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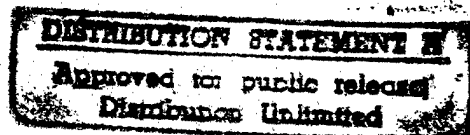
JPRS 82802

4 February 1983

Worldwide Report

ENVIRONMENTAL QUALITY

No. 385



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4 February 1983

WORLDWIDE REPORT ENVIRONMENTAL QUALITY

No. 385

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STUDY UNDER WAY TO FIND SOURCE OF PEEL INLET POLLUTION

Perth THE WEST AUSTRALIAN in English 17 Nov 82 p 5

[Text]

A MASSIVE research programme is now underway to find an answer to the pollution problems of the Peel Inlet—but that answer could still be a long way off.

Extensive studies of weed and bacteria growth in the estuary have blamed fertiliser run-off from farms as the major cause of the problem.

In high rainfall years, up to one third of the fertiliser applied to some farms in the Harvey River catchment area has leached into the estuary.

Instead of feeding the crops for which it was intended, the phosphorous from this fertiliser had nourished waterborne weed, algae and bacteria in the Peel Inlet and Harvey Estuary.

According to the Department of Conservation and Environment, too much phosphorous has poured into the estuary for the past 20 or 30 years for there to be any simple or immediate cure.

Farmers in the area have been told that they are losing \$100,000 worth of superphosphate a year into the estuary.

During the winter of 1981, about 110 tonnes of phosphorous—equivalent of 1200 tonnes of superphosphate fertiliser—found its way into the estuary from the Harvey River and Mayfield drain.

The programme to find a solution involves several government departments, the CSIRO, the WA Institute of Technology, the University of WA and fertiliser manufacturer CSBP.

It involves studies of different types of soil to determine how quickly phosphorus is leached and to identify the routes and mechanisms of phosphorus movement through the soils.

Experiments are underway to develop more efficient fertiliser application techniques.

CSO: 5000/7527

FACTORIES FORCED TO STORE TOXIC WASTE AS DUMP SITE FILLS

Brisbane THE COURIER-MAIL in English 16 Nov 82 p 13

[Article by Andrew McKenzie]

[Text]

Factories may be forced to store large quantities of toxic liquid waste on their own premises in about six weeks.

The Brisbane City Council health committee chairman, Alderman O'Sullivan, said yesterday the Willawong liquid waste treatment plant might accept only greasetrap waste from the end of this year.

He said the plant had almost reached its capacity and the council had told the State Government that Willawong would soon accept only the organic greasetrap waste.

"If I have my way, it will close to all but organic waste at the end of this year," he said.

Alderman O'Sullivan said this would force companies which generated the waste to store it on their own premises until the Government came up with an alternative dump.

He said this would require several changes of state legislation but it had to be done.

"They tell companies to store their own waste in

Sydney and Melbourne, so I don't see why similar laws should not prevail here," he said.

He said the Government management consultant's report suggested a temporary treatment plant at Luggage Point until a permanent site was found. He said the council still had not fully assessed this proposal.

"But we will not allow another Willawong style operation on the shores of Moreton Bay," he said. "The council is anxious to ensure there is no possibility of seepage into the bay."

The closure of Willawong may lead to many south-east Queensland companies storing large amounts of dangerous liquid wastes on their premises for some time before a new treatment plant comes into operation.

They would include flammable wastes such as solvents, sludges, and waste oils; toxic metal wastes containing mercury, arsenic, and lead; suspected carcinogenic wastes such as poly-chlorinated biphenyls (PCBs); toxic wastes such as pesticides; and caustic solutions.

VICTORIA AT ODDS WITH COMPANY OVER CYANIDE USE IN MINING

Melbourne THE AGE in English 16 Nov 82 p 5

[Article by David Uren]

[Text]

The Victorian Government has refused CRA permission to test a controversial gold mining technique which would use cyanide in underground rivers near Bendigo.

The company has been asked to prepare an additional report to meet objections raised by the Government's technical advisor on the project, Dr Michael Knight, from the University of New South Wales.

Dr Knight's report, which was leaked to 'The Age', said the solution mining technique could be used safely and that CRA had the research and development capacity to do it.

But he said, it required additional research and safeguards to those contained in the company's preliminary environmental report, which was submitted to the Ministry of Conservation in early September.

The ancient river beds, 100 metres beneath the ground, are rich in gold. The solution mining proposed by CRA involves pumping a cyanide solution down to the gravels where it dissolves the gold. It is then pumped out another bore hole.

The proposal has raised fears of local farmers that dangerous chemicals may escape from the mining area and contaminate their bore water.

Dr Knight said one of the most serious problems with using cyanide was the release of cyanide gas. This possibility was not mentioned in the CRA preliminary environment report.

This is not a hazard while the chemicals are underground, but if there was a leak from the mining area the gas could be given off at concentrations thousands of times the safe maximum.

Cyanide breaks down into

harmless compounds if mixed with an alkali, and CRA is planning to inject an ammonium solution around the edge of the mining zone as a buffer against any escape.

Dr Knight said the alkali needed to be stronger than the company was planning, but he said however, that company officials had told him this would make the recovery of gold uneconomic. He said CRA needed to demonstrate that any leakage could be safely controlled and rectified.

Dr Knight said CRA's preliminary environment report did not leave him convinced that there would be no such leakages. He said the company had yet to establish that the surrounding rock was impervious.

He said CRA officials had admitted to difficulties in establishing the detailed locations of fracture zones and faults in the surrounding rock.

Nor had CRA demonstrated a satisfactory understanding of the chemical nature of the deposit. Although CRA had said that the gravels "were fairly homogeneous", Dr Knight said this would not be true of their chemistry.

Dr Knight said it was as important to consider the effects of the ammonium on the environment as the cyanide. He said the use of ammonium in solution mining in Texas had been banned because of its effects on water quality. He said the company should be required to prove that it could use ammonium without leaving dangerous nitrogen compounds in the soil or else use a safer chemical as a buffer.

CRA's special projects director, Mr Bill Davis, said yesterday that Dr Knight's criticisms were well balanced and he was confident that they could be answered with further research.

CONTROVERSY ERUPTS OVER EFFECT OF EMISSIONS IN LATROBE

Melbourne THE AGE in English 16 Nov 82 p 3

[Article by Rosslyn Beeby]

[Text] The Environment Protection Authority has rejected information from its agency in the Latrobe Valley alleging that a factory is emitting high levels of a cancer-causing chemical.

The EPA claims information released by the Latrobe Valley Water and Sewage Board, a delegated EPA agency, requires further information.

The information, which was revealed by a senior board official at a recent local government meeting in the Latrobe Valley, alleged that benzene emissions from the Australian Char Plant in Morwell were four times that recommended by world health standards.

Benzene, a hydrocarbon obtained from coke-oven gas, is listed by the International Agency for Research on Cancer, as a carcinogenic, or cancer-causing, chemical.

An EPA spokeswoman disagreed with the board's conclusion. She said a series of EPA computer calculations had shown ground level concentration of benzene outside the plant theoretically would be .01 micrograms per cubic metre. This was 1/10th of the EPA limit for benzene emis-

sions, which was .10 micrograms per cubic metre.

She said the board's information was based on two sets of calculations — a computer simulation of emissions and several readings taken at a point 600 metres west of the char plant.

The EPA had accepted the readings but the computer calculations were inappropriate because the simulated conditions did not match those at the char plant, she said.

The EPA had not sent air quality officers to Morwell to check emissions from the plant but had relied on mathematical calculation to test the board's claims, she said.

The general manager of Australian Char Pty Ltd, Mr Neil Scott, has denied that compounds emitted by the Morwell plant contravened EPA air policy regulations. There was no sign that emissions from the plant were injurious to health, he said.

A Morwell councillor, Keith Hamilton, said he believed evidence existed which substantiated claims of high carcinogenic emissions from the plant.

Councillor Hamilton, a lecturer in applied science, said there was

no doubt that coal burnt at high temperatures would emit cancer-causing compounds unless sophisticated technology was used to prevent their emission. The char plant did not possess this equipment, he said.

Councillor Hamilton said that as a result of a public alert concerning the suspected benzene emissions, he had been contacted by several workers at the plant who were concerned. He said he already knew of three instances of cancer among char plant workers but did not know if these had been caused by exposure to benzene.

A spokesman for the Municipal Officers' Association, Mr Bill Pym, said workers at the neighboring SEC generating station claimed they had suffered dizziness and nausea after fumes from the char plant penetrated the station's air conditioning. He said the MOA had received frequent complaints "from the late seventies onward" relating to toxic emissions from the plant.

The Minister for Conservation, Mr Walker, said he had called for an urgent report from the EPA after the State Member for Morwell, Miss Val Callister, had expressed concern over potentially high benzene emissions from the plant.

CSO: 5000/7527

HOUSEHOLDS GET MAP SHOWING RADIOACTIVE SAND 'HOT SPOTS'

Brisbane THE COURIER-MAIL in English 13 Nov 82 p 15

[Article by Bill Ord]

[Text] **ABOUT 40 Brisbane householders will get a "hot map" of their properties next week — by courtesy of the Queensland Health Department.**

The maps will define, within a metre or less, plots which could be a health hazard because they contain monazite sand with unacceptably high radiation levels.

The department will recommend the owners of these "hot properties" to dig up the contaminated material and send it — at their own expense — to the Consolidated Rutile Ltd depot at Meeandah.

There it will be stored until the department decides how to dispose of it — at the department's cost.

Radioactive

The Health Department estimates that each "hot spot" contains two to 15 tonnes of radioactive sand and dirt.

Cost of removal will depend on whether the householder digs and transports his own material or has to call in contractors.

The Health Minister, Mr Austin, said yesterday his department had received about 900 telephone

calls or letters from worried householders after the recent disclosure that sandmine tailings used for landfill, sandpits, paths and other purposes in the last 30-40 years could contain high concentrations of monazite.

This mineral contains thorium 232 which emits a radioactive gas, radon 220.

Mr Austin said about half the inquirers were told they had nothing to worry about because their sand came from clean sources.

In recent weeks, about 200 suspect properties were checked metre by metre by radiation experts. Of these properties, about 160 were given a clean bill of health. The rest will get the "hot maps".

Next week, Health Department teams will begin checking the 250 properties left on the "suspect" list.

Mr Austin said he did not anticipate any more than 40 to 50 of these would be found to contain

unhealthily-radioactive materials.

The hot spots so far discovered had radiation levels six to 10 times the normal background radiation level.

Mr Austin said this was cause for some concern but the health hazard was slight and he could see no reason why the material could not be shifted safely.

He said householders would have to bear the cost of removing the material because the State Government had no more responsibility in the matter than if the householders had bought "a dud product" of any other kind.

The Government had made no decision yet about how to dispose of the hundreds of tonnes of contaminated material.

"This is still under study but I imagine it will either be buried deep somewhere or scattered widely at sea which is, after all, where the stuff came from in the first place."

He said there was no danger of fish becoming radioactive.

LABOR PARTY OFFERS TOUGH ENVIRONMENTAL PROGRAM

Canberra THE WEEKEND AUSTRALIAN in English 13-14 Nov 82 p 2

[Article by Laura Veltman]

[Text]

A FEDERAL Labor government would use financial inducements, legislation and the full force of its constitutional powers to impose its tough new environmental policy on the States.

The policy, to be released in two weeks, features stringent safety standards for the handling and disposal of hazardous chemicals, extension of the national parks system and uniform environmental assessment procedures for new developments.

The main points are:

USE of constitutional powers over trade, commerce, trading corporations, implied national powers, powers to acquire property for any constitutional purpose and to offer grants to the States to ensure the safety of chemicals from manufacture to final disposal.

SETTING up of an environmental contaminants' authority to oversee administration by the States of licences for chemical dealers, assessing and monitoring the composition, production, transport, use and disposal of toxic or dangerous chemical wastes.

PROVISION of funds to States and territories for upgrading of the most significant natural areas of Australia to become joint federal-State national parks.

REQUIRING the States and territories to "beef up" environmental assessment procedures for new developments to uniform national standards

far more demanding than existing standards in most States.

The Opposition spokesman on the environment, Mr Stewart West, has already released the party's stand against the Gordon-below-Franklin dam scheme in Tasmania.

On rain forest logging, the policy is believed to include a proposal that the Queensland Government, in particular, would be given financial assistance to phase out an industry which employs 1600 people and earns about \$30 million annually in that State.

Labor's policy would put the onus on State and territory governments to enforce higher conservation standards.

Confirming the policy's main points yesterday, Mr West said he had obtained "expert advice from former top public servants" on the administration of the environmental contaminants authority which would be composed mainly of existing staff in the departments of health, primary industry, home affairs and environment and national development and energy.

"While we won't stand over the States on national parks, hazardous chemicals pose a major environmental problem," he said.

Accordingly, the States would be forced to conform, if necessary, to a Labor government's standards in this area using constitutional means.

The party hopes to make it financially attractive for the States to co-operate on the creation of national parks.

South-west Tasmania, Kosciusko in NSW, Fraser Island in Queensland, Coorong in South Australia, the Grampians in Victoria and the Stirling Ranges in Western Australia have been given the highest priority.

During its first term, a Labor government would aim to achieve agreement to protect one or two of these areas as national parks, and up to three more by its second term of office.

CSO: 5000/7527

PLANNING AUTHORITY PROPOSES TAX FOR PURCHASE OF PARK LAND

Perth THE WEST AUSTRALIAN in English 11 Nov 82 p 31

[Text]

HOUSEHOLDERS in Perth could be asked to pay a land-betterment levy of up to \$40 a year under a scheme proposed by the Metropolitan Region Planning Authority.

The levy would help the MRPA meet the costs of acquiring and managing land set aside as public open space or for parks and recreation.

The idea is suggested in the authority's annual report, tabled in State Parliament on Tuesday.

The MRPA chairman, Mr Ian Wilkins, said yesterday that the levy could be from \$20 to \$40 annually, depending on the level of service provided.

The levy would spread costs more evenly in setting aside large tracts of land for public open space.

At present, these costs were met from loans and from the metropolitan region improvement tax imposed on commercial land-owners, large property-holders and people with more than

one home.

Mr Wilkins said that the MRPA since its inception in 1963 had spent more than \$53 million on buying land for parks and recreation.

The Minister for Local Government, Mrs. Craig, said that the Government had been greatly concerned about the increasing cost burden in buying and managing regional open space.

"It is getting to the stage where this burden is a difficult one to be borne by government grants and the metropolitan region improvement tax," she said.

"The MRPA's land-acquisition programme is for the benefit of everybody in WA, so we ought to find a more equitable way of paying for it."

"We haven't yet worked out an appropriate way of doing this, but it is no doubt something that needs to be considered."

"I don't think that a lot of people recognise just how high are the costs of maintaining regional open space, even in its virgin state."

A suggestion that the levy could be collected by local councils on behalf of the MRPA has been criticised by the Local Government Association.

The association's vice-president, Mr Peter Willmott, said yesterday that he did not think councils would be happy about collecting revenue for a government authority.

"If you have the odium of collecting taxes, then you want to be able to spend it," he said.

CSO: 5000/7527

WORLD HERITAGE STATUS, POLITICS DOMINATE TASMANIAN DAM ROW

Melbourne Demonstration

Melbourne THE AGE in English 15 Nov 82 p 3

[Article by Tim Colebatch]

[Text]

The Fraser Government faces intense pressure in the next month to stop the Tasmanian Government building the \$460 million Gordon-below-Franklin dam in the heart of Tasmania's mountainous south-west wilderness.

The national campaign to stop the dam rose to a new level in Melbourne on Saturday when a crowd of between 10,000 and 15,000 people marched through the city demanding Federal action to save the Franklin River from being flooded.

