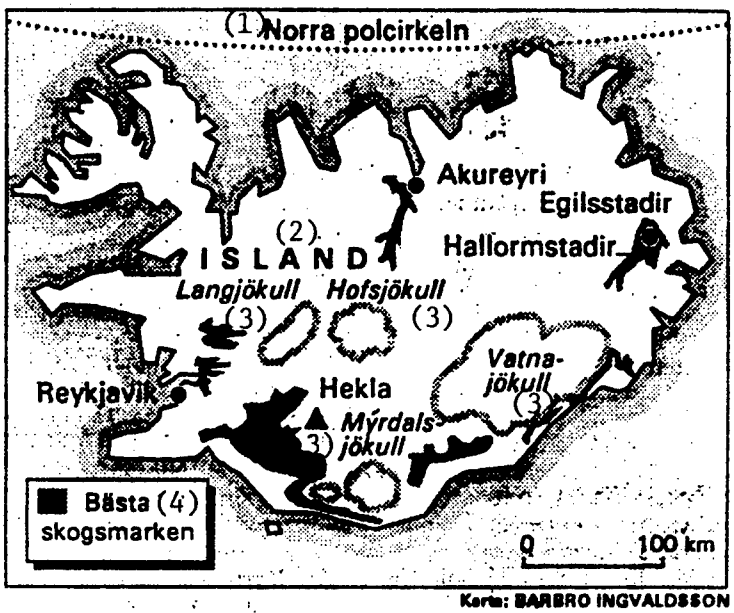
"Here we can demonstrate that the impossible is possible and that we are serious about our forestry," said Jon Loftsson, who succeeded Blondal as forestry director.

Soviet Scientists

With forester Tor Torfinnsson we walked among trees that were 16-18 meters high. Views of snow-capped mountains glittered through the branches. We were accompanied by a pair of Soviet scientists from Magadan, the most eastern part of their homeland, where they have eight months of winter and readings of 50 degrees below zero are not uncommon.

"Thanks to this new contact with the Russians we have received 50 kg of seed from their hardiest larch trees that we are going to test," Tor said.

"A few years ago we cut a small amount of timber here in Hallormsstadur. The wood was used for kitchen cabinets," said Tor Torfinnsson, one of six foresters on the volcanic island where they are struggling to restore their green mantle.



Key:
1. Arctic Circle
2. Iceland
3. Glaciers
4. Best land for forests

NORWAY

Use of Gas Recovery Devices for Pollution Control Urged

90WN0155B Oslo AFTENPOSTEN in Norwegian 7 Jun 90 p 6

[Unattributed article: "Offshore Oil Loading a Major Source of Pollution"—first paragraph is AFTENPOSTEN introduction]

[Text] Poisonous gas emissions in Norway could be reduced by 25 percent if gas recovery devices were installed on two crude oil terminals and nine ships which load crude oil in the North Sea.

Each year 270,000 metric tons of volatile organic compounds (so-called VOC emissions) are emitted in Norway. Thirty-four percent of this comes from offshore crude oil loading in the Gullfaks and Statfjord fields and from loading operations at the Mongstad and Sture crude oil terminals. "We are surprised by the high figures from the offshore loading," said section chief Jens Henning Koefoed of the National Pollution Control Authority (SFT).

A report prepared by Det Norske Veritas [a private ship inspection and classification organization] for SFT revealed that offshore crude oil loading is responsible for over one-third of the volatile organic compounds which are emitted annually by Norway.

When the crude oil in a tanker is loaded, the gas in the tanks from the previous unloading gets displaced. This is how 70,000 metric tons of gas annually are emitted into the air. The two crude oil terminals' unloading operations together account for approximately 19,000 metric tons.

Profitable

Gas recovery devices on ships and terminals could cut these emissions by 75 percent but for the time being no such devices exist for ships. In a report to the Ministry of Environmental Protection, SFT indicated there is talk of developing such equipment and estimated that this will take about three years.

It will take another two years before the recovery devices can be installed on board. In the final analysis, the Maritime Directorate must require installation of the new equipment on ships. SFT estimates that these measures will cost 150 million kroner.

Many Measures

Of the many measures to limit VOC emissions in Norway which SFT has proposed, those aimed at the oil industry will have the greatest effect. But a number of other measures are also being studied.

Norwegian emissions of volatile organic compounds are divided as follows: 10 percent, stationary combustion

such as [central heating] boilers and refineries; 50 percent, industrial processing; and 31 percent, mobile sources: road traffic, airplanes, and navigation.