The march was the largest protest seen in Melbourne since the days of the Vietnam War moratorium marches, and the largest Australia has witnessed on an environmental issue. It was good-humored and peaceful, and ended with a round of applause for the police, and with demonstrators signing a get-well card to Mr Fraser.

The rally was told of new moves designed to put pressure on the Government to intervene by 13 December, the day on which the World Heritage Committee will meet to decide whether south-west Tasmania should be listed as one of the world's heritage areas.

Among the moves foreshadowed:

- The leader of the Australian Democrats, Senator Chipp, predicted that the House of Representatives would be recalled next month to vote on a bill aimed at stopping the construction of the dam. Senator Chipp predicted

that the bill, moved by the Democrats, would pass the Senate within the next two weeks. This would force the House to return to Canberra to debate the bill and the Fraser Government to take sides on it. Senator Chipp said he believed Mr Fraser personally wanted to stop the dam.

- The director of the Tasmanian Wilderness Society, Dr Bob Brown, said that if the Fraser Government failed to come up with a political solution in the next month the society would go ahead with a blockade of the road works leading to the proposed dam site.

- The society will run a full-time campaign in the Flinders by-election to have voters write in "No Dams" on their ballot papers as a demonstration of support.

Unlawful

The Fraser Government is already taking deadlines from two other quarters to state its position on the Franklin dam. The bureau of the World Heritage Committee has asked for a statement of its intentions to be discussed at the 13 December meeting. In the south-west itself, meanwhile the Hydro-Electric Commission is already burning and clearing bushland to build its construction road.

Senator Chipp told Saturday's rally the Senate select committee on south-west Tasmania was likely to release its report this week. If this favored Federal intervention, as is expected, the Australian Democrats would immediately move their bill to save the wilderness.

with the workers on the site, or with the police," he said.

Dr Brown said the society was willing to continue its campaign for the eight years it would take to build the dam.

Tasmanian Plans for Heritage Meeting

Melbourne THE AGE in English 19 Nov 82 p 3

[Text] HOBART. — The Tasmanian Deputy Premier, Mr Bingham, will go to Paris next month to put the Tasmanian Government's case against the inclusion of south-west Tasmania in the World Heritage list.

The World Heritage committee is due to meet on 13 December. Its agenda includes consideration of the Commonwealth Government's nomination of the area for listing.

The Tasmanian Premier, Mr Gray, said yesterday representation had been sought for Tasmania in the Australian delegation, but Mr Bingham would go to Paris whether or not this was granted.

Legislation was introduced in the Tasmanian House of Assembly

ly yesterday to give police more powers to deal with people going into the south-west to protest against the building of the Gordon - below - Franklin hydro-electric scheme.

Under the legislation, amendments to the Police Offences Act would give police the power to arrest trespassers on private property.

At present, police may only take names and addresses.

The Tasmanian Opposition Leader, Mr Wriedt, has accused the Tasmanian Government of wasting public money on an opinion poll for the Hydro Electric Commission.

Mr Wriedt said it appeared taxpayers' money had paid for an opinion poll in other States to see how other Australians felt about the dams issue.

World Heritage Compensation Scheme

Canberra THE WEEKEND AUSTRALIAN in English 20-21 Nov 82 p 4

[Article by Peter Dwyer]

[Text]

SIGNATORIES to the World Heritage Convention of the United Nations may have to compensate Tasmania if their actions prevent the State from going ahead with its next hydro-electricity scheme.

The scheme, estimated to cost at least \$500 million, is proposed for the Franklin and Gordon Rivers in south-west Tasmania, in an area the convention is considering placing on the World Heritage List.

The listing would put an international obligation on the Federal Government to stop the scheme.

Advice to the Federal Gov-

ernment from the Attorney-General's Department indicates that Canberra may have to compensate Tasmania for abandoning the scheme.

However, it also says the Federal Government may have to seek international help if it cannot afford the cost of protecting south-west Tasmania.

The advice says: "If it were suggested that Australia did not have the necessary resources to preserve the national heritage of south-west Tasmania, there might well be a duty under the convention to seek international assistance ... and hence, a duty, for that purpose, to seek inclusion on the World Heritage List."

The bill, also backed by the Labor Party, would make it unlawful for anyone to take action which would adversely affect an area included in the World Heritage List. "We will run that through the Senate by the end of next week," Senator Chipp said. "We will force them (the House) back to sit — I feel sorry for them, they've sat 18 days in this half year — and make them come out and declare themselves."

Senator Chipp likened the flooding of the wild rivers to oil drilling on the Barrier Reef or quarrying of Ayers Rock. "I do believe that at heart Malcolm Fraser wants to save the Franklin," he said. "But he is being held back by the troglodytes of the Country Party (sic) and the Liberal Party in the Cabinet."

The Fraser Government so far

has avoided committing itself publicly to either side of the Franklin debate. It is known to have been trying to persuade the Tasmanian Liberal Government privately to abandon the scheme, apparently without success. A Cabinet Committee is considering options for special Federal assistance to Tasmania if it agrees to leave the rivers in their natural state.

If the Government accepts the Democrat bill, the Tasmanian Government, on present attitudes, would almost certainly challenge it in the High Court as beyond the Commonwealth's powers. An injunction, however, would probably halt the scheme until the High Court had heard the case and delivered judgment. Legal observers offer conflicting predictions about the likely outcome.

Plans for Blockade at Site

Canberra THE AUSTRALIAN in English 18 Nov 82 p 3

[Article by Ellen Peterson]

[Text]

SEVERAL hundred protesters will move into Tasmania's south-west wilderness area next month in a bid to halt work on the Gordon-below-Franklin dam.

The director of the Tasmanian Wilderness Society, Dr Bob Brown, said in Canberra yesterday that "a peaceful blockade" would start on December 14 unless the Federal Government acted to stop the dam.

Dr Brown said the society was confident of being able to delay work on the dam for several months despite arrests. Protesters would not resist arrest, and would not respond to any aggression.

The blockade, he said, would start immediately after the World Heritage listing of the area was formalised by the full meeting of the World Heritage Committee in Paris on December 13.

The State's Hydro-Electric Commission had moved explosives and drilling equipment into the area and had started to set up work bases.

"The wilderness is rapidly turning into a disaster zone," Dr Brown said.

"The Franklin and Gordon rivers region faces a summer

of destruction.

"The Australian Government has an obligation now before that ratification in Paris to stop the dam. The Attorney-General's advice to the Prime Minister has been that not only does the Australian Government have the power to stop the dam but that it has an obligation to do so under the World Heritage Convention."

Dr Brown said the blockade move was taken with "troubled hearts", but the society had held off for four months knowing that work was proceeding.

Protesters would "lie, sit and stand" on the commission's work sites in order to prevent work.

"We are keeping close negotiations with the police force and we understand that they will have to arrest people who are on Hydro-Electric Commission territory," he said.

"We go there expecting that the Tasmanian authorities will act to arrest large numbers of people, and we will not resist."

Dr Brown said a panel of legal advisors would be available to protesters both on the dam site and in Hobart.

"We don't have an argument

Option

South-west Tasmania was placed on the National Heritage List by the Federal Government in 1981 at the request of the then Tasmanian Labor Premier, Mr Doug Lowe.

Mr Lowe then requested that the Federal Government nominate the area for inclusion on the World Heritage List, which it did on November 13 last year.

The advice to the Government suggests that by seeking the world nomination it gave itself the option to ask for international assistance, if necessary, to pay for the protection of south-west Tasmania.

It could also have fought for the protection of south-west Tasmania under the National Heritage Listing alone, but if successful, may have been forced to foot the total compensation bill.

Dr Bob Brown, the director of the Tasmanian Wilderness Society, which supports the international listing, claims the Federal Government has been obliged to intervene and stop the scheme since the world nomination was made.

He said: "Under the World Heritage Convention there is an obligation on member nations to protect areas once they are recognised as valuable.

Liberal's Political Concerns

Melbourne THE AGE in English 20 Nov 82 p 16

[Article by Simon Balderstone]

[Text]

CANBERRA. — The Liberal Party, particularly a section in Tasmania, is becoming increasingly concerned about the potential adverse electoral effects of a failure by the Federal Government to save south-west Tasmania from hydro-electric development.

Elements of the party are arguing strongly that a failure to arrange a compromise with the Tasmanian Liberal Government or to intervene will cost the party the fifth Senate seat in Tasmania and many mainland votes in both Federal houses.

A survey taken by the Tasmanian Hydro-Electric Commission shows a very high percentage of the Melbourne population is against the Gordon-below-Franklin dam, and a lower but still significant portion of the Sydney population is anti-dam. Both areas are crucial electoral regions.

Most concern in the party centres on the fifth Senate seat in Tasmania, which has a tradition of electing independent Senate candidates.

In 1977, no independent was elected, but the main reason, according to Liberal Party sources in Tasmania, was that the independent vote was split, allowing John Watson to gain the fifth seat for the Libs.

However, the Australian Democrats would be almost certain to win the fifth seat in the next election if the Federal Government failed to save the south-west.

The Democrats' candidate could be the Tasmanian Democrat MP Dr Norm Sanders — a very vocal anti-dams campaigner. He would almost certainly defeat the holder of the third position on the Liberal ticket, Senator Brian Archer, who is, coincidentally, chairman of the Senate inquiry into south-west Tasmania.

Senator Archer was second on

the ticket in 1977, but now has Senators Walters and Watson ahead of him on the ticket. But if the Federal Government did act to save the area, it would sweep the carpet from under the Democrats candidate's feet, by leaving the candidate with almost no issue on which to campaign.

In the House of Representatives, fears by Tasmanian Federal MPs that anti-dam action by Canberra would cost them their seats appear to lack weight when it is considered that pro-dam voters would have almost nowhere else to go.

Sections of the Tasmanian Liberal Party say that pro-dam electors would not change their vote to the ALP, which has a strong Federal anti-dam policy, or to the Democrats, which has led the Federal fight against the dam. Both parties would support any Federal moves to preserve the wilderness area.

DROUGHT CONTINUES TO WORSEN; CROP LOSSES REPORTED

Grain Losses in Victoria

Melbourne THE AGE in English 13 Nov 82 p 13

[Text]

The State Government announced yesterday that the cereal grains harvest, starting soon, would be Victoria's lowest for almost 40 years. At the same time, the Government declared four new drought areas and extended two others.

The Minister for Agriculture, Mr Kent, said Department of Agriculture forecasts of grain production were: wheat 400,000 to 420,000 tonnes, barley 45,000 to 55,000 tonnes and oats 60,000 to 70,000 tonnes.

The total production would be less than 550,000 tonnes, the smallest harvest in Victoria since 1944, and less than one-fifth of last year's production.

After the lowest winter and spring rainfall totals on record, the forecasts were not surpris-

ing. The pattern of extreme frosts and low rainfall had frustrated the best efforts of farmers, Mr Kent said.

The newly declared drought areas are:

- Alberton — all parts east and south of the South Gippsland Highway, plus the parish of Alberton West and those parts of the parishes of Yarram Yarram and Devon which are south of the Yarram-Morwell road.

- Bairnsdale — the non-irrigated areas of the west and south ridings.

- Glenelg — east of the Powers Creek-Dergholm roads, Dergholm-Casterton roads and Casterton-Portland roads.

- Yea — parishes of Wharregarwen, Killingworth, Windham and the parish of Yea north of the Whittlesea-Yea road and the Dairy Creek road.

Situation in Queensland

Canberra THE AUSTRALIAN in English 16 Nov 82 p 3

[Text]

THE drought is continuing to worsen in Queensland, where almost one-third of the State has been declared drought-stricken.

The State Minister for Primary Industry, Mr Ahern, said there was little more that could be done by the Government, which was providing a wide range of subsidies and assistance to affected graziers.

However, State Cabinet asked Mr Ahern yesterday to consider making an inspection tour of the arid outback.

The Cabinet added two more shires

to the drought-declared list, which now totals 24 of the State's 134 shires. Another 20 are being considered.

Mr Ahern said parts of south-west Queensland had not received rain since 1979.

"In terms of money lost, this drought is one of the worst we have faced," he said.

"Cabinet has asked me to consider visiting the drought-affected areas.

"If I go it will be to look, see and talk, but I do not know what else can be done by the Government."

RESEARCHERS CALL FOR REDUCTION OF DIOXIN IN HERBICIDES

Canberra THE AUSTRALIAN in English 17 Nov 82 p 3

[Article by Fia Cumming]

[Text]

THE National Health and Medical Research Council has recommended that the maximum levels of dioxin — one of the most toxic substances known to man — in herbicides widely used in Australia be decreased by a factor of 10.

Since 1975 the maximum recommended level of dioxin, a contaminant in the herbicide 2,4,5-T, has been 0.1 milligrams a kilogram.

The council has consistently maintained that 0.1 parts in a million was a safe level and that there was no evidence to justify either stricter controls on dioxin, or banning 2,4,5-T.

But after scientific evidence linking the chemical, which is used throughout Australia, with cancer and birth defects, it has been banned in Sweden, West Germany, Italy, Holland and Denmark and was temporarily banned in the US.

In announcing the new recommended levels, the council said there was still "no substantiated scientific evidence" to suggest the herbicide, when used as directed, posed a risk to health.

In July this year the policy-making commission of the European Economic Community recommended a selective ban on 2,4,5-T and recommended that the maximum dioxin level should be cut to 0.01 mg per kg immediately and 0.005 mg per kg as soon as production methods made this possible.

The Victorian Government has reduced the maximum dioxin level in 2,4,5-T used in Victoria to 0.01 mg per kg, although the council at that time approved levels up to 0.1 mg per kg.

In a brief statement, the council said: "The recommendation (was made) in the knowledge that improved analytical capabilities had made it possible to detect with accuracy much lower levels of TCDD in technical grade 2,4,5-T than had been possible previously."

Damages

A spokesman for the council said the new levels were not an indication that the council was concerned with health problems associated with dioxin levels.

"It's like any undesirable substance, we just want to get it as low as possible," he said.

The council decision came only weeks after the granting of record damages to 47 Illinois railroad workers who were exposed to dioxin after a rail accident three years ago.

The workers were granted a total of more than \$50 million.

They were exposed to levels of dioxin estimated at 0.022 parts per million. They complained of dizziness, rashes, loss of memory, impotence, and breathing problems, a similar array to the problems listed by Vietnam veterans.

DISPOSAL OF PCB'S CAUSING DIFFICULTY IN WEST AUSTRALIA

Perth THE WEST AUSTRALIAN in English 20 Nov 82 p 7

[Article by Paul McGeough]

[Text]

FRESH attempts are under way to get rid of thousands of litres of lethal industrial waste stored under tight security in WA.

Efforts by the State Energy Commission to have its stocks incinerated at sea coincided with this week's order by the Public Health Department that a Welshpool company cease burning the oils in a high-temperature furnace.

The oils — polychlorinated biphenyls (PCBs)—have been used in the electrical industry for decades, but since 1960 they have been found to be one of the worst threats to the environment and to health.

Three weeks ago the State Government said that the Welshpool service, which in the past had failed to satisfy the SEC, was operating to the satisfaction of the Public Health Department, particularly its clean-air section.

The incinerator, operated by Stephenson and Ward Incinerator Company, was specially designed and tests had shown that it was an environmentally safe method of disposing of PCBs.

Order

However, when

North-West MLC Peter Dowding asked a supplementary question this week it was revealed that nuisance, smell and acid emissions from the furnace had prompted an order to cease the burns.

Yesterday the Commissioner of Public Health, Dr J. C. McNulty, said that the furnace had not been releasing indestructible PCBs into the atmosphere and the furnace was not a risk to people living in the area.

However, the PHD had been notified of public complaints a couple of weeks ago and after investigations the incinerator had been immediately shut down.

The furnace had been operating for about two years and had been monitored at all times by the PHD, Dr McNulty said. It was the prerogative of the Pollution Control Council to approve such an incinerator and the Department of Conservation and the Environment was represented on that council.

Accident

The worst recorded accident involving PCBs happened in Japan in 1968 when more than 1000 people suffered poisoning from a consignment of con-

taminated rice-bran oil.

They suffered acne, browning of the skin and nails, eye discharge, swollen eyelids, transient visual disturbances and gastroenteritis with jaundice. Their children were also affected.

The SEC and the mining industry have been the greatest users of PCBs in WA.

An indication of the potential threat in the oils is the manner in which the SEC deals with them: 3600 litres is stored in an impervious concrete pit inside a locked Wattleup building surrounded by a security fence.

Only three SEC officers can authorise entry to the building.

The Chief Secretary, Mr Pike, representing the Minister for Health, Mr Young, told the Legislative Council three weeks ago that the incinerator ship MV Vulcanus would not be brought to WA during a visit to Australian waters next month.

But an SEC spokesman said yesterday that the ship was expected to call at several Eastern States ports and negotiations were under way between the electricity supply authorities of Australia and the Department of Home Affairs for a permit to have the ship burn off Australia's stored PCBs while on the high seas.

The SEC still has about 23,000 litres of the PCB oils in use, as a fire-resistant cooling agent in transformers. This will eventually have to be destroyed.

CSO: 5000/7528

CONTROVERSY OVER KERRI TREE CUTTING IN SHANNON RIVER BASIN

Perth THE WEST AUSTRALIAN in English 20 Nov 82 pp 3, 5

[Text]

THE WA Government has decided that clear-felling of karri trees will continue in the Shannon River Basin.

It has come out against declaring the whole of the 599-square-kilometre basin a national park.

Plans provide for about 60 per cent of the Shannon Basin to be cut over the next 20 or 30 years.

The outcome is the result of the Government's acceptance of six of seven recommendations by the Environmental Protection Authority on karri for forest conservation and the future of the Shannon Basin, between Manjimup and Walpole.

The recommendation—not immediately approved—calls for reserves in State forests to be given the same security as A-class reserves, so that their purpose could not be changed without parliamentary approval.

The Government says it will consider this recommendation after making a decision on the System Six study, probably next year.

The Minister for Conservation and the Environment, Mr Laurance, announced the decisions yesterday when he released the reports from the EPA and a private consultant, Dr Peter Attwill, reader in botany at the University of Melbourne.

The EPA recommended A-class status for conservation and recreation management priority areas (known as MPAs).

At present the MPAs are set aside in a Forest Department working plan and the Government can change their purpose without reference to Parliament.

Critics

Conservation groups yesterday criticised the Government's decision not to immediately approve the security-of-purpose recommendation.

A spokesman for the South-West Forests Defence Foundation, Dr Beth Schultz, and Mr Neil Bartholomaeus, speaking for the Campaign to Save Native Forests, also criticised the decision to continue logging in the Shannon Basin on the "pretext" that parts of it were fire-damaged.

Hundreds of submissions to the EPA called for the Shannon Basin to be reserved as a national park.

But the EPA and Dr Attwill recommended against this.

The EPA reported that the central basin

was fire-damaged to an extent that it was not in a condition to warrant reservation.

It said that logging and rehabilitation of the damaged areas should proceed so that reserving the area could be considered again in 10 to 20 years.

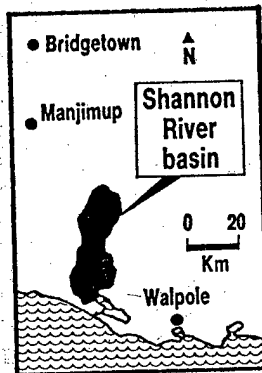
Earlier this year, a Forests Department report ruled out a total ban on logging from the Shannon Basin. It said that 40 per cent was already reserved from logging operations.

It said that reserving the whole area would have a serious effect on timber yield, long-term production planning, regional fire protection and communities in the region.

The department plans to take between 200 and 400 hectares of karri a year from the Shannon over the next five years.

The EPA received more than 500 submissions in its review of the department's plans for conserving karri forest.

The authority reaffirmed its 1976 recommendations for a system of reservations in karri forests for flora, fauna and landscape (forest sanctuaries)



and for recreation (forest parks).

Other recommendations that the Government accepted included:

- Publication of management plans for

sanctuaries and parks, making it clear that they were secure from commercial wood production.

- Restrictions on the planting of exotic tree species in the karri forest.

- More efforts to identify recreational and other values that people seek from forests, and employment by the department of more professionals in the fields of recreation, tourism, animal behaviour and ecology.

- Full implementation of the proposed south-coast national park as an essential component of the Karri forest conservation system.

- An increase in area of virgin karri forest protected from commercial felling.

Priority

Mr Laurance said that about 1800 hectares in the Beavis block and 2670ha in the Giblett block would be made management priority areas for flora, fauna and landscape. There would be no felling in these areas.

The EPA said that Beavis, Giblett and Strickland MPAs should be managed to complement the Beedelup National Park.

Mr Laurance said the Government was adhering to the Forest Department's approved working plan. The decisions meant that there would be no disruption in the timber industry.

Gradual reduction in the hardwood cut would mean a reduction in jobs over a number of years, but other jobs would become available as softwood planting increased.

A decision to make the Shannon Basin a national park would have immediately affected 200 jobs.

Only about six per

cent of the Shannon had been cut in the past five years.

A third of the total karri forest would be preserved from logging. The remainder would be logged over a long period and regenerated under a plan that would ensure that such areas were not cut again for 100 years.

Dr Schultz said she was agreeably surprised that Beavis and Giblett would become conservation reserves.

"That is a big win," she said.

She was also delighted about the implementation of recommendations on the south-coastal national park.

But she said she thought that the proposal for reserves to be given A-class status should be implemented immediately, not at some future date.

The big worry was what happened in the interim. There should be a moratorium on logging in this period.

The Government had not produced figures on what area of the central Shannon was fire-damaged.

"Our figures say that it could be as low as 1300ha" she said.

"If this area is not suitable for a national park why is it suitable

There should be a moratorium on logging in the Shannon because of the downturn in the industry, she said.

'Valid'

Dr Shultz said: "If we have secure reserves big enough to be ecologically viable, timber production for local use is a valid use of forests.

"We are not the only ones to have a claim on the forests."

Mr Bartholomaeus said that the CSNF was delighted with the EPA's recommendations on conserving karri forests but it disagreed with the decision not to reserve the Shannon basin because of fire damage.

CANBERRA SHOWING EFFECTS OF LACK OF ENVIRONMENTAL LAWS

Canberra THE AUSTRALIAN in English 22 Nov 82 p 2

[Article by Fia Cumming]

[Text]

CANBERRA, often criticised as being a sanitised show-piece, is not as clean as it appears: it is the only place in the nation without environmental laws and the effects are beginning to show.

The crisp, clear exterior that impresses tourists and delights residents, is not protected by any legislative controls on radioactive substances, hazardous chemicals, transport of dangerous goods, or on air, water or noise.

Environmental protection legislation is said to have been given "top priority" for five years. But the first law, against air pollution, although formally approved, has been with the Minister for the ACT, Mr Hodgman, for more than six months.

In May this year a tanker carrying a toxic chemical overturned on the Barton Highway. Without warning, the drums of chemical began to explode, and bystanders were exposed to toxic fumes. Seventy-six people were affected and treated in hospital.

The owner of a riding school

near the industrial estate at Hume, outside Canberra, claims he has lost 50 horses in three years because his water is chemically contaminated.

Other people have reported cattle that went crazy, lost calves, bore defective calves, and lost hair. According to a veterinary surgeon, the animals showed classic symptoms of arsenic poisoning.

The Yarrowluma Shire Council has complained for 22 years about smoke pollution from a plant, run by Integrated Forest Products, a division of APM.

'Justified'

Mr Bernie Morrison, who runs a tourist attraction close to the timber plant, denies claims that the smoke has been greatly reduced in recent years, or that neighbors are notified before burning, including the burning of treated timber, is done.

Mr Hodgman is keen to attract industry to the territory because the capital has been hard hit by cuts in Federal Government spending.

The Hume industrial site cannot be seen from Parliament House, but it is only 10

kilometres away, on the other side of a hill.

The NSW State Pollution Control Commission monitored air pollution in July last year and said complaints were "entirely justified".

Under NSW law, the company concerned could have been fined up to \$10,000.

The main fight is over a plan by Koppers (Aust), a subsidiary of BHP, to move its timber processing plant from Bungendore, just over the border in NSW, to the Hume estate.

The federal MP for the ACT, Mrs Ros Kelly, the Conservation Council of the ACT, and the ACT House of Assembly standing committee of management have expressed concern about the risks of pollution from such a plant.

The Koppers operation at Bungendore is being investigated by the NSW Pollution Control Commission after claims that parts of the ground are saturated with copper-chrome-arsenate.

Nothing has been finalised about Koppers' move, but the minister offered the company a site in Hume last January.

BRIEFS

PARK EXTENSION--Another section of central Queensland's sandstone region has been preserved as national park. The National Parks Minister, Mr Elliott, said yesterday Executive Council had agreed to extend the Blackdown Tableland National Park by nearly 17,500 hectares. This would bring the area of the park to nearly 24,000 hectares. Mr Elliott said the Blackdown Tableland National Park, 150 km south-west of Rockhampton, was a highly scenic area with escarpments, gorges and waterfalls worthy of preservation as a national park. It is forested area, rising up to 900 m at the meeting of the Dawson Expedition and Shotover Ranges. The park and its associated state forest will be managed jointly by the Queensland National Parks and Wildlife Service and the Forestry Department. Mr Elliott said there was road access to the park and a small initial camping area at Mimosa. Bushwalkers will be able to camp at least 2 km from any existing road or track. During a three day visit to the park with Queensland National Parks and Wildlife Service officers on the weekend, Mr Elliott met nearby residents and interested people to outline plans for the park's conservation and management. [Brisbane THE COURIER-MAIL in English 15 Nov 82 p 3]

AIR POLLUTION RADAR--Dr Ian Bourne demonstrates the way pollutants disperse from a factory chimney in a way that would gain the approval of Monty Python's ministry for silly walks. "Let me show you," he said yesterday, standing at one end of his laboratory at Melbourne University and holding a cigarette to symbolise a smoking chimney stack. Dr Bourne, a research fellow in the RAAF department of physics at the university, has pioneered acoustic radar as a way of accurately mapping wind and turbulence from the ground. A US company, using one of his designs, has captured a third of the world market for acoustic radar for pollution monitoring and testing new airport sites. The Melbourne-designed system recently was installed at the site of a proposed airport in Hong Kong. There it is checking for wind patterns that would make the airport dangerous. One of the wind sounders is being used in the Labrobe Valley by the SEC, and today Dr Bourne will take a second-generation instrument to Lithgow to test the site of a future power station for New South Wales. The acoustic radar is based on 1.2 metre diameter parabolic dishes which broadcast brief pulses of sound skywards. Sound reflected from various altitudes is picked up by the same dishes and fed into a computer for analysis. Dr Bourne's latest model can measure wind turbulence at altitude as well as wind direction and speed. [Excerpts] [Melbourne THE AGE in English 16 Nov 82 p 15]

CONSERVATION RESEARCH FUNDING--FEDERAL Government grants worth \$750,000 have been awarded to 81 projects under the Australian Biological Resources Study. The projects will describe and study native flora and fauna, and help publication of the Flora of Australia and the Zoological Catalogue of Australia. The research will ultimately be useful for resources management, conservation and recreation planning. The grants go to scientists in research and tertiary institutions, and amateur naturalists and overseas scientists working in Australia will also benefit. The Government has also announced grants worth almost \$300,000 for research on the efficiency of health care delivery and development of health services. They include \$161,545 for seven new studies and \$130,697 for five continuing projects. The development of a work assessment manual for use by occupational therapists will be funded under a grant to the Western Australian Institute of Technology and the Cumberland College of Health Services in NSW will receive money for the evaluation of training packages for use in activity therapy centres. Economic aspects of health care will be examined in studies of health insurance at the Australian National University. [Canberra THE AUSTRALIAN in English 17 Nov 82 p 20]

CSO: 5000/7530

PAPER URGES BETTER ENVIRONMENTAL PROTECTION MEASURES

Wellington THE EVENING POST in English 28 Dec 82 p 2

[Editorial: "Growth Must Not Be at Cost to Environment"]

[Text] CLEARLY, THERE IS an urgent need for better measures to ensure that the financial benefits of the Government's growth strategy projects are not to be gained at a high cost to the environment.

Already there has been disturbing evidence that environmental protection measures have been insufficient so far as the Kapuni ammonia-urea fertiliser plant, the first of the projects designed to tap Taranaki's gas reserves, is concerned.

In the space of two months there have been two major cases of effluent pollution from the newly-opened \$112 million plant.

In October an ammonia spill from the plant killed fish and birdlife along a 20km stretch of the Kapuni Stream.

Last week all marine life along 300 metres of foreshore near Manaia was found to have been destroyed by the unauthorised dumping of an estimated 8 million litres of effluent from Kapuni over a cliff into the sea.

The Minister of Energy, Mr Birch, quite justifiably angry that the incidents should have occurred, has ordered reports on both.

According to the Taranaki Catchment Commission, however, both the ammonia spillage and the effluent dumping were the result of malfunctions with the commissioning of the plant.

The Opposition spokesman on the environment, Mr Marshall, for one, is not at all confident that there will be no further incidents causing damage to the environment because of the

problems being experienced at the plant.

Mr Marshall has drawn attention to a Commission for the Environment appraisal which showed there had been considerable haste in the environmental planning for the plant, with insufficient knowledge and data available on malfunctions.

We can only hope that the lessons learned from the incidents will be absorbed and acted upon with a view to the essential prevention of recurrences.

In light of what has happened, there is a definite warning that much greater attention must be given to environmental protection where the other growth strategy projects are concerned.

Finding the proper means to deal with the disposal of waste is of the utmost importance. And the best possible method must be found before, and not after, any project swings into operation.

There is a need for a strict watch on each development as well as accurate and deep-searching reports aimed at ensuring the protection of the environment in every instance.

Those who flagrantly breach the regulations must be clamped down on heavily through the courts and, if necessary, have their activities curtailed until everything is put in its proper order.

Action will always have a far greater impact than expressions of concern.

REVIEWING VIETNAM'S LAW ON SOIL CONSERVATION, ENRICHMENT

Hanoi LUAT HOC in Vietnamese No 3, Jul-Sep 82 pp 27-32

[Article by Nguyen Thuc Bao: "On the Occasion of the World Environmental Protection Day -- Vietnamese Law on Conservation, Improvement and Enrichment of the Soil and Protection and Improvement of the Natural Environment"]

[Excerpts] Land is the special irreplaceable means of production for agriculture and forestry and the means of operation for other sectors of the national economy and, in a general sense, creates all of the conditions necessary for life for all living creatures on the earth. It is a limited natural resource that draws its food from nature and can be improved and enriched but also can be easily destroyed because of the adverse action of nature and man. Consequently, to conserve, improve and enrich the soil is the topmost common task of both the state and every citizen for the protection and improvement of the natural environment.

For our country, with its characteristics, to conserve, improve and enrich the soil has the meaning of the "survival" and "prosperity" of our land.

1. Characteristics having to do with the geographic location and natural conditions:

Located at from 8°30' to 23°22' north latitude and from 102°10' to 109°21' east longitude, our country totally belongs to the tropics. As Vietnam has all land features like deltas, midlands, highlands and high plateaus, with various climate, hydrography and animals and living beings, it can grow many plants and raise many animals of the tropics and subtropics, with the capability of year-round planting and all-season harvesting with high yield. However, in a year, there also can be such disasters as storms, floods, droughts, diseases, etc. that cause many losses and destroy land, crops, houses and other properties.