The measures are aimed at solvent emissions from industry, evaporation in the distribution of benzine, evaporation emissions from paint, lacquer, and [wood] stain, and technical approval of wood-burning stoves, among other business activities.

Unhealthy

The volatile compounds create a high level of ozone in the lower atmosphere, something which is harmful to humans, animals, and plants. High ozone levels irritate respiratory organs, reduce lung function, and make the lungs more suspectible to infections. On the other hand, ozone is necessary in the upper atmosphere to protect the earth from the sun's rays.

In Norway the ozone level has risen 15 percent between 1973 and 1989. Much of it is carried over from the continent. International negotiations are underway to produce an agreement on VOC reductions.

Studies have shown that the ozone content over Norway is now probably so high that it is affecting people's health and plant growth. In Sweden damage to agricultural crops has been estimated at one billion kroner annually. The damage is caused by both a high "background level" and by high short-term counts which occur particularly during the period from 14 April to 14 October.

Hydro Expansion Plans Problematic for Government Policy

90WN0122A Oslo AFTENPOSTEN in Norwegian 28 May 90 p 56

[Article by Ole Mathismoen: "Syse Government Caught in an Environmental Vise"]

[Text] The government is faced with a real dilemma. Continued acclaim for Hydro's aluminum works expansion plans are not compatible with the objective of stabilizing Norwegian CO_2 emissions.

Growth and the environment hand in hand. It was this message from the Brundtland Commission which got an entire world to ride the environment wave. However, the truth is more complicated than that. Hydro's plans to expand operations in Ardal and Sunndal entail the construction of a gas power plant. All told, this expansion will lead to a five-percent increase in the total Norwegian emissions of carbon dioxide. Carbon dioxide is the gas which is primarily responsible for the greenhouse effect.

Many Norwegian politicians rejoiced in April when Norsk Hydro announced plans for a giant investment of 10 billion kroner. Among them were Prime Minister Jan P. Syse, who described the plans as extremely gladdening, and worthy of emulation. Both before and after the prime minister has also stated on numerous occasions that the goal of stabilizing CO_2 emissions remains valid, and will be achieved.

Difficult

When Environment Minister Kristin Hille Valla voiced her opinion on this issue at last week's question session in the Storting, she came right out and said that the Norwegian CO_2 objective is difficult to reconcile with Hydro's plans.

The power which Hydro needs could perhaps also be obtained by some means other than by building a gas power plant. However, up until now, Hydro has practically stipulated a gas power plant as a precondition for its investment. The debate concerning Hydro's plans to this point has been focused primarily on whether enough suitable gas could be obtained from the Haltenbanken. The company has made no secret of the fact that there are alternatives to building in Norway. If Hydro has its way, production at the Ardal Works will be expanded from the present 172,000 tons of aluminum per year to 265,000 tons, while the Sunndal Works will increase its production from 136,000 to 310,000 tons.

Increased Emissions

The gas power plant which Hydro would build to obtain the power necessary for the increased production would entail a 3.7-percent increase in Norway's CO_2 emissions. In addition, the increased aluminum production would entail an additional 1.3-percent increase, resulting in a combined increase of five percent.

The last official estimates of emission trends with respect to carbon dioxide are from 1988, and they warn of an increase on the order of 20-25 percent in Norway unless countermeasures are implemented. Thus, growth must be stopped in order to achieve a stabilization at the 1989 level in the year 2000. If a gas power plant is built, our other emissions—from vehicular traffic, burning, etc.—must be reduced by an additional five percent.

Norway's total emissions today are approximately what they were in 1987, almost 34 million tons. The fact that the emissions levels have remained unchanged disappoints many experts, who had hoped for a solid decrease this year, due to the warm winter and reduced burning.

If we have another cold winter and automobile use increases, the emissions will increase again. Sources in the State's Pollution Supervision Board (SFT) say that efforts to stabilize will be far more difficult and the requisite measures more extensive in scope if Hydro is allowed to build the gas power plant.

Hydro Spokesman Rebuts Government's Objections to Expansion

90WN0155A Oslo AFTENPOSTEN in Norwegian 7 Jun 90 p 8

[Guest commentary by Frode Helgerud, information chief at Norsk Hydro: "Hydro's Expansion Plans: Aluminum and the Environment"]

[Text] In a 28 May AFTENPOSTEN article, [Norsk] Hydro's expansion plans for its aluminum business in Norway were described as a difficult "environmental mess" for the government. The term was used because coal is used to produce aluminum and because today natural gas is the most likely source of the electrical power for which there is a greater need. This, AFTENPOSTEN asserted, will clash with the government's stated goal of stabilizing CO_2 emissions.