With the natural conditions including a lot of sloping terrain (two-thirds of the area being hills and mountains) and poor soil plus the age-old backward crop-growing practices left behind by the old regime, particularly the high-land people's nomadic farming and nomadic life, and in recent years because of reclamation being technically wrong, our forests and forest land have been seriously destroyed.* The consequences have been the fact that there are now, according to estimates, up to 10 million hectares of bare hills and bush-covered land (nearly 30 percent of the country's total area), including about .5 million hectares of badly eroded land with pebbles and rocks being seen on its surface and about 5 million hectares of poor soil that needs improvement (depleted soil, alkaline soil, partially saline soil, etc.). According to a preliminary investigation, in the northern provinces alone, as heavy rains erode the soil, each year about 100 million cubic meters of soil are washed out to the sea, including about 265,000 tons of nitrogen (equivalent to 1,325,000 tons of nitrosulphate), about 93,000 tons of phosphate (equivalent to 465,000 tons of superphosphate) and about 129,000 tons of potash.

A nationwide soil investigation has found this common tendency on the part of Vietnam's soil: strong mineralization explains the lack of humus; excessive wash makes the soil acid and nutrient-deficient; some elements like phosphate are subjected to fixation; frequent heavy rains aggravate erosion.

Consequently, the matter of conserving, improving and enriching the soil in Vietnam must be raised as an urgent question and turned into a national policy for the protection and improvement of the environment.

I - Documents Already Promulgated

1. About the water conservancy measure for soil conservation and improvement: Decree No 173-CP of 21 November 1973 contains the regulations on the protection of dikes, including the use of land along the banks of dikes, embankments and culverts, and the measures aimed at protecting dikes from storm and flood destruction. Every year when the typhoon and rainy season arrives, the state issues directives to the flood and typhoon control committees at all levels to mention the urgent measures to be taken to prevent destruction by rains, storms and flood. At the same time, to help ensure stable agricultural production with high productivity, the government promulgated Resolution No 197-CP on 31 December 1963 to encourage the people to do water conservancy work under the formula, "the state and the people work together." On 16 June 1972, again Resolution No 118-CP on perfecting agricultural irrigation was issued.

* It was estimated that each year more than 100,000 hectares of forests, including many watershed forests, were destroyed (see Resolution No 38-CP dated 12 March 1968).

2. About the measure to improve farm land, to conserve the soil and to fight erosion: Directive No 15-TTg, dated 11 February 1964, suggests the technical measures to be taken to limit erosion, to improve degraded soil, to prohibit any acts that cause damage to forests, to actively carry out forest restoration and afforestation and to make reclamation an orderly undertaking. The Ministry of State Farms, Central Agriculture Committee and Ministry of Agriculture have issued technical programs for the use of sloping land in state farms and agricultural cooperatives, such as Directives Nos 197-NTVP of 20 August 1964, 49-CTVP of 19 November 1965 and 53-CTQH of 30 November 1969 of the Ministry of State Farms; Directive No 4333-NN/RD of 28 December 1965 of the Ministry of Agriculture; and Decision No 203-NN/KHKT of 1 June 1973 of the Central Agriculture Committee.

3. About the measure for forest conservation: The law on forest conservation, which was issued in Order No 147-LCT, dated 11 September 1972, clearly points to its goal as follows: "To conserve forests and to develop their rich resource and great effects on keeping and regulating water sources, keeping the soil, fighting erosion and controlling sandstorms, regulating the climate and limiting the adverse effects of winds, storms, floods and droughts, for the purpose of serving economic construction, developing culture, consolidating national defense, improving the standard of living and contributing to the efforts to make the country prosperous and strong."

On 3 October 1973, the government issued Resolution No 155-CP on enforcing the above-mentioned law and later Directive No 137-TTg, dated 20 April 1979, on strengthening forest conservation within the job of reclaiming land to extend the area used for agricultural production. On 3 March 1982, the Ministries of Agriculture and Forestry issued an interministerial circular to provide guidelines for the implementation of the above-mentioned resolution and directive, with a clear statement about the legal procedures to be followed in order to reclaim forest land and about the technical programs to be adopted to conserve the soil, to control erosion and to ensure long lasting stable agricultural production.

In addition, there also is Directive No 112-TTg of 20 October 1969 about "the Tet for planting trees, forever being grateful to Uncle Ho," the effects of which have been to provide positive protection for agriculture, to raise income and to resolve the problem of firewood shortage for the people.

4. About the organizational measure: To encourage the highland people to turn to settled farming and settled life is one of the positive measures to ensure forest and forest land management, to ensure stable agricultural production along the line of intensive cultivation and to effectively reduce the extent of forest destruction and soil erosion. Therefore, the government has Resolution No 38-CP, dated 12 March 1968, on promoting settled farming and

settled life combined with establishment of cooperatives among the people who still cling to nomadic farming and nomadic life. Resolution No 155-CP, dated 3 October 1973, on enforcing the forest conservation law also states: "Forest conservation must be linked with afforestation; forest conservation and business with the movement for settled farming and settled life."

- Decision No 272-CP of 3 October 1977 announces the policy for cooperatives to extend the areas of agricultural and forestry production, to build new economic zones and to achieve settled farming and settled life and points out that "to assign land and forests for the cooperatives to develop agricultural and forestry production" is an important organizational measure to rationally use manpower and land, to conserve forests and to develop the forest resource.

Resolution No 125-CP of 28 June 1971 and especially Decision No 201-CP of 1 July 1980 on unifying and strengthening land management throughout the country contain positive articles on the right and responsibilities of the management organs and land users in connection with the use and conservation of land.

- The new Consitution, in articles 19 and 20, points to the all-people ownership of land, the unified state management of land and the most basic principles about the use of land for the purpose of ensuring a rational and economical use. Specifically, article 36 determines the obligation of the state organs, enterprises, cooperatives, people's armed units and citizens to implement the policy of conserving, improving and reproducing the natural resources and protecting and improving the environment.

II - Organizing Enforcement of Law

Since conserving, improving and enriching the soil is an extremely important and great job, it cannot be done by the state alone but the people must be motivated and encouraged to do it together with the state. Consequently, in addition to attaching importance to permanent, widespread and continued propaganda and education among the people, the state must pay special attention to organizational work and to leading and guiding the state organs and people toward achieving them in accordance with specific technical programs in order to bring about practical results. The Vietnamese state has therefore organized a study and established in every area of poor soil and soil frequently affected by erosion a soil improvement research station, such as the stations that are experimenting with improving acid and saline soil in Haiphong, improving the soil of low fifth-month ricefields in Ha Nam Ninh, improving depleted soil and using hill land in Ha Bac, improving coastal sandy soil in Nghe Tinh, controlling erosion in Son La and Hoa Binh, etc. These stations have the task of experimenting with the results of soil research obtained earlier and disseminating the good experiences among the local people. On the basis

of the practical results obtained and after the specialized scientific conferences on controlling erosion and improving various types of poor soil, the state has issued the above-mentioned legal documents and at the same time launched widespread movements among the people to promote their implementation. Let us briefly mention about these movements as follows.

1. The movement to do water conservancy work, which was launched with such mottoes as "Overturn ricefields to empty water into rivers" and "Squeeze the soil to get water, replace heavens and make rains," has created an enthusiastic atmosphere of emulation everywhere. However, as the movement was carried out, as well as during the time the unexpected flood and drought were being fought, there was at the beginning a big obstacle being encountered -- the fact that the land of the cooperatives and of the farmers who had not yet joined the latter was tilled by people from other villages and was accommodating interplanting created a delay and slowed down the efforts to mobilize people for fighting natural calamities, for the cooperatives and farmers both waited for one another to act first. The movement for zoning and exchanging ricefields based on the real needs of production and life, which started from a few districts (Ly Nhan and Yen Khanh Districts in Ha Nam Ninh Province), has become a mass movement being carried out in almost all of the northern provinces in compliance with Directive No 68-TTg, dated 27 April 1966, of the Premier. Through leadership it was closely linked with the movement for doing water conservancy work and building ricefield dividers to become a movement for improving farm land (it is called in some localities the land use plan) with a new motto, "Granaries of paddy, forests of trees and seas of fish." This movement that began in 1967, in spite of the U.S. imperialists' war of destruction, was getting enthusiastic response from almost all cooperatives in the Red River delta, midlands and Zone 4.

2. The movement to improve poor soils: Following the completion of the investigation aimed at making soil and agricultural chemistry maps and simple soil charts, such measures as applying lime to get rid of acidity, improving depleted soil, planting trees along lines of equal grade, growing plants to cover the soil, etc. have become a widespread movement in many provinces, for they were quite familiar jobs for the cooperatives in the northern provinces; at the same time, these measures have become compulsory technical programs for the state-operated agricultural and forestry installations since they were incorporated in temporary decisions, directives and procedures in connection with the basic measures to control erosion and to conserve, improve and enrich the soil in state farms, with planning pattern for ricefields and hilly land, with the conservation of forests, soil in reclaiming work, etc.

3. Along with the establishment of the people's forestry forces to strengthen the conservation of forests and forest land there are the movement to

encourage the highland people to adopt settled farming and settled life and the "Tet for planting trees, forever being grateful to Uncle Ho" movement. Today, "the Tet for planting trees, forever being grateful to Uncle Ho" has become our people's annual habit and the movement to encourage the highland people to adopt settled farming and settled life has also been closely linked with the movement to encourage the delta people to go and build new economic zones.

4. To open new land, to reclaim fallow land and to fully use agricultural land has become an enthusiastic movement everywhere after Decision No 318-CP of 10 September 1979 on encouraging the full use of ricefields and agricultural land and Decision No 254-CP of 16 June 1981 on supplementing the policy of encouraging opening new land and reclaiming fallow land were issued, with the time for waiving the payment of agricultural tax and the obligation to sell agricultural products being set and with harvest yields being excluded from the cooperatives' sharing plans.

The above-mentioned mass movements, under the leadership and guidance of the state organs, were closely linked together in a coordinated system for conserving, improving and enriching the soil and have brought about a number of good initial results:

- Forests and forest land have been managed more tightly than before, with fewer forests being destroyed, at the same time many bare hills and mounts now being covered with green vegetation and the coastal areas having been able to plant many additional trees to serve as barriers against waves and sand drift (the central coastal area), and thus have had definite effects on the conservation of headwaters, prevention and control of erosion and improvement of climatic subsystems.

- The face of the northern countryside, primarily of the villages in the Red River delta and Zone 4, has been almost totally renewed: the tiny plots of yesterday have been replaced by square, relatively larger tracts that are convenient for mechanization; the muddy winding pathways have been built into relatively straight ricefield and area dividers, with trees being planted on these raised paths, with fish being raised in irrigation canals, which serve the purpose of draining, holding and stopping water, as well as protecting agriculture, improving climatic subsystems and being convenient for communications and transportation both by land (automobiles and improved vehicles) and as waterways (small junks for going from ricefields to ricefields); and truly greater economic benefits than before have been brought about. Especially many low ricefields, where the farmers of yesteryear had often said "Water covers your skin when you are alive and your bones after your death," and many drought-stricken ricefields, where only one rice crop, either the fifth-month or tenth-month rice, used to be grown, have now been improved

to be able to accommodate two rice crops with sure harvest (in the northern provinces alone, even during the time, 1964-1975, of the U.S. imperialists' war of destruction, up to 250,000 hectares of ricefields capable of accommodating only one crop per year had been improved to be able to accommodate two rice crops with sure harvest).

- About 500,000 hectares of land that had been damaged in bombings and left idle in the southern provinces and hundreds of thousands of hectares of agricultural land that had been destroyed in the northern provinces have been restored and fully used for agricultural production ever since the great spring victory (30 April 1975).

Through a review of experience, the question of conserving, improving and enriching the soil has been found to bear the character of a wide mass organization and also to be an economic, scientific and technical undertaking and consisted of five major measures to be taken in a coordinated manner:

1. To select and use land rationally on the basis of specific standards (land use plans).
2. To apply coordinated agricultural technical measures in the entire crop-growing and animal-raising process, such as plowing and harrowing, seeding and planting along lines of equal grade, growing plants to completely cover the soil, covering the soil around the plants, keeping moisture, applying lots of organic fertilizers, having plans for maintaining meadows, letting animals take turns grazing, etc.
3. To apply measures in forestry: planting trees to create new forests; conserving forests for use as barriers against winds and sand drift, to keep moisture and to protect headwaters; protecting agriculture, ways of communications, etc.
4. To apply water conservancy and irrigation measures: building dams and dividers, digging canals, etc. in order to keep water, to stop the flow of water, to keep moisture, to evacuate water, etc.
5. To apply capital construction measures, such as building hills, ricefields, meadows, etc.

The five above-mentioned technical measures have for the first time been condensed and inserted in the state legal documents to become legal patterns. Although the latter have been far from perfect and need to be further improved through continued consideration, they were the initial progress and a legal basis for the state to continue to provide leadership and guidance and to urge a continuation of the task of conserving, improving and enriching the soil in the time to come.

At present, Vietnam has up to 10 million hectares of bare hills and mountains and bushes to be covered with green vegetation; over 5 million hectares of poor soils of all kinds to be improved and protected from erosion; over 2.3 million hectares of one rice-crop land (2 million in the southern provinces alone, which accounts for over 50 percent of the total area of rice and subsidiary food crops) and over 3.6 million hectares of land that can be opened and improved to become agricultural land; hundreds of thousands of hectares of chemical poison-laden land to be treated; forests and forest land that continue to be destroyed; and erosion, heavy rains, flood, typhoons, etc. that still constitute annual threats to be worried about.

Consequently, the task of conserving, improving and enriching the soil for our country in the time to come remains extremely demanding and difficult.

We believe that, as we see more and more clearly the importance and urgency of the job of conservation, improvement and enrichment toward Vietnam's geographic location and historical and social circumstances having direct effects on the protection and improvement of the environment, our state and people will consider the task of conserving, improving and enriching the soil one of the important ones in the long-term and annual plans and that the state, at the same time, will show a special interest in strengthening the socialist law in this field.

5598

CSO: 5000/4305

REPORT NOTES DEATHS IN 1981 FROM AGRICULTURAL CHEMICALS

Kingston THE DAILY GLEANER in English 13 Dec 82 p 12

[Text]

OF 129 cases of poisoning notified to the Epidemiology Unit of the Ministry of Health during 1981, twenty persons had died as a result of contact with or use of agricultural chemicals — herbicides and pesticides; and of the total reported, 33 cases or 25 percent were due to the same cause.

This was disclosed on Wednesday by the Principal Medical Officer, responsible for Primary Health Care, in the Ministry of Health, Dr. Carmen Bowen-Wright, as she addressed the first annual general meeting of the Jamaica Agro-medical Association (JAMA) at Hotel Four Seasons, in Kingston.

Dr. Bowen-Wright said that besides these cases, there was an interesting trend appearing in some agricultural parishes. She cited the case of St. Elizabeth, stating that this parish needed help since it was far away and isolated from the major cities to the north and the south.

She said that among the ten top causes of

deaths in that parish was poisoning; and 50 percent or more, was due to agricultural chemicals.

"Pesticides can be safe and effective when they are used as directed, but are highly dangerous if they are not," she said, adding that the use of that technology was not yet appropriate for large sections of the Jamaican farming community due to the high degree of illiteracy.

Some manufacturers of pesticides supplied literature, but this was for highly developed countries with a high degree of literate people, she said, noting that the expectation that instructions would be read and followed by rural farmers in Jamaica, was futile.

Most of the rural farmers were small farmers, who purchased small quantities of pesticides which were parcelled from large packages, and would not necessarily have got the literature that went with the product.

She said that the in-

roduction of these agricultural chemicals was not preceded by enough information and there were areas that needed to be looked into, such as protective clothing for a tropical country as against what was used in North America.

Dr. Bowen-Wright charged the association to spread out to the rural areas where there were minimal health services: "The rural small farmers must be given special consideration above other groups involved with dangerous agricultural chemicals, and this is possible through a multi-disciplinary approach," she said.

"We need to train ourselves and pass on the skills in the area of emergency management to our peers in the agricultural sector. Perhaps through JAMAL; radio and T.V., people can be instructed on the safe use of these chemicals," she declared.

JAMA was founded in October 1981 to encourage among personnel in Agriculture, Health, Industry and re-

lated fields, an increased awareness of their responsibilities to ensure safe and effective use and handling of pesticides.

Its main objectives are: to recommend to the relevant authorities the need for, and enforcement of, appropriate legislation; encourage an integrated agromedical approach to the control and use of pesticides, in accordance with existing legislation; educate the public in general and high-risk groups in particular, toward proper management of pesticides; bring to the attention of the relevant authorities the need for facilities for prompt treatment of cases of pesticides contamination; encourage the organization of ongoing training programmes with a view to developing the agromedical approach to pesticide management; act as an

advisory resource group on pesticide management, and establish and maintain local regional and international contact.

The president of the Association, Mr. Dave Hutton said that the association was pushing towards getting a Pesticide Act passed. He said also that the association had received support from the Ministries of Health and Agriculture having been granted a subvention from the Ministry of Agriculture.

He mentioned the Caribbean Outreach Programme, adding that the association is assisting in the formation of a similar group in St. Lucia, while in Trinidad a similar group is being formed, patterned off the Jamaican association. "We have become a voice, having received the mandate from the Ministries of Health and Agriculture, and our voice will be heard," Mr. Hutton said.

CSO: 5000/7523

BRIEFS

TREE PLANTING RESULTS--A REVIEW of the first phase of the tree crop establishment has been released. The document states that some 225.5 acres--5.5 acres more than the target--were planted during the period June 1979 to September 1982. These include 100.5 acres of Graham and Julie mangoes, 43.75 acres of Lula and Feuta avocados and 81.50 acres of Ruby Red Grapefruit. It states that a total of seventeen thousand, three hundred and sixty-seven dollars. eighty-one cents (\$17,367.81), fifteen thousand, seven hundred and four pounds of fertilizer (15,704) and three hundred and fifty-three (353) quarts of weedicide were also distributed to farmers during that period. In his conclusion, manager of tree crop project, Cuthbert Henry, said that were it not for the dedication and perseverance of the tree crop staff, the target could not have been achieved. He urged that the project be continued as it would help the country to diversify its agriculture. He advised that the acreage for avocados be reduced in phase two as there was a greater preference by farmers for the other two crops. He called for money to be allocated for housing, the retention of field helpers and greater co-operation from extension officers. [Castries THE WEEKEND VOICE in English 27 Nov 82 p 20]

CSO: 5000/7524

INSUFFICIENT FORESTS DANGER TO ECOLOGICAL BALANCE

Dhaka THE NEW NATION in English 20 Nov 82 pp 1, 8

[Text] Large-scale felling of trees in the country has not only been affecting the fertility of the soil but also contributing towards ecological imbalance. Use of firewood as fuel for domestic purpose or by industrial installations in parts of North Bengal has decimated forests and trees to such an extent that the situation has become alarming, experts say.

According to expert opinion, for ecological balance 25 percent area of a country should be covered by forests, but in Bangladesh only 9.2 percent areas have forests and a negligible percentage of land is used for growing various trees in the village areas. In the vast plain land, particularly in Jessore, Kushtia, Pabna, Bogra and Faridpur there are no forests while in Rangpur, Dinajpur and Rajshahi small-scale forests cover a negligible 0.03 million acres only. The fact remains that over 80 percent of the population who live in the plain areas are not benefitted by planned forests of the country.

According to official records, about nine percent trees are felled every year in the northwestern zone of Bangladesh but corresponding replanting of sapplings is not taking place. As a result, apprehension was expressed by the concerned quarters and Tk. 24.82 crore was earmarked for forest development in the 1981-82 ADP. During the current financial year the corresponding allocation in the ADP stands at Tk 32.94 crore with a foreign exchange component of Tk 24.85 crore.

The Kushtia-Jessore zone, the main tobacco growing area of the country, requires nine lakh maunds of firewood annually for tobacco processing known as flu-curing. A large number of trees were felled by the farmers over the years.

During 1981-82 the Forest Division distributed 70.75 lakh sapplings among the people and institutions as part of extensive tree plantation drive in the rural areas. Their efforts were supplemented by the BTC, which has so far distributed 9.25 lakh sapplings such as 'Ipil Ipil,' eucalyptus and korai in the tobacco growing areas. The sapplings of 'Ipil Ipil' brought from the Philippines is a fast-growing tree with high-yielding potentiality and according to the Forest Department experts, this tree has some more advantages also.

Explaining the characteristics of the 'Ipil Ipil' tree a Forest Department expert stated that the tree grows upto 60 to 65 feet if the soil is acid-free or if it contains less proportion of acid. In five years' time one tree yields 30 maunds of firewood. Its leaves are good fodder for cattle heads. Popularly known as wonder tree the soil of Kushtia-Jessore zone was so suitable for it so that trees planted in 1980 have yielded 3.62 lakh maunds of firewood worth Tk 72 lakh this year.

The forestry experts maintained there are other fast growing trees as well in Bangladesh such as Raj Korai, Kadam, Mandar, Shimul etc. But the benefits such as erosion controlling capacity and adding to land fertility makes this Filipino tree singular.

CSO: 5000/7023

ENVIRONMENT OFFICIAL SPEAKS TO DELHI CONFERENCE

New Delhi PATRIOT in English 15 Dec 82 p 4

[Text]

Future industrial plants, particularly under the public sector, should provide for anticipatory and preventive actions to check pollution, Deputy Minister of Environment Digvijay Singh said in Delhi on Tuesday, reports UNI.

Delivering the keynote address at a national conference on 'lead, zinc and cadmium at workplace—environment and health care', Mr Singh said such steps could be ensured by the proper site location and installation of environmental pollution control equipment.

Complaints had been received by the Government about ground water pollution in Udaipur and air pollution in Visakhapatnam from metallurgical industries, he said.

Minister of State for Industry, Steel and Mines Ramdulari Sinha inaugurated the two-day conference. Rajasthan Chief Minister Shiv Charan Mathur delivered the presidential address at the opening session.

Mr Singh said there was a growing feeling that further incentive should be given to the industry for

installing water and air pollution abatement equipment.

This could be in the form of soft loans at minimum interest, cash incentive upto 15 per cent in industrially backward districts and income-tax exemption. These concessions should be given by the Government in the larger interest of environmental health, Mr Singh said.

In order to implement the guidelines for environmentally desirable mining practices, amendment of mining legislation and lease terms for mining and quarrying were also being contemplated, he said.

Mr Singh said to ensure restoration of mine areas, it might be necessary to amend the mining laws to enable the Government to take money in advance in the form of deposits from those who are given mining leases. The amount could then be utilised for restoration of top soil and for plantation.

In her inaugural address, Mrs Ramdulari Sinha said the production of lead, zinc gave rise to pollution and degradation of the environment, due to discharge of effluents and emission of gases.

CSO: 5000/7021

MINISTRY OF AGRICULTURE RELEASES FORESTRY REPORT

Calcutta THE STATESMAN in English 18 Dec 82 p 12

[Text]

NEW DELHI, Dec. 17.—More than half of the country's total land area is afflicted with environmental problems, according to the latest report on forestry in India.

The report claims that as much as 175 million hectares out of the country's total land area of 304 million hectares are subject to environmental problems. As much as 150 million hectares alone are caused by seasonal water and wind erosion. Waterlogging, saline soil, shifting cultivation and alkali soil are some of the other factors leading to environmental problems.

"The losses to the country on account of the continuing degradation of its land resources are of staggering dimensions and constitute one of the important threats to economic progress" the report warned.

This is the last such report to be prepared by the Ministry of Agriculture. With the formation of a separate Department of Environment in the Centre with a Deputy Minister in charge of it, the wildlife section has already been transferred to it and very soon the Forest Department may follow suit. A hint to the effect was given by the Prime Minister while opening the Forest Ministers' conference.

As if this is not enough, the report has found that a large proportion of the country's urban habitation are akin to "gas chambers" due to migratory congestion from rural to urban areas because of industrialization and creation of employment opportunities in cities and exposure to various forms of pollution which reduces the scope for improving the qua-

lity of life in the cities.

It has been found, says the report, that the suspended particulate matter in Indian cities is much higher compared to that of cities in Western countries. Carbon monoxide concentration, for instance, in Calcutta has been found to be as high as 35 ppm during traffic hours. It is known that very large amounts of sulphur dioxide are emitted from industries and others sources like burning fuel. With a consumption of 70 million tons of coal in 1970, the emission of sulphur dioxide was estimated to be of the order of 6,800,000 tons a year.

It has been revealed in the forestry report that the aim of the Central Government is to have one-third of the country under forests. At present, the forest eco systems in India occupy nearly 75 million hectares constituting over one-fifth (22.8%) of the total land area of the country. Of this, 47% of the total land area is under agriculture (probably the highest in the world) and 38.1 million hectares are barren or waste land.

Since there has been wanton destruction of forests, and large tracts are barren due to various reason, environmental and otherwise, the Government this year has decided to launch a mass afforestation programme.

Under the social forestry project, the target for the year 1982-83 is to bring an area of 339,000 hectares under plantation. An area of 282,000 hectares has been covered till now accounting for over 83% of the target. The social forestry schemes are meant mainly to meet the requirements of fuel wood, and small timber.

BRIEFS

ECOSYSTEM CONSERVATION PANEL--The Planning Commission has set up a 20-member advisory committee of experts to secure the development of the Himalayan region on systematic and scientific lines, reports PTI. Dr C H Hanumantha Rao, member, Planning Commission is the chairman of the committee, says an official release. The committee, which will have a two-year term, will advise on planning for socio-economic development of the Himalayan region, keeping in view the special regional endowments and the diverse agro-ecological feature as well as socio-cultural ethos. The committee will also advise on the threat to eco-system and the urgency to restore and conserve it. Other members of the committee include: Prof M G K Menon, member, Planning commission, Dr T H Papole, director, Giri Institute of Development Studies Lucknow, Dr P C Joshi, director, Institute of Economic Growth Delhi Dr D R Bhumbra, former vice-chancellor, Agriculture University Hissar Dr B D Sharma, Mr B D Bhatt Dr S P Nautiyal and Dr T N Khoshoo. [New Delhi PATRIOT in English 12 Dec 82 p 5]

GANGES POLLUTION--VARANASI, Dec 11 (PTI)--The Ganga water contains toxic metals like cadmium, chromium, copper, mercury, lead, arsenic and zinc, says a study report on Ganga sediments of Varanasi. According to Prof M N Mehrotra head of the department of Geology and chief coordinator of the Ganga water pollution project of the Banaras Hindu University besides these sediments contain silica, alumina and oxide of iron, manganese, titanium and magnesium. Prof Mehrotra who headed the research team said the presence of nitrogen sulphur and phosphorous have been recorded during the study. Prof Mehrotra said in the initial phase the samples were collected from the left bank of Ganga between main sewer and the Rajghat bridge. Both the surface and sub-surface sample up to a depth of 100 cm have been examined. Work is being carried out to determine the percentage of these toxic metals and the level at which these metals are harmful, he said. [New Delhi PATRIOT in English 12 Dec 82 p 4]

CSO: 5000/7020

DANGER SEEN IN TOXIC SUBSTANCES USED IN AGRICULTURE

Tel Aviv MA'ARIV in Hebrew 25, 26 Oct 82

[Article by Aharon Pri'el: "Danger: Poisons Flowing in the Pipeline"; "There Is No Control Over the Flow of Poisonous Pesticides in the Irrigation Network"]

[25 Oct 82 p 21]

[Text] It is by no means certain today that drinking water in Israel does not contain poisonous pesticides and fertilizers. There is no method of guaranteeing that agricultural irrigation [water] will not penetrate the public's drinking water supply.

This unequivocal conclusion was reached by members of the Department for Environmental Health at the Ministry of Health following extensive testing aimed at guaranteeing the public's health.

Recently, there has been a considerable increase in the use of pesticides and fertilizers in irrigation systems for fields and orchards. This is a simple, effective and economical method. The farmer doesn't have to go out to the field to spray from the ground or the air. Everything flows in the pipeline. Pesticides are diluted in irrigation water according to manufacturers' specifications. Large sums of money are saved.

At the beginning of the month, the Ministry of Health turned to all the organizations and agencies which are involved in irrigation, demanding that they prohibit use of pesticides in irrigation systems. Rami Halperin, chief environmental health engineer, requested on 4 October that Mr Yonah Cahana of the Department for Efficient Use of Water at the Water Authority not approve the implementation of such programs "in consideration of the serious threat to health posed by penetration of pesticides to drinking water supplies."

The Ministry of Health holds official responsibility for the matter. However, such responsibility is meaningless if it is not implemented by law and if violators of the law are not prosecuted. Responsibility in the field is in the hands of local and water authorities who, it appears, have frequently ignored warnings and shut-off orders from Ministry of Health inspectors concerning the quality of the drinking water supplied to area residents.

On 17 January 1967 the Ministry of Health authorized use of fertilizers in irrigation systems, provided that the systems include [safety]-valves, atmospheric-valves and sluices. The Ministry of Health published, at that time, a temporary procedure, which included detailed instructions on installation of the protective devices whose function is to prevent penetration of fertilizers to the drinking water supply.

Still, there were flaws in the procedure. It was stated that systems must be inspected once every 3 months and that a general inspection, including replacement of one-way valves, take place every 5 years, however the procedure did not indicate who should carry out the inspections and who would be responsible for enforcing the law.

Since the appearance of that temporary procedure in 1967, no periodic or general inspections of irrigation systems have been performed, according to engineer Halperin. Only recently did experts of the Department for Environmental Health begin to examine irrigation systems, after it became clear that several mishaps had occurred in agricultural irrigation resulting in toxic substances penetrating drinking water and subsequent cases of poisoning. It was found that the one-way valves get stuck over a period of years as a result of calcium and dirt accumulations, allowing water to flow in both directions.

In 1977, 10 years after the Ministry of Health approved use of fertilizers in irrigation systems, it was found that many farmers were also using pesticides in these systems, contrary to rulings by the Ministry of Health prohibiting use of pesticides in irrigation systems. A search for a reliable device which would prevent the flow of pesticides in the event of problems in the general water supply network also began 10 years ago. Pesticides can flow into the water system when a pipe bursts or pressure decreases. In such cases the water in the pipe returns to its point of origin. Since there is no separation between agricultural and drinking water supply, there have been numerous cases of irrigation water containing toxic pesticides reaching the taps of houses, particularly in rural areas.

The mass poisoning which occurred 3 years ago at Moshav Kadima moved the experts to action--too late: "too little and too slow." "Suddenly, they remembered the Ministry of Health. Where were they all those years?" people in charge of water ask.

In a discussion which took place about 2 weeks ago, Ministry of Health experts recommended a device, considered reliable by engineer Halperin, which is produced in the United States and recently in Israel as well. This device has many safety features which, with near complete certainty, prevent the return flow of water in the event of a problem in the pipeline.

"There remain the problems of maintenance and inspection," Halperin notes. "All the Ministry of Health experts demanded that pesticides not be used in the irrigation systems, even if reliable equipment is being used, unless a control and maintenance network is in place." Ministry of Health officials fear that pesticides, even in minute quantities, are likely to cause immediate damage or long-term damage.