Global Perspective

If the government's efforts to stabilize emissions of gases into the atmosphere had no chances [of succeeding] beyond Norway's own borders, such a conclusion would be correct. If the perspective is expanded to the global level, something atmospheric issues require, the picture quickly changes. In fact, some interesting environmental questions are linked with the designs Hydro has come up with to remodel its aluminum plants in Sunndalsora and Ardal.

First, what is traditionally the most problematic aspect of aluminum—the emission of fluorides—will be cut in half despite huge increases in output.

As regards CO_2 emissions, these are linked to the use of fossil fuels, in this case natural gas from oil and the Haltenbanken gas fields. If the Norwegian authorities decide that oil and gas fields on the Norwegian continental shelf are to be expanded at all, the result will be new CO_2 emissions in Norway or somewhere else. Thus a single-minded environmental focus on Norwegian CO_2 emissions will result in a total halt in the exploitation of the Norwegian continental shelf.

In the debate it has been suggested that one solution could be to pump the gas back into the fields and—at least initially—extract only the oil. Inasmuch as natural gas gives off significantly less CO_2 than oil, such a solution would appear to be very odd from both the environmental and the resource point of view.

CO_2 emissions are a global problem. For this reason it would be impossible for the Norwegian authorities to have the export of gas for power generation and industrial production as a main environmental goal instead of using some of this gas domestically for industrial purposes. At Hydro we have been pleased to note that several members of the government and the Storting are looking at both the local and the national policy issues raised by industrial development of this sort.

A Gain for the Environment

So should natural gas be used to produce aluminum? From an environmental point of view several important factors argue in favor of this. Norwegian aluminum currently competes with producers who are free to use less environmentally sound energy. As much as one-third of the world's aluminum production is based on coal as an energy source. If gas-based Norwegian aluminum can replace any of this, CO_2, NO_2, and SO_2 would be reduced. A clear gain for the environment!

Finally we should remember that aluminum can be easily recycled without diminishing the metal's properties. Melting it down uses only five percent of the energy required to produce new aluminum. Thus, in terms of its lifetime, aluminum is an environmentally sound material and in addition there is no shortage of raw materials. And if we replace heavier materials with aluminum in the transportation industry, fuel consumption, together with CO_2 emissions, will decline.

PORTUGAL

Environmental Hazards Threaten Country

Toxic Residue Treatment

90WN0108A Lisbon EXPRESSO in Portuguese 19 May 90 pp 4R-5R

[Article by Rui Cardoso]

[Text] Portugal is following in Europe's footsteps and is entering the toxic waste disposal business. For a country that treats—and poorly—only 18 percent of its industrial waste, the importation of refuse [adds to the] toxic threat that is already encircling the country, by land and by sea.

A country that is not very industrialized is not necessarily a country with little pollution. Even though its industrial development has not reached the levels of its neighboring countries, Portugal already has dead rivers and areas of contaminated land. This is the result of industries that use outdated technologies and that are not located according to any rational criteria. The textile factories have turned the Ave River into an open sewer. The tanneries not only are killing the Alviela River, but they are also dumping—with total impunity—whole batches of skins that have been contaminated with heavy metals (specifically chromium salts) in the Natural Park of Serra de Aire and Candeeiros. Incidentally, no serious study has been conducted as to the degree of contamination of the groundwater that circulates under that limestone massif.

At the industrial complex of Aveiro-Estarreja, there are more and more alerts following accidents in industrial units that handle such dangerous products as dioxin (the carcinogenic defoliant used by the United States in Vietnam) or phosgene (one of the gases used in combat in World War I).

The circle is closing in from abroad; 400 ships a day pass along the poorly protected and poorly monitored Portuguese coastline, and at least 10 percent of them are transporting toxic or hazardous cargo.

The repeated spills of crude oil on the Sines coast and the recent "black sea" at Madeira are only the more visible parts of a whole world of threats to the waters in Portugal's exclusive economic zone.

Almaraz, a Spanish nuclear plant that has had a number of accidents and breakdowns, is 80 kilometers from our border. The Portuguese-Spanish agreements provide that any incidents be reported immediately to the Portuguese authorities. Lately, such incidents have been reported only belatedly and grudgingly. The system for monitoring the radioactivity of the water of the Tagus River and in the atmosphere is only now being completed on the Portuguese side.

The Guadiana River has been polluted as far as Mertola with Spain's domestic and industrial sewage. In Galicia, the cellulose factories are discharging their toxic effluent into the Vigo and Ponte Vedra Rivers—as recently publicized in a recent action by the ecology group Greenpeace. It should be clear that this pollution will come to affect the Minho River.

As if this unsettling picture were not enough, Portugal is preparing to go into the toxic waste disposal business. The problem can be stated in very simple terms. The EEC produces 50 percent more toxic waste than it can store or treat in the existing facilities in the territory of the Twelve.

One of two things can happen: Either the EEC can revise manufacturing technologies and processes to reduce the production of waste (which takes time and money), or it can make arrangements with Third World countries that are sufficiently foolish and unwitting or corrupt enough to be willing to accept life-threatening poisons in exchange for a few million dollars.

The cocaine cartel, headquartered in the Colombian city of Medellin, has been joined by a new international mafia that deals in hazardous waste: the "Merdellin" cartel [from the French "merde"].

In this context, the process of installing a toxic waste treatment plant in Sines, and landfills in Grandola and two other locations in central and northern Portugal, is not as simple as it is given to believe. Proof of this: Macario Correia, secretary of state for the environment, has on his desk a project by a French group, proposing to build a treatment plant free of charge in exchange for which France could export toxic wastes to Portugal for treatment here.

The origin of the waste, the purpose of the treatment plants, and their locations are points that should be clarified in a public debate, without any deceptive fast talk. And the environmental impact study for a facility of this kind certainly should not be handled the same way as those for the Estoril and Fatima highways or the Alcochete Firing Range.

Incidentally, the toxic waste "dossier" is in no way limited to the project now under consideration. There is a whole world of problems described in the papers on which this report is based, from the little-known effects on the environment from the uranium mining in Urgeirica to the Sines treatment station that recycles—only—a small portion of Portugal's industrial waste; from the pollution of the Sado River to the clandestine dumping of wastes in the industrial belts of Lisbon and Porto.

Clandestine Dumping

90WN0108B Lisbon EXPRESSO in Portuguese 19 May 90 p 7R

[Article by Mario de Carvalho]

[Text] Some 82 percent of hazardous industrial waste is dumped on the ground without any type of control or treatment. This is the conclusion of a study conducted in 1987 by the General Directorate for Envronmental Quality, and, from all indications, it still holds today. The same study notes that 17 percent of the waste goes into landfills, and only one percent is incinerated and, even so, without any control over the gases released.

The first bill on integrated waste management dates from 1985. The study conducted at that time, on the initiative of Carlos Pimenta, then secretary of state for the environment, reported "the almost total lack of public facilities for the suitable treatment and elimination of these wastes."

The clandestine dumping of toxic materials is still practiced by some industries in such regions as Setubal, Barreiro, Santarem, Porto, and Lisbon. The absence of an appropriate environmental policy has led to the death of such rivers as the Alviela and has meant increasing danger to others, such as the Sado.

In the work "Hydric Resources in Southern Portugal," prepared by the Secretariat of State for the Environment, it is noted that the concentration of dissolved oxygen in the Sado River drops to critical levels in some seasons of the year. In addition, the discharges from residential sewers and also from such factories as Sapec (fertilizers), Inapa (paper), Setenave (naval construction), and Propam are contributing to the "general deterioration of the quality of the water of the estuary," as noted in a study by the National Laboratory of Engineering and Industrial Technology.

Setubal District is responsible for 60 percent of the hazardous waste produced in Portugal, directly attributable to the chemical industries of Barreiro and Sines, as well as the metallurgial industry and the production of electric power.

In 1987, the Institute for Support to Small and Medium Business and Investment estimated that Portugal produces 650,000 tons of hazardous waste annually, 65 percent of which is from the manufacturing industry.

As is known, the government has announced an international competition for bids on the creation of an integrated system for the treatment of this type of waste, which would include construction of a new plant in Sines, a transfer station, and landfills in the northern and central zones and in the south (Grandola).

The project, which should get under way in November or December of this year, provides that local governments, industries, and other entities may hold shares (not to exceed 10 percent) in the enterprise that will manage the system.

Such local jurisdictions as Sines and Estarreja have rightly insisted on their participation in the capital of the future enterprise.

In addition, the Secretariat of State for the Environment has sought to establish protocols with companies in such sectors as cellulose, tanning and hog farming, to set goals for the reduction of their respective pollutants.