"There are always leaks in the pipeline. The greatest danger is in Moshavin, when plots of land near houses are linked to water from valves supplying both fields and homes."

Ministry of Health officials are deeply concerned about the procedure which allows the appearance of instructions for the dosage of toxic pesticides in water solution on product labels. It became clear that the Professional Committee on Pesticides for Plant Protection, a joint committee of the Ministries of Health and Agriculture, many years ago authorized use of the pesticide Adigan in irrigation systems.

On 7 September 1978, when Ministry of Health experts distinguished the gravity of the problem, they requested withdrawal of authorization for use of the toxic substance Adigan in irrigation systems, and a ban on dosage instructions for dilution in water. The request was forwarded to [sic] the district chemist of the Ministry of Health to the director of the Department for Plant Protection at the Ministry of Agriculture. The dosage instructions have yet to be removed and the packaging labels of tens of toxic substances, some highly toxic, [still] include instructions for dilution in water and use in irrigation systems. A second, more recent, order to put an end to any mention of possible use of pesticides in water and addition of a warning on labels concerning the absolute prohibition of use of such materials in water systems was sent on 4 October this year to all of the bodies involved in irrigation. The chances for compliance with this order are not great, based on such precedents as follow.

In January, 1978 the secretary of the Commission on Application of Pesticides in Irrigation Systems announced that "The use of pesticides in irrigation systems is strictly prohibited." Among the places his letter was sent was Kibbutz Ami'ad, producer of the advanced Dishon Pumps which can be used to inject fertilizers, chemicals and pesticides in irrigation systems.

In the January, 1982 bulletin MAYIM VEHASHKAYA [Water and Irrigation] of the Organization of Water Workers, a column by Frank Bat of Kibbutz Ami'ad appears with the headline: "Injection of Chemicals in Irrigation Systems." Mr Bat writes:

"In recent years the method of adding fertilizers, pesticides and chemicals to irrigation water has achieved growing acceptance among farmers."

Further into the article he cites the advantages of this method, which include work and precision planning and effective use of materials which are usually quite expensive. He also includes a consideration of savings and effectiveness of irrigation, fertilization and pesticide injection using an automatic irrigation system.

[26 Oct 82 p 21]

[Text] A short article by Frank Bat of Kibbutz Ami'ad in the bulletin MAYIM VEHASHKAYA deals with the possibility of adding pesticides and chemicals to irrigation water. Such measures are in violation of an explicit ban by the

the Ministry of Health. On being asked why he wrote on this topic, he replied: "I am not aware of any regulations outlawing such use of pesticides. We have not been informed of such regulations by any authorized body."

Frank Bat and Oded Rosen, director of [unclear] Ami'ad Filtration and Irrigation, stated that the kibbutz enterprise exports \$2.5 million in sophisticated irrigation equipment annually to countries around the world. Among the company's products are filters and fertilizer systems which are components in complete irrigation systems which would make it possible to send wine through the pipes if that was what someone wanted." Adding chemicals to irrigation water doesn't require sophisticated equipment.

"In Israel and abroad, fertilizers and chemicals have been pumped into irrigation water for several decades. In banana plantations, for example, when additional iron sulfate is required, it is injected into the sprinkler system."

Bat and Rosen do not ignore the need for use of safety features. "We have done everything possible to create advanced and reliable irrigation equipment in order to make best possible use of the network and to facilitate maximum control over its use, to prevent waste and enable the farmer to use the precise amounts indicated by manufacturers and agricultural advisers," they say.

Zvi Lavi, director of the Bureau for Irrigation Efficiency of the Department for the Efficient Use of Water at the Water Authority, explains that at his office and the Ministry of Agriculture "we are aware of the possibility of pesticides and fertilizers penetrating the potable water system. There is an explicit regulation of the Department for Plant Protection forbidding the use of pesticides [in irrigation systems], even if they are not poisonous, in order to prevent possible accidental contamination of drinking water by poisonous fertilizers and pesticides."

Fertilizer systems include devices which stop the flow of water in the event of malfunction. Lavi stated, "There is no inspection, nor is there a possibility of inspection. It is likewise impossible to force the farmer to perform inspections."

The cost of the most reliable valve produced in Israel which meets American standards and is recommended by the Ministry of Health, is \$490, "a cost that would alarm any farmer," claims Lavi.

The only "national inspection" conducted on irrigation systems occurs only once, when farmers apply to the Ministry of Agriculture for loans to purchase irrigation systems. In this case, the Organization of Water Workers, as a sub-contractor to the Water Authority, conducts a preliminary investigation to determine if the system purchased by the farmer includes all of the safety devices. If the inspector of the Organization of Water Workers finds that the system does not include safety devices, the farmer does not receive the loan until he meets the requirements in full.

"I hope that no orders are issued and no regulations implemented. These would be impractical. How is it possible to carefully check all irrigation systems in every cooperative and collective settlement in Israel, as is required in the procedures outlined by the Ministry of Health?" Lavi asks.

In his opinion, the main problem is not the fact that poisonous substances will penetrate the potable water supply, but "the need to caution the population not to drink water in fields and orchards, for fear of consuming poison or recycled waste water." Therefore, Zvi Lavi believes that the Ministry of Health's demands "with all my due respect for the people at the Department for Environmental Health, whose task is to protect the public's health, are excessive."

The Bureau for Irrigation Efficiency at the Water Authority requires installation of a check valve in every irrigation system, "because we know," bureau director Lavi continued, "that fertilizers and pesticides will be used in the irrigation systems, despite all regulations."

According to agronomist Shmu'el Elhanan, director of the Department for Plant Protection at the Ministry of Agriculture and Dr Mordekhai Vermes, director of the Bureau of Pest Control at the Department for Plant Protection, it appears that out of some 800 substances and pesticide compounds approved for use in Israel, "there is only one single substance called Adigan for use against soil pests. This is a relatively inexpensive substance which is less toxic than other substances used for the same purpose."

Mr Elhanan expressed "great astonishment" at the letters from the Ministry of Health which reached him following publication of an announcement in MA'ARIV in which experts at the Department for Environmental Health at the Ministry of Health warned of the danger of toxic substances penetrating the potable water supply. How is it possible to exclude dosage instructions on pesticide labels if use is not permitted and if the instructions for use, including dosage, don't appear on the label in the first place?" Mr Elhanan and Dr Vermes answer.

Last week there was a meeting of the Combined Professional Committee for Licensing of Pest-Control Equipment. The committee is made up of members representing the Ministries of Health, Agriculture and Labor. At the meeting, the demand of engineer Rami Halperin, head of the Department for Environmental Health, "to prevent the flow of pesticides through water supply systems" was discussed.

Mr Elhanan emphasizes that at this meeting "the truth was established." In the summation, "it was decided to check the safety devices used in irrigation systems, particularly valves, yearly and to warn farmers not to use irrigation systems to supply pesticides." He agrees that "there is no control over this aspect or irrigation systems, while there is strict control over aerial insecticide spraying."

The engineer Lazar Halperin of the Department of Water Quality and Sanitation at Mekorot [Water company] warns of "the significant growth in quantities of

sewage and solid wastes, industrial wastes and pesticides and fertilizers which are causing a considerable deterioration in water quality."

In the publication DAPEI MEIDA [Information Pages] of the Department for Environmental Health, Halperin claims: "With the development of technology and science, the use of new substances which endanger human health and are carried by water grew." Among these substances he also specifies pesticides.

In a survey conducted last week at several stores selling agricultural equipment, fertilizers and pesticides, salesmen told us: Farmers use pesticides which are put in irrigation water. There are many substances for destroying weeds, preventing ground infestation and for other purposes, the salesmen told us. When we requested additional information concerning types of materials for destroying weeds for use in irrigation systems, one salesman told us: "I will sell you whatever you want. Just bring me the name of the substance and I'll get it for you." "And what about directions for use? Does the packaging label include exact dosage and instructions for use?" we asked.

"You'll get all the information required. Don't worry. It'll be O.K. Just buy." was the reply. (Second and final report in this series.

8770

CSO: 5000/4504

BRIEFS

INDISPENSABILITY OF WEST BANK WATER--Additional evidence for the importance of Judaea and Samaria remaining under Israeli control was cited by Mr Mordekhai Jacobowitz, spokesman for Mekorot [the National Water Carrier]. During a lecture yesterday at Kibbutz Ayelet Hashahar, Mr Jacobowitz stated: "The sources of Israel's fresh water are in Judaea and Samaria. Relinquishing control over these sources would mean returning to an era of wells and the strangulation of the State of Israel." The Mekorot spokesman further stated that the main sources replenishing ground water of Israel's central region, from the Beth Shean valley to Beersheba, are in Judaea and Samaria. He also stated that all waterworks in Judaea and Samaria are today controlled and operated by Mekorot. The level of the Sea of Galilee, he said, stands today at minus 211.46, one meter below sea level. During the past month Mekorot drew 45 million cubic meters of water from the Sea of Galilee, the largest amount of water ever drawn from that source in one month. There is still a shortage of water in villages on the Golan Heights. [Jacobowitz] said that only with the beginning of the rains and replenishment of ground water and reservoirs in the Golan will sufficient water supplies be available in the Golan Heights. He revealed that many of the test wells sunk in the region over the past year proved to be dry. [Text] [Tel Aviv HA'ARETZ in Hebrew 19 Oct 82 p 3] 8770

TOXIC WASTE PROBLEMS--A survey of poisonous wastes from industry was carried out recently by the engineer Morton [Barlaz]. Results were presented to the Service for Preservation of Environmental Quality at the Ministry of the Interior. The survey points out that over 4,000 tons of toxic waste have been stored buried at various factories. Of this total, 70 percent is not adequately supervised. According to the survey division, there are places where there is fear of ground water contamination by toxic wastes as a result of poor storage. The survey further revealed that some 5,000 tons of toxic waste are burned yearly in inadequate facilities, resulting in air pollution in surrounding areas. An additional quantity of 2,700 tons yearly should be buried under supervision at authorized dump sites. Some 2,100 tons should be burned at appropriate facilities. A central problem in Israel is disposal of [acid wastes], by-products of oil refining and [?]. Some 5,000 tons of this [waste] accumulate annually. It should be noted that in Israel there is only one area which is designated as a toxic waste disposal site, located at Ramat Hovav in the Negev. This site was opened about 2 years ago, but was not properly managed. As a result, fire broke out there last April. The site is presently closed by order of the Ministry of Health. The writer of the report is a chemical engineer who specialized in this field in the United States and arrived in Israel in the framework of the National Service. [Text] [Tel Aviv HA'ARETZ in Hebrew 20 Oct 82 p 4] 8770

JORDANIAN THREAT TO WATER TABLE--Chief of Staff Maj Gen Rafael Eytan visited the Jordan Valley yesterday and observed from closeby water drilling operations which the Jordanians are conducting on the other side of the border. Water experts in Israel have said that these operations, in which foreign experts are also involved, pose the danger that most of the subterranean waters will ultimately flow into Jordan, so that there may be a change in the balance of water in Israel. Last summer, the Jordanians hit water in a drilling at Shatt-el-Bard, about five kilometers north of al-Khama, south of Golan. The uncontrolled strike reached a height of about 50 meters. The amount of water was estimated at 3000 cubic meters per hour, and it flowed freely into the Yarmuk and the Jordan on the Israeli side of the border. Israeli experts were surprised by the exceptional discovery and the unusual pressure in the gush of the water. [Tel Aviv HA'ARETZ in Hebrew 1 Dec 82 p 2] 7075

WATER CONTAMINATION--"The waters of the Sea of Galilee which are drawn into the national water system contain microorganisms and organic material which originate in algae." This was reported yesterday by the director general of the Office of the State Comptroller, at a conference which dealt with the quality of the water of the Sea of Galilee and the national water system. The comptroller warned of the increased process of chlorination, which can cause cancer. The water commissioner, Tsemakh Yishai, said that in spite of the ministerial committee's resolution to allocate three billion shekels (at December 1982 prices) over four years to improve the quality of the water, the Finance Ministry is delaying the transfer of the funds. As of today, the Water Commission has not received one agora for realizing its program to improve drinking water. A representative of the Health Ministry, Rami Halprin, reported that chloroform, which is suspected to be a carcinogen, is not found in significant quantities in the water of the national water system, and that the waters of the Sea of Galilee meet the requirements set by the Health Ministry, according to American standards. [Tel Aviv MA'ARIV in Hebrew 8 Dec 82 p 8] 7075

CSO: 5000/4506

PESTICIDE POISONING EFFECTS SURVEYED

Colombo DAILY NEWS in English 20 Dec 82 p 19

[Text]

This study included a sample survey of the clinical records of patients admitted to the different hospitals in Sri Lanka, and showed that approximately 13,000 patients are admitted to hospital annually for pesticide poisoning and that each year 1000 of them die. Suicidal attempts account for 73% of the total, and occupational and accidental poisoning accounts for 24.95. It is recommended that urgent action be taken to minimize the extent of the problem.

Pesticides are important in developing countries and will continue to be so in agriculture and in public health. The human diseases controlled by pesticides are a particular problem of tropical regions.

For example, it is estimated that some 150 million clinical cases of malaria occur annually in the developing countries, and schistosomiasis and filariasis each accounts for nearly 250 million cases each year. Pesticides are essential for the control of the vectors of all of these diseases.

In this context, it is important that the nature of health problems arising from the use of pesticides be studied. However, in many countries, particularly those of the developing world, there is a great lack of epidemiological

data on the extent of the problem of pesticide poisoning.

In response to this situation, in 1974 the World Health Organisation requested member states to provide information on the extent of pesticide poisoning in their countries. In fact, most of the countries have been unable to provide the necessary data.

The present study was undertaken to investigate the overall extent and characteristics of the problem of pesticide poisoning in Sri Lanka in order that appropriate action could be taken to minimize the problem. The data may Each area has a large number of hospitals of different grades providing in-patient care. The largest hospitals are the ten general hospitals; a second category consists of the 14 base hospitals. There is no strict referral system and a patient is entitled to go to any hospital for care.

The survey was undertaken between March and June 1981. This consisted of examining a random sample of the clinical records of patients discharged during 1979 with a diagnosis of pesticide poisoning from the 10 general hospitals and 5 of the 14 base hospitals.

The records of the Me-

dical Statistical Unit, Department of Health, Sri Lanka show that in the period 1975-80 an average of approximately 13,000 patients were admitted annually to government hospitals for treatment of acute pesticide poisoning and that approximately 1000 of these patients died each year. A more detailed analysis of the data for 1979 according to the distribution of patients in six different health service areas is shown in Table 2.

Analysis of the epidemiological data by health service area indicates a wide range in the morbidity rates in the different areas. Agriculture is the main occupation in the areas with the highest rates (Batticaloa, Vauniya, and Jaffna) where the cash crops (vegetables, tobacco, onions and chillies) and paddy require extensive use of pesticides.

Table 1. Hospital admissions in Sri Lanka for pesticide poisoning

Year	No. of patients	No. of deaths
1975	14 653	938
1976	13 778	964
1977	13 648	1042
1978	14 699	982
1979	11 372	1045
1980	11 811	1112

Table 2. Analysis of cases of pesticide poisoning admitted to hospitals for the health areas with the three highest and three lowest incidence rates, 1979

Health district	No. of cases	Cases/ 100 000	No. of deaths	Case fatality rate
<i>Three highest</i>				
Batticaloa	1 131	367	60	5.3
Varuniya	458	216	43	9.4
Jaffna	1 635	200	112	6.9
<i>Three lowest</i>				
Ratnapura	122	16	61	50.0
Colombo	727	24	158	21.7
Kandy	327	25	32	9.9
Sri Lanka - total	11 372	79	1 045	9.2

Such areas clearly require urgent and priority action to minimize the extent of the problem. In contrast the areas with the lowest rates were those where agriculture is not a major occupation or where rubber or coconuts are the main crops.