'Toxic' Packets Found Off Azores

U.S. Origin

90WN0107A Lisbon DIARIO DE NOTICIAS in Portuguese 15 May 90 p 23

[Excerpt] Packets of toxic products found along the shoreline of the Azores are of U.S. origin and are considered unusable, according to a statement made yesterday to the press by a member of the office of the minister of the Republic in the Azores; he then went on to say that 11 of the packets have already been destroyed.

Phenol, lye, and ammonia are the three chemical elements found in the toxic packets in question, according to an observation made yesterday by the Azorean Office of Naval Control.

The same informant, expressing amazement at the sudden appearance of these packets along the shoreline of the Azores, said that the toxic products in question are used for chemical contamination by the military and should by no means be touched, handled, or swallowed by anyone.

Yesterday the Azorean Office of Civil Protection [SPCA] joined the archipelago's naval authorities in cautioning the people not to handle the small plastic bags that may come into their possession, and urged the inhabitants of that autonomous area to inform the naval authorities of the possible appearance of any subsequent packets.

It is almost certain that the packets found in the Azores are of military origin, as asserted by a number of informative sources. And it is equally certain that the Portuguese Armed Forces do not use this kind of product, and that it is therefore necessary to determine which ships abandoned or lost the packets in the sea in an area where maritime traffic is most intense.

According to our DIARIO DE NOTICIAS correspondent in Ponta Delgada, the contents of the packets caused the death of a cat in the village of Nordeste in Sao Miguel; the cat had come into contact with one of the 11 packets washed ashore near this village. It is of particular note that the packets contained no identification.

Investigation Continues

90WN0107B Lisbon DIARIO DE NOTICIAS in Portuguese 18 May 90 p 26

[Text] About 10 months ago, military packets containing toxic products to be used in the event of chemical warfare arrived for the first time in the Archipelago of the Azores, a portion of the product even being used as bait by a fisherman on the Island of Flores.

As already mentioned, the first decontamination kits to be used in the event of chemical warfare involving the Azores were discovered about 10 months ago; this was revealed yesterday to DIARIO DE NOTICIAS by a member of the Azorean Naval Command.

According to Commander Andrade, one of the officials of that command, the naval authorities were not informed of the arrival of the packets "inasmuch as the individuals involved had hidden the packets on their premises and had not advised the authorities of that action."

The same informant asserted that the packets that had arrived 10 months ago in the vicinity of the Island of Flores had been "used by one of the islanders as fishing bait after the contents were emptied."

"To date, 18 packets containing defense kits have emerged at various intervals," said the fleet commander. "In addition to those found near Flores, packets have appeared in Graciosa and, now, in Sao Miguel."

Commander Andrade also disclosed that the Azorean naval authorities were not aware of the events unfolding in Flores "until the matter appeared in the news media."

Packets Not of Portuguese Origin

Meanwhile, a member of the Army General Staff told DIARIO DE NOTICIAS yesterday that the packets found in the Azorean Archipelago do not belong to the Portuguese Armed Forces.

The same official said that "the Portuguese Army uses M-258 chemical warfare decontamination kits similar to those found in tha Azores but that there were none missing from the Army's stockpile."

According to the same official, the Portuguese Army had sent the Azores three kits of that type to be used for decontamination instruction in the various islands but

said that "these kits have no connection with the events occurring in the Azorean Archipelago."

Inquiry Likely

Fernando Real, minister of environment and natural resources, told DIARIO DE NOTICIAS yesterday that "the regional authorities will make an effort to trace the origin" of the toxic packets found in the archipelago.

That member of the executive branch told our newspaper that "the Azorean authorities are now in possession of all of the elements of the matter" and have taken all necessary measures to alert the people.

Fernando Real stated that "the packets contain medicinal products and are manufactured in the United States, although they are distributed by various units of NATO."

The minister said that the packets "were apparently washed ashore, particularly near the village of Nordeste on the Island of Sao Miguel, and that they are medicinal products used in the treatment of skin problems resulting from burns caused by chemical warfare."

An official source in the Azores explained that the packets are composed of "two reagents used with compresses" and are dangerous "if handled individually because, used in conjunction, they have a prophylactic effect."

The same source stated that the kits contain a liquid and a powder that must be mixed to produce the desired effect.

The minister of environment also asserted that the packets "have already been accounted for and are being destroyed through incineration."

Authorities Investigating

An official source contacted by this newspaper advised that the naval authorities will make an effort to identify the packets with the assistance of the NATO forces, which possess a specific type of identification equipment whose precise origin is not known.

This informant confirmed the firsthand information obtained yesterday by DIARIO DE NOTICIAS, according to which the packets containing toxic products are of U.S. origin. However, according to LUSA, Commander Andrade "will have great difficulty determining the circumstances in which the packets were launched into the Atlantic."

The naval commander asserted that "the packets appear to have been in the sea for a long time and were probably washed back and forth by the currents."

One of the hypotheses under consideration is that a container had possibly fallen into the ocean at a depth at which it no longer resisted the atmospheric pressure, and that the container had broken open, launching the toxic products into the water. In any case, it appears that the packets were carried by the currents from east to west.

SPAIN

Cost of Industrial Waste Clean-Up Viewed

90WN0128A Madrid ABC in Spanish 6 May 90 pp 76-77

[Report by Margarita Diaz: "Spain Choking on Tons of Dangerous Toxic Waste"]

[Text] Madrid—Only 23 percent of the dangerous toxic waste produced in Spain is treated in any way to reduce its impact on the environment. In 1989, 1,708,400 tons were produced, of which no more than 400,000 were properly processed. Spanish industry has just three years to set its clock by European time. We are talking about a deadline for an "environmental reconversion" whose cost is estimated at more than a trillion pesetas. In order to pave the way for this effort the Institute for International Research has organized meetings of experts and managers in Madrid on 8 and 9 May and in Barcelona on the 29th and 30th.

"Industrial-waste management in Spain is in its infancy," says Carlos Martinez Orgado categorically; he is the director general of the Management Area at the Environment Agency (AMA) of the Madrid Community. This is the case even though we have had a Basic Law of Dangerous Toxic Waste since 1986 and a code (1988) that provides for fines of up to 100 million pesetas and, should it be necessary, the closure of the offending facility. "In spite of the law, monitoring has at times been inadequate, and the fines very light. It was cheaper to pay the fine than to manage the waste properly," explains Luis Otero, the director of projects at the Cerda Institute in Barcelona and a specialist in the management of contaminated sites.

Complaints to the EEC

We found a flagrant case of failure to comply with the Community's environmental law in Inquinosa, whose plant in Sabinanigo (Huelva) pollutes a large area by discharging toxins into the Gallego River. All environmental groups in Aragon have denounced this pesticide plant, and the case is currently before the Court of Justice of the Community; it would thus not be surprising if this became the first sentence handed down against Spain within the framework of the "12." But defending nature is not all that is involved. Our country has accumulated a total of 57 infraction procedures in Brussels and sooner or later will have to answer for them, although not all of them have to do with toxic waste.

According to a study by the Ministry of Industry, this environmental reconversion will cost Spanish industry more than a trillion pesetas. "If companies don't get more of a move on," warns Luis Cordero, the head of the Projects Department at ECOCONSULT, "a lot of them

are going to have to shut down in 1993, not because they want to but because they will be forced to." There is a National Plan for Dangerous Toxic Waste whose goal is to process 60 percent of the waste that our industry generates by 1993. In light of the experience of other countries, estimates are that we cannot do better in the time remaining. In order for the plan, which will cost some 62 billion pesetas, to be set in motion, a national enterprise in charge of running it must be established.

The enemy to be defeated can have a solid, sludge, liquid, or gas form. Most of the time it is the result of an industrial activity, and owing to its characteristics and composition it deserves to be described as "dangerous and toxic." By itself or in combination with other elements it can be explosive, combustible, inflammable, an irritant, noxious (with effects of limited seriousness), poisonous (serious, acute, or chronic effects, including death), carcinogenic, corrosive, infectious, or an environmental toxin (an immediate or delayed effect on the environment).

On top of these "virtues" some of these products are bioaccumulative, in other words, not very biodegradable; thus, they remain present in the environment or in living organisms and in this way enter the food chain. This is the case with many heavy metals (such as mercury, cadmium, or arsenic), organochlorines (organic matter with chlorine atoms), or the famous PCB's (polychlorinated biphenyls).

Heavy metals are so potentially dangerous that in 1989 the mercury- and cadmium-free batteries that Tudor makes won the INI's [National Institute of Industry] national environmental prize in its category, and just 10 days ago the company earned a special mention because it made the finals of the European Commission's competition to identify the "most environmental" companies in the "12." The total elimination of these metals in batteries will mitigate problems of buildup, inasmuch as billions of batteries are sold and thrown out with household refuse.