The health service areas with high morbidity rates seem to have somewhat lower case fatality rates probably because the hospitals and staff in these areas are better equipped to manage the frequent cases of pesticide poisoning.

The extremely high case fatality rate (50%) recorded for the Ratnapura area in 1979 is inexplicable, as the case fatality rates for the years 1978 and 1980, though higher than the national average, were well below that figure.

The high mortality of cases due to mixture of organophosphates and organochlorines is an in

dication of the therapeutic difficulties of managing patients poisoned with pesticide preparations containing such mixtures.

The situation could be avoided if manufacturers were to agree not to market such mixtures of pesticide. The high case fatality rate of 28.5% recorded among patients whose clinical records did not show the type of pesticide indicates problems of therapy when full information is not available to the physician.

The great variety of trade names of pesticides give an indication of the morbidity and mortality of pesticide poisoning in other developing countries.

Sri Lanka is a small densely populated country with an estimated population of 14,471,000 in 1979. The government is responsible for the provision of health services and the country is divided into 19 health service areas for administrative purposes.

often creates problems for the physician, as he is unable to classify the pesticide and thus to institute appropriate therapy. To lessen this problem, Lionel (9) published a list all pesticides available in Sri Lanka, indicating the class to which they belong.

The present study demonstrates the fact that the problems of acute pesticide poisoning in Sri Lanka and possibly also in other developing countries seem to be of greater severity than those in the developed nations.

This difference implies that the approach of developing countries to the control of health-related problems due to pesticides must be different from that of the industrialized nations.

Every effort must be made to reduce the number of cases of acute pesticide poisoning, leaving the developed countries to direct their scientific efforts to identifying unknown or long-term problems associated with pesticides.

In contrast, although the proportion of cases resulting from occupational or accidental causes was 24.8% these could be considered more important since they are more readily preventable.

For this, it is necessary that preventive measures be centred around educating users about safe practices in nationally relevant terms and that an effective national system of control of pesticides be developed.

Such a program must necessarily involve the ministries of health and agriculture, representatives of the workers, and the companies that manufacture and sell pesticides.

CSO: 5000/4307

DEVELOPMENT, TSETSE ERADICATION PROGRAM SEEN ENDANGERING OKAVANGO

Harare THE HERALD in English 28 Dec 82 p 5

[Article by Pat Bulger: "Time Running Out in Fight to Save Swamp"]

[Text] AFTER Botswana's controversial tsetse fly eradication programme, the demand for Okavango water is the second biggest threat facing the complex of rivers and marshes of the Okavango Swamp.

The swamp will have to undergo major development if the country is to maintain a growth rate in line with its vast economic potential.

Already two projects--Anglo American's Orapa diamond mine and the Dintswana rice project--draw substantial quantities of water from the delta. Economists and conservationists now agree the demand for Okavango water is likely to increase dramatically within the next 10 years and no amount of pleading on behalf of nature conservation is going to stop development.

It is ironic that in a country as dry as Botswana the swamp should be regarded as one of the major untapped water resources of Southern Africa--a puny 6 percent of its total inflow would satisfy the yearly water requirements of the Witwatersrand industrial complex.

Experts

But ecologists and hydrological experts alike are concerned that the country's economic planners may push the government into hasty development projects, without sufficient regard being given to the delta's unique and fragile structure.

Without a comprehensive integrated approach to development, they say, the swamp even runs the risk of running dry in lean years when demand outstrips supply.

"The country cannot develop much further than it has done so far without water. The Okavango is the only place from which Botswana can develop its eastern areas," said Prof. D. Midgley, a hydrological expert who has done extensive research into the waters of the delta.

He warned, however, of the dangers of going ahead with development without the necessary planning.

"If engineers are forced into the situation of having to act without surveys, then they can make mistakes. But they may be forced to do so as development is becoming imperative," Prof Midgley said.

Insufficient

Asked whether he thought there had been sufficient surveys in the Okavango Swamp, Prof Midgley replied: "No, I don't."

President Quett Masire hinted at development in the delta or elsewhere using delta water in his presidential address on Independence Day recently.

Speaking at the peak of the drought, President Masire said the country could no longer afford to go ahead from year to year without reliable water supplies.

However, if the ecologists are correct and the swamp is destroyed there will be nothing left for anybody--no grazing for cattle, no water for agriculture, no game and wilderness for tourists; only a new extension of the Kalahari Desert.

ECOLOGISTS fear that Okavango, one of southern Africa's most enchanting and rich natural resource areas, will be turned into a wasteland by commercial exploitation within 20 years.

Their main concern is that the Botswana government's project to eradicate tsetse fly from the unique inland delta will open it to cattle, which will destroy the vegetation through over-grazing. They also fear that reckless use of the delta's waters for agriculture and industry will contribute to drying them up.

Not least, the scientists fear the insecticide endosulphan being sprayed to kill the tsetse fly may destroy the delta's flourishing wildlife.

Refused

They point out that in spite of government having committed itself to the tsetse-eradication project 10 years ago, it has consistently refused to pass legislation ensuring that the swamps will not eventually be turned into a massive cattle pasture once the fly has been removed.

Now, amid projections that improved insecticides and advanced spraying techniques could obliterate the fly within five years, ecologists fear mounting political and economic pressures may force the government to surrender the fly-free zone to cattle farmers--at the expense of the swamp and its wildlife.

The tsetse fly, incompatible to both man and beast, is at the heart of a long-standing clash between cattle farmers and conservationists. The fly alone has

kept more than 7 000 000 sq km of African bushland free from the ravages of over-grazing--as it has done in the swamp for decades.

But Botswana is cattle country--beef exports are second only to mining in terms of foreign exchange earnings.

Go-Ahead

After initial experimentation with spraying, the government has given the go-ahead for the entire delta to be sprayed--almost two-thirds has already been covered.

The threat to the Okavango Swamp goes back to a series of meetings held in Rome in the early 1970s under the auspices of the United Nations Food and Agriculture Organisation.

DDT and other lethal insecticides had only recently been banned in the West when the FAO planners began formulating a R1 750 million project to rid African bushland areas of tsetse fly and to replace them with 120 million head of cattle--using many of the chemicals already discredited and outlawed.

The Okavango Swamp was one of the areas that came under the FAO's gaze.

At about the same time, Botswana's late President, Sir Seretse Khama, addressed delta inhabitants and committed himself to eradicating tsetse fly in the area. His promise followed a serious outbreak of sleeping sickness caused by the fly in which 170 people fell ill.

Fly control was not a new concept in the delta--the explorer David Livingstone was the first outsider to suggest it in the mid-1800s. But the proposed method was alien to a people who had learned simply to keep far away from fly-infested areas.

Previously bush clearing and game slaughter--both forms of life being essential to the tsetse fly--had been used to drive the creatures north into the delta away from the southern village of Maun on the banks of the Thamalakane River.

In 1974, at the time that the FAO began an in-depth study on the future utilisation of the swamps, Botswana began experimenting with endosulphan sprayed from light planes. The experiment was greeted with a wave of international protest as conservationists, aware of insecticide disasters around the world, predicted dire ecological consequences.

Devastation

Apart from detailing the ultimate devastation caused by cattle farming--which many saw as the prime motive behind the project--ecologists warned the government about endosulphan.

Although the insecticide--an organochloride stomach poison with a low persistence--seemed relatively harmless to mammals in the small doses being applied,

it was known to be highly toxic to fish. Some tests conducted in the delta showed that a single spraying could kill 70 percent of one-year-old fish.

The government responded to criticism by commissioning the British-based Centre for Overseas Pest Research to conduct an intensive study of the ecological effects. The results endorsed earlier conclusions on fish fatalities but the centre argued that the benefits accruing from spraying rendered harmful side effects negligible. Its findings and subsequent recommendations that the dosage be doubled were hotly contested by conservation-oriented ecologists.

Sprayed

Today, only eight years since, almost two thirds of the delta have been sprayed--some areas as often as eight times. Although the flies have re-invaded in parts, other areas are now 99,8 percent free of tsetse fly.

"The way the programme is going I will have the fly out of the delta in two or three years," Dr Jeff Bowles, head of the Tsetse Fly Control Division in Maun, said last month.

In three weeks, earlier this summer, four light planes covered 6 000 sq km of the total delta area of 25 000 sq km at a cost of about R700 000. Over every hectare they dropped six grammes of endosulphan and 0,1 grammes of deltamethrin--a largely untested pyrethroid extract known to be dangerous to fish, which form a vital link in the delta's food chain.

With the odds seemingly stacked against the long-term wisdom of the eradication programme, conservationists ask why the government insists on forging ahead.

Officially it cites health reasons--the removal of sleeping sickness--as a major motivating factor.

Disease

But in Maun an average of only 50 people contract the disease every year and in its early stages it is easily treated, although if left untreated it can be fatal. However, sleeping sickness is not considered a health priority in Botswana.

Also, the government argues that at least part of the delta will have to be used to the benefit of cattle some time in the future as the 3,5-million strong national herd multiplies. It believes that while the impetus is present it must press ahead as costs are still relatively low.

Some conservationists believe, however, that a powerful cattle-rearing lobby within the government is itching for more grazing land and more regular water supplies in the near future.

Drought

Frequent drought--Botswana has nearly run dry four times since independence in 1966--and the lucrative European beef exporting market strengthen the lobby's hand.

Botswana's foreign exchange earnings from beef exports amount to about R40 million annually--about one tenth of total export earnings.

Added to this, cattle ranchers in Ngamiland, the huge north-western sector of the country that includes the swamps--constitute a political thorn in the side of President Quett Masire.

"It is really a political issue," a noted Botswana historian who did not wish to be named.

CSO: 5000/69

BRIEFS

DROUGHT PERSISTS--MASERU--Lesotho's worst drought in 10 years has put the country's crops and livestock in danger. A spokesman for the Lesotho Agricultural Information Service in Maseru said yesterday several teams of agricultural officers had been sent out to the 10 districts of the country to assess the effects of the drought. The prolonged drought has seriously affected livestock because grazing pastures had been badly scorched, the Ministry of Agriculture said. The Ministry has warned farmers and mine workers returning from South Africa not to import more cattle from the Republic until grazing became usable once again. An Agriculture Ministry report on the drought situation is expected to be released early next week, Sapa's Maseru correspondent reports. [Text] [Johannesburg THE CITIZEN in English 7 Jan 83 p 8]

CSO: 5000/68

DROUGHT IN WESTERN TRANSSVAAL REACHES CRITICAL STAGE

Johannesburg THE CITIZEN in English 12 Jan 83 p 2

[Text]

THE drought in the Western Transvaal has reached a critical stage and the situation is deteriorating daily. Farmers are desperate, and in many cases rain will be too late.

A spokesman for the South African Agricultural Union, Mr Piet Ebersohn, said: "The drought is pushing farmers deeper and deeper into debt. Last year their income was low and this year the situation is worse".

The drought situation is causing farmers grave concern and many fear they may be forced into bankruptcy as their debts continue to rise.

According to figures, indebtedness to the land Bank now tops R950-million, and more than R1 200-million is owed by farmers to the co-operatives.

Mr Cas Appelcryn, a farmer in the Western Transvaal, said he had invested R900 000 in his maize crop but he would lose 60 percent of it if there was no rain within the next two to three days.

The drought is forcing farmers to market their cattle but their quotas have been cut.

Mr Koos Blignaut a spokesman, said: "We are under tremendous pressure from farmers who want to market their cattle because of the drought but the demand for meat has decreased after the Christmas rush."

"With the lesser demand and supply prices almost down to floor level, the Meat Board had to cut down quotas."

Once the price reached floor level the Meat Board was compelled to buy the meat to raise the price, he said.

Mr Appelcryn said he needed to sell cattle because his farm was overgrazed.

"I would sell if I could get a quota but the market is overstocked," he said.

"There is no grazing so I have to buy fodder and I had to sink a borehole to get water. It's costing me a lot of money."

A spokesman for the National Maize Producers' Organisation said many farmers had started using maize for silage, but in many areas the maize was in such poor condition that it could not be used for silage.

Farmers in the Bethal district are driving their stock into maize fields because the crops cannot be

saved.

A spokesman for the Eastern Transvaal Co-operative said only 60 percent of the normal maize harvest was expected in the region this season.

Not only maize and cattle farmers are suffering from the drought. Mr Mike Milani, a trout farmer in the Western Transvaal, is losing fish because the water temperature is too high.

A vegetable farmer in the region said he was able to irrigate his crops from a borehole but he "couldn't keep up with the heat".

The Minister of Agriculture, Mr Greyling Wentzel, will tour the Western Transvaal on Monday to see the extent

of the drought.

In the Eastern Transvaal as much as 40 to 50 percent of the maize crop may already be lost.

The assistant secretary of the Transvaal Agricultural Union, Mr J Human said: "Thankfully at this stage we have not lost the whole crop, but the damage has been substantial. Farmers all over the Transvaal are in trouble."

Farmers in the southern parts of South West Africa have been forced to get rid of two-million sheep and one-million head of cattle.

The region has been dry for the past five years and the present drought is considered the most costly in the territory's history.

CSO: 5000/71

BRIEFS

LAXITY ON AIR POLLUTION--SOUTH African industry has spent more than R500-million on air-pollution-control equipment in the past 10 years, according to Martin Lloyd, Chief Air Pollution Control Officer. During discussions with members of the Gas Cleaning Equipment suppliers Association of South Africa recently, he said that, while these efforts have resulted in a general improvement in industrial air-pollution levels, the situation has varied from sector to sector. But to counter the "rather lax attitude" in some sectors of industry, Mr Lloyd warned that his department would have to clamp down in future on offending operations. "To assist us in this respect, continuous monitors with recorders will gradually be installed at all offending plants." To date, equipment has been installed on 110 of the 135 cupolas in use throughout the country, while 68 of the 75 arc furnaces have been properly equipped. The total capital cost of this equipment was about R16-million. In the ferro-alloy industry, which operates 52 furnaces, 45 have so far been fitted with air-cleaning equipment, consisting of highly sophisticated pressure baghouses, which are each worth about 30% of the total cost of a new furnace. Capital expenditure in this sector is about R80-million. The cement and lime industry has spent almost R180-million in the past 10 years on its dust-control equipment, and nearly all the 46 rotary kilns and associated plants have been equipped with air-cleaning units. [Text] [Johannesburg SUNDAY TIMES in English 19 Dec 82 p 5]

DROUGHT PROSPECTS DISMAL--THE prospects for South Africa's summer grain crop are dismal, the SA Agricultural Union said last night. In a statement on crop and grazing prospects in all four provinces, the SAAU indicated that maize, groundnuts and cotton had been severely affected by the prolonged drought and hopes were now being placed on wheat and sunflower later in the season. The report on a regional basis: TRANSVAAL: Grazing in the Northern Transvaal is extremely poor. Rains have fallen at Phalaborwa, Mica, Hoedspruit, Harmonie and Trichardtsdal but are not sufficient to break the drought. In the Western Transvaal grazing is also extremely poor and the drought has caused extensive damage to crops. Although rain has fallen in some areas the excessive heat is causing a deterioration day by day. Makwassie and Leeudoringstad are suffering the most. In the Eastern Transvaal temporary relief has been brought by rain but the damage which has been done is irreparable. Middelburg is very dry and will seek Government aid. The Lowveld has suffered most. Game are dying and water is extremely scarce. [Excerpt] [Johannesburg THE CITIZEN in English 7 Jan 83 p 1]