Under certain conditions and in the presence of oxygen, organochlorines and PCB's give rise to dioxins, which are highly toxic substances that first left their calling card in Seveso, Italy. Until then the danger from them had gone unnoticed. The risks that certain wastes may entail are still not well known enough, as the Basil Convention, which was signed in March 1989 by 34 countries, including Spain, admits. Of the wastes that have been catalogued, carcinogens are the most numerous, followed by those that cause neurological disturbances.

The three industries that are most active in the production of dangerous toxic waste are the chemicals industry, which accounts for 30 percent of them; paper and cellulose, 27 percent, and metal processing, 23 percent. Catalonia and the Basque Country are the communities that generate the most toxic waste. "The pressure that is put on industry will lead to the proper treatment of its wastes. Many industries aren't even aware that they're creating problems with them, and no one, except perhaps the multinationals, voluntarily spends money on this area," says Carlos Martinez Orgado.

Three Treatment Systems

Incinerators are one of the three systems most commonly used to process waste. The problem, however, is that Spain has none, as their cost is estimated at 3.2 billion pesetas. The answer? Send our waste to be burned in plants in France or Great Britain, and until recently in the North Sea too. The other two systems are physical-chemical treatment plants (of which we have two, in Valdebebas, Madrid and the other in Bilbao) and secure repositories, of which there are three: San Fernando de Henares (Madrid), Asturias, and Zaragoza.

Fernando Garcia Rivero, the general manager of the National Cellulose Enterprise (ENCE), notes straightaway that "this industry has gotten very bad environmental press, unjustifiably so in relation to its 'harmfulness.'" He acknowledges, however, that in the manufacture of cellulose the bleaching of the paper pulp produces an aqueous effluent with organochlorine compounds. "And at certain stages of the process these produce minimal amounts of dioxins. But we must not forget that incinerating urban waste or the exhaust from cars produces an enormously greater amount of dioxin."

Almost 70 percent of industrial waste can be recycled as secondary raw material. This is what the guidelines of the European Community are after, and the Ministry of Public Works and City Planning is now applying them in making use of coal and steel slag to build embankments and roadbeds. In addition, a year ago in San Ciprian (Lugo) the Spanish Aluminum Industry (INESPAL) started up a pilot plant that recovers the alumina dust which used to pollute the countryside by covering plants and which yields special aluminas that are used in other, nonmetallurgical applications; the plant will be at full production in 1991. This project was another finalist in the EEC competition because of its "clean technology," as was the General Motors plant in Figueruelas (Zaragoza). It received a mention because of the overall treatment of its wastes, part of which it recycles to earn some 60 million pesetas a year.

Wastes are a difficult problem for a country that has just joined the club of industrialized nations, as the saying goes. It is, moreover, a serious problem, because the Single Market, which is just around the corner, will demand that we update our antiquated production systems, and this will mean major expenditures that many companies cannot afford.

[Box, p. 76]

Chemicals and Paper, the Sectors That Produce the Most Waste

The chemical and paper and cellulose industries produce more than half of the waste described as toxic and dangerous, as we can see from the following table:

Toxic Waste Generation

Industry	Percent
Chemical (chemicals, pharmaceuticals, farm products, and plastics)	30
Paper and cellulose (pulp, paper, cardboard, graphic arts)	27
Processed metals (finished metal goods, tools)	23
Basic metals (iron and steel, smelting, boilermaking)	9
Textiles (cotton, wool, artificial and synthetic fibers)	3
Leather, footwear, and garments	3
Foodstuffs, beverages, and tobacco	2
Lumber, cork, and furniture	1
Nonmetallic minerals (glass and ceramics)	1
Electrical and electronic components	1

Generation of Dangerous Toxic Waste by Communities

Community	Amount
Basque Country	263,000 metric tons
Cantabria	22,300
Navarre	29,000
La Rioja	13,750
Aragon	98,650
Catalonia	458,000
Galicia	43,850
Castile-Leon	116,150
Madrid	148,000
Castile-La Mancha	35,750
Valencia	155,950
Extremadura	22,700
Murcia	17,500
Andalusia	167,650
Balearic Islands	19,000
Canary Islands	26,850
Total	1,708,400

How To Reclaim Polluted Sites

"The danger that a contaminated site poses is millions of times greater than any waste-management facility," says Luis Otero, the projects director at the Cerda Institute in Barcelona. "Soil pollution can damage the health of citizens (through the water supply and even by direct contact with the soil in working or playing with it), the economy (the cost of alternate water supplies, a tarnished tourist image), and the environment in general (flora, fauna, and air pollution). For example, a liter of used automotive oil, when dumped into the ground, could contaminate a million liters of underground water."

The cost of cleaning up contaminated soil ranges from 3,000 to 20,000 pesetas a ton, not including the necessary preliminary studies. This could be a good reason to think henceforth about prevention rather than cure. The techniques that are employed nowadays to clean up polluted soil can be summarized thus:

—"In situ," in other words, without excavating the soil, by washing, the injection of inerting materials, treatment with biotechnologies, etc

—On location, using equipment brought to the site to treat the excavated soil, which is later redeposited. There are several techniques, some of them using mobile units: incineration, washing, chemical or biological treatment.

—Send the soil to a centralized plant: incinerators, secure repositories, etc.

—Cover the contaminated site or isolate it laterally with barriers

—Control the flow of water at the site

"The adverse environmental impact of several contaminated sites can be enormous, because there are areas in which there has been uncontrolled dumping, whose hydrological features make them veritable 'sieves,' and that are located next to highly vulnerable targets (aquifers, homes)," explains Luis Otero. "This would not happen with secure repositories for dangerous toxic waste, because by law they must have a thick coating of clay and insulating layers" to prevent any leak, as well as coverage and rainwater control systems and collection networks. Moreover, they cannot be built in hydrologically sensitive areas. The cost of a secure repository ranges from 385 to 600 million pesetas.

'No Danger' From Vandellos-2 Nuclear Power Station Incident

LD0807171490 Madrid in Spanish to Europe 1400 GMT 8 Jul 90

[Text] The World Information Service on Energy [WISE] says that the incident that occurred early this morning at the Vandellos-2 was due to overworking the nuclear power station. The incident at the Vandellos Power Station occurred at just after 0730 [0530 GMT], when an escape of steam was detected in the primary circuit inside the power station's containment building.

The Office of the civil governor of Tarragona has released a communique calling for calm among the population. A spokesman for the Nuclear Safety Council said that the situation will be resolved in a few hours and that there is no danger. The nuclear committee of the town of La Ametlla de Mar in Tarragona Province has reported that it has not detected anything abnormal on the meter it has in the town hall. The Vandellos incident has prompted the implementation of PENTA—the Tarragona Nuclear Energy Plan—and the assembling of the emergency room of the Nuclear Safety Council under its president, Donata Fuejo. Spokesmen for the council have confirmed that the situation is not dangerous and that no leak of radiation to the outside has occurred.

As a result of this leak at the Vandellos-2 Power Station, an orderly shutdown of the reactor was started, and at around 1330 [1130 GMT] the power station was disconnected from the national electricity grid.

The Civil Governor's Office added that a light increase in the level of radioactivity has been detected inside the containment building, but does not prevent staff from entering the power station.

'Dangerous Incident' at Vandellos Nuclear Power Plant

LD0807170390 Madrid Domestic Service in Spanish 1600 GMT 8 Jul 90

[Text] We now have further details on the incident that occurred this morning at the Vandellos-2 Nuclear Power Station. RNE [Spanish National Radio] in Tarragona:

[Unidentified correspondent in Tarragona] [words indistinct] of the environmental organization WISE—World Information Service on Energy—has described today's incident at the Vandellos-2 Nuclear Power Station in Tarragona province as a potentially very dangerous incident, although (?he) pointed out that the radioactive contamination meters that this organization has in Catalonia have not detected a level of radioactivity above what is allowed by Spanish legislation. According to WISE, the incident at the nuclear plant was caused by the overworking of the power station since the fire at Vandellos-1 last October. According to WISE, since then, Vandellos-2 has been operating above its nominal capacity. Meanwhile, a member of the antinuclear committee of La Ametlla del Mar, a town close to the power station, said this afternoon that a technician from Vandellos-2 had told them that the valve that caused the incident had not been working properly since last night.

As we have reported previously, the incident at the power station occurred at about 0800 [0600 GMT] this morning, and the causes of it are not known. A water leak from the primary cooling circuit occurred. Both the management of the power station and the Office of the Civil Governor of Tarragona have said that no leak of radioactivity to the outside occurred because the leak was inside the containment building, the building which houses the reactor and which is completely isolated. The incident prompted the Tarragona Nuclear Emergency Plan—PENTA—to be implemented at its prealert phase.

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