BRIEFS

WORST DROUGHT YET--DIRECTOR OF AGRICULTURE Mr Victor Phungwayo has reinforced fears which have been expressed by various members of the community that the maize yield this season will be considerably reduced because of the drought conditions. Mr Phungwayo said the situation had reached serious proportions throughout the country. "If the drought continues, we will go begging for food as indications are that there will be virtually no yield to talk about at the end of the season," Mr Phungwayo told the Times. "You can imagine what the position is on Swazi Nation land if the sugar cane farmers are complaining about a serious irrigation water crisis. If these people who use irrigation are in trouble, how much more are Swazi subsistence farmers in trouble as they entirely depend rainfall?" Mr Phungwayo, who has been on a tour of the country to assess the situation first hand, told the Times the situation was particularly hopeless at Ka-Dvokolwako which he visited late last week. He said those farmers who planted their crop in the first week of November could expect a reasonable crop as the mealie plant germination. The hardest hit were those who planted in the third week as the seed did not germinate altogether because the dry weather had set in full force. Mr Phungwayo said he was not sure of the identity of the hundreds of butterflies which swept over the country last week. "All I can tell our farmers is that those who have not started spraying their maize crop with insecticide they should do so right away, he said. "The stalkborer laying butterflies have been spotted and any farmer who has not applied insecticide should not delude himself that he will get a yield. Farmers should take this warning seriously and apply insecticide to protect their maize crop NOW." He said this would definitely turn out to be the one of the worst seasons in the history of the Kingdom for a number of reasons, not least the late start to the ploughing season, Mr Phungwayo said. [Text] [Mbabane THE TIMES OF SWAZILAND in English 3 Jan 82 p 1]

DROUGHT AFFECTS CATTLE SALES--THE DIRECTOR of Agriculture, Mr. Victor Phungwayo, has said the drought which has hit the country this year has reduced the price of cattle on the market. He said the situation was so serious at the Balegane fattening ranch that sales had been suspended until the veld is improved. Mr. Phungwayo said cattle farmers on Swazi nation land should understand that buyers, such as the Swaziland Meat Corporation and butcheries, had to put the animals to feed before slaughtering them if they were in a bad condition. "This is why there have been complaints from our people that buyers are paying low prices for their stock," Mr. Phungwayo said. "We should not lose sight of the fact that these buyers are in business and they expect to get their money back and make some profit. [Excerpt] [Mbabane THE TIMES OF SWAZILAND in English 4 Jan 82 p 3]

LACK OF TRADE EFFLUENT BY-LAWS REPORTEDLY LEADS TO KABUFU POLLUTION

Lusaka TIMES OF ZAMBIA In English 30 Dec 82 p 1

[Text]

NDOLA residents will continue drinking stinking water unless the Government approves trade effluent by-laws empowering the council to control industries now polluting the Kafubu stream where the water is drawn, district executive secretary Mr Chishala Chitoshi has said.

This was said by district executive secretary Mr Chishala Chitoshi in a statement released in Ndola yesterday.

The council had drawn up trade effluent by-laws which it submitted to the Government for approval but there had been no reply up to now. He did not say when the council submitted its by-laws.

"The repeated warnings given by council to offenders are not effective in the absence of trade effluent by-laws which have been awaiting approval from Government for quite some time," Mr Chitoshi said.

Absence

In the absence of the by-laws even those industries which had shown pre-treatment plants in their plans had commenced production without constructing them, thus contributing to the pollution problem.

Ndola district council has come under severe attack for its alleged failure to rectify an anomaly at the water works which has resulted in residents drinking stinking water containing greenish foreign matter since the beginning of this month.

Many residents came to the Times of Zambia offices on Tuesday carrying the polluted water in containers to "launch an attack" on the council for alleged gross negligence.

A council spokesman confirmed that the water was pumped into the tanks without being sieved because of a power failure in Itawa township. He said chlorine was not added to the water.

Asked what was delaying the approval of the trade effluent by-laws, Ministry of Legal Affairs permanent secretary Mr Jack Chitundu said:

"As a local authority the council processed the by-laws and submitted them to us, what happens to the by-laws therefore cannot be divulged from this source."

Mr Chitundu said it would be improper for the council to learn of progress in the processing of the by-laws through the Press because "it is for the council to chase up the matter with us and we are supposed to inform them."

An Itawa resident wrote a letter to Mr Chitoshi which read in part: "If this is what decentralisation means, then to hell with it." He signed the letter as "Itawa judge".

Mr Chitoshi referred to the complainant's letter and said the presence of foreign matter in the water was caused by power failure at the water works.

When reservoirs emptied, sediments at the bottom gushed into the supply pipes. He promised the situation would be back to normal soon.

Yesterday development secretary Mr John Mwale led engineers and workers to restore proper supply at the Kafubu water works.

LACK OF SECURITY DELAYS SEARCH FOR WATER

Harare THE HERALD in English 7 Jan 83 p 1

[Article by Davison Maruziva]

[Text]

ITALIAN water experts will not start surveying for underground water supplies in Matabeleland until villagers there guarantee their security.

The Minister of Water Resources and Development, Cde Cephas Msipa, told The Herald yesterday: "I am not going to send them until I am certain that it is safe." The experts were due to start their work next week.

He said Matabeleland was badly affected by the drought which hit the country last year and reports from the area this year spoke of grass and crops withering and people already starving. The rain that had so far fallen this year was said to be inadequate for the population and livestock there.

Cde Msipa's decision to call off the proposed survey comes after the destruction of \$2 million worth of construction equipment by dissidents at Makayeni in Tsholotsho 12 days ago.

Dissidents, he said, were discrediting Zapu by committing acts of banditry in the name of the party. Zapu was not and would not be a party to the murder of innocent people.

'Anger'

"We cannot associate with people who destroy property meant to benefit

the people and we get angry when we are associated with such people. We think it is mischievous for anyone to think that Zapu is behind what is happening in most parts of Matabeleland."

When his attention was drawn to letters and messages left at scenes at which acts of banditry had been committed by dissidents claiming that Zipra had been responsible, Cde Msipa — a member of Zapu's central committee — said dissidents were discrediting Zapu.

"I do not know who they are and whose interests they are serving. If they were Zapu, I would have met them long ago. These people are working outside Zapu."

Suffering

The people in Matabeleland, who are predominantly Zapu, were the ones suffering from the activities of dissidents. "So how can we impose suffering on our members? We agreed to be in the Government and we have agreed to consolidate

our independence. That is the position of Zapu — any other position is not Zapu."

Zapu, he added, had channels of communication with the Government and, as a minister, he was in a position to speak to other ministers about Zapu's grievances.

"I have done it on numerous occasions with success and I have stated to Zapu members that if any of them have complaints they should come forward and let us know.

"The Prime Minister, Cde Mugabe, is quite agreeable to constructive criticism."

Last year, Cde Msipa said, the Prime Minister had sat with and listened to council chairmen in Matabeleland North and South provinces. The council chairmen had spoken frankly and, in turn, he had "answered them in a cool and very frank manner".

What the country needed badly was peace and stability so the Government could concentrate on development. "This is the view of some people in

Zapu."

Asked what his party was doing to help curb banditry in Matabeleland, he said Zapu had no communication with the bandits and had dissociated itself from their activities.

He thought the people of Matabeleland could appear to be siding or supporting the dissidents when they could be doing so only through fear.

Drought

On the drought, the minister said his ministry was looking at new sources of water, particularly underground water. Discussions were under way to establish the feasibility of airlifting some drilling rigs into the country from other friendly nations.

There were 22 drills in Matabeleland and three in Manicaland but, because of the severity of the drought in Chimanimani and Chipinge in Manicaland, some drilling rigs would have to be sent to the areas.

"As far as we are concerned, we are doing the best we can and when we talk of airlifting drilling equipment and relocating some of it, this is a source for hope for those areas affected."

CSO: 5000/70

CATTLE, CROPS HIT BY DROUGHT

Harare THE HERALD in English 6 Jan 83 p 1

[Text]

THE countrywide lack of rain and the high temperatures have hit crops hard this week, the vice-president of the Commercial Farmers' Union, Mr John Laurie, said.

"The position is generally serious throughout the country and if there isn't significant rain within the next week we will have a very serious problem because some crops are already in a critical state.

"However, if we do get good general rains soon, the position could change quite dramatically for the better, though there is little indication of this."

Much of the country's maize was already in tassel or coming into tassel and in all cases needed immediate and significant rains if it was to produce anything. Cotton, which can withstand drought conditions better than others, was beginning to suffer badly in parts of the Mazowe Valley.

Livestock in most of the country was suffering from a lack of water and grazing, the position now being very serious, particularly in the eastern provinces.

"The whole situation is absolutely disastrous and it is dreadful to think what is going to happen," said the president of the Zimbabwe National Farmers' Union, Cde Gary Magadzire. "We have had droughts before, but never anything like this. There has been a total write-off right across the country."

Cde Magadzire said communal farmers and smallholders would lose thousands of cattle and

millions of dollars because of the drought and their lack of irrigation. Although some areas had already been completely destroyed, he said the Highveld areas would probably survive though their turnover would not be more than 33 to 45 percent of normal.

"This drought clearly spells out the mistakes of past planning whereby areas which were densely populated were denied the most important resource for production — water.

"If we are to improve the situation, the Government must go all out in its efforts to redress this unfortunate situation and build dams and irrigation systems and so guarantee at least a stable developing agricultural society."

A spokesman for the Met Office said that little or no rain had fallen over the country so far this month and there was no sign of any break in the dry conditions, though they could change very rapidly at this time of the year.

● Ziwa reports that district councils in Matabeleland North Province yesterday voiced concern over the prolonged

drought which had affected the country in two successive years.

The Kezi District Administrator, Mr Nephth Ndlovu, said the councils were "bucking against the impossible at a time when they had nearly overcome problems caused by last year's drought".

Crops which had been planted with the early rains had all withered, grass which had sprouted had dried up and the local people were starving, Mr Ndlovu said.

In Lupane, the District Administrator, Mr Martin Simela, described the situation as "pathetic" as crop after crop withered, leaving people with no food for the long year ahead.

At present, he said, there was still adequate water for both human and livestock consumption, although the sparse drizzle in the area could not sustain crops and grass.

Mr Simela added that water levels in their dams were drastically low "and this has caused the death of many cattle which stuck in the mud as they tried to drink".

Government drought re-

Her measures introduced last year, were still continuing, although bad roads and a shortage of local transport had slowed the exercise, said Mr Simela.

Lack of rain is beginning to hit Victoria Province hard as well with many cattle reported dying every day and crops being declared hopeless.

The Provincial Agricultural Extension Officer, Mr James Masvaya said that if the province did not get some rain soon things would reach disastrous levels, especially regarding community-owned cattle.

"In the seven districts of the province cattle are already reported to be dying and the rate rises daily as the drought's grip tightens.

"If the drought continues the percentage of cattle that are expected to have died by the end of January are: Zaka 25 percent, Chibi 50 percent, Gutu 30 percent, Chiredzi 20 percent and Masvingo 40 percent," he said.

CSO: 5000/70

BRIEFS

DROUGHT CRISIS IN VICTORIA--HARARE--Drought has struck Victoria province in Zimbabwe with many cattle dying daily and crops withering--beyond recovery. The provincial agricultural extension officer, Mr James Masvaya, said if the province did not get rain soon the drought would reach a disastrous level. "In the seven districts of the province cattle are already being reported dying and the rate at which they are dying continues to rise as the drought worsens daily," he said. District administrators all expressed concern over the hopeless crop situation, suggesting that contingency plans for feeding people should now be drawn up. The administrators said groups of people were already coming to their offices to seek advice and some were in a "panic state."

[Text] [Johannesburg THE CITIZEN in English 6 Jan 83 p 10]

CSO: 5000/68

MEASURES TO ELIMINATE POLLUTION OF BAKU BAY WATERS

Baku VYSHKA in Russian 13 Nov 82 p 2

/Article by A. Khalilov, doctor of geographic sciences and head of the Hydrology Laboratory for the Caspian Sea of the AzSSR Academy of Sciences: "For Purification of the Bay of Baku"/

/Text/ It is fully natural that the lives of the population of the city of Baku, numbering more than one and a half million people, and also the entire complex of the industrial-transport economy, are associated very closely with the Bay of Baku.

Thus the problem of protecting the cleanliness of the water medium (including the Bay of Baku) requires special attention.

It is known that the proximity of this bay exerts a very favorable influence on the life of the city's population. The water medium of the bay affects in a very positive manner the microclimate of the city and its environs, especially along the coastal lowlands, beginning with the municipal boulevard and continuing up to the heights of Narimanovskiy Avenue and the region of the 8th Kilometer Settlement. Over the past few years, the entire coastal zone between the water area of the bay and Neftyanikov Avenue has been transformed into a very green and picturesque corner of the capital of Azerbaijan, which quite properly is being referred to as the pearl of the Caspian Sea. It is by no means an accident that all those vacationing in Baku, including guests of our city, spend their leisure hours in this coastal park with a great amount of satisfaction.

As a result of a number of measures undertaken in recent years, the Bay of Baku and its coastal zone with each passing year are becoming more and more insulated against the harmful effects of industrial-domestic installations.

A plan for diverting the city's sewage collector to the east of Cape Sultan is being carried out; the discharge into the bay of stratal waters from the extraction of petroleum and gas and also from a number of industrial enterprises in the city is gradually being terminated. The city's residents themselves are convinced of the degree to which the sanitary condition of the bay's waters has been improved. Flocks of seagulls are constantly present and many types of fauna -- inhabitants of the water medium -- have appeared.

In the interest of further improving the sanitary-giological status of the water medium and the bottom and shores of the Bay of Baku, the appropriate planning

and scientific-research institutes of Azerbaijan have been tasked with preparing specific recommendations during 1981 and 1982. The institutes of geography, geology and zoology of the republic's Academy of Sciences are included among those organizations expected to carry out this all-round task.

In addition to the engineering plans developed for sanitizing the bay, special importance is being attached to studying the processes for its natural self-cleansing. An old folk saying holds that "flowing water is always clean." To a certain extent, this applies to the Bay of Baku. In the north it juts into the land in the form of a semicircle and in the south it is connected to the open sea.

It is known that when water areas merge a certain amount of water exchange takes place between them. Just such a process takes place between the Bay of Baku and the sea on a continuous and rather intensive basis and mainly under the influence of frequent and prolonged winds, the effect of which is to lower the water level.

The residents of Baku are aware that the city is subject to both northern (including the well known Baku northwinds) and southern winds. These winds occur 96 percent of the annual time, or on approximately 350 days of the year, with strong winds occurring on roughly 200 days. These rather strong and prolonged winds always serve to lower the water level (during the initial stage of northern winds) and raise the water level (during southern winds and the subsequent stages of northern winds). In other words, the water mass in the Bay of Baku periodically flows from the bay into the sea and is compensated for by water from the open portion of the sea. The complete replacement of the bay's water mass, under the conditions imposed by the modern stage in relative sea level stability, that is, relative constancy in the bay's water volume, occurs no less than 3-4 times annually.

The further sanitation and cleansing of the water area assumes an all-basin nature, which includes the entire sea as a whole. With regard to a certain contamination of the soil on the bottom of the Bay of Baku, which took place in the distant past, any apprehension regarding its role as a source for secondary contamination of the water medium is now viewed as being of minor importance. In particular, we have in mind the fact that the surface of a number of contaminated sectors is covered by natural lithified crusts or has already become bituminized. Soil layers contaminated earlier are almost buried beneath them. And the remaining sectors, although they are capable of adding certain deposits to the water medium, they nevertheless, as I have already mentioned, in the final analysis flow out of the bay into the sea where they are imperceptibly scanty as far as the entire sea is concerned.

Thus the problem of further sanitization of the Bay of Baku, particularly by drawing off a layer of soil from certain sectors, as called for in a number of recommendations, has no economic basis. However, the possibility is not excluded of employing other chemical-biological methods which would not be harmful to the sea, methods which after being employed on an experimental basis in the Bay of Baku could be used with great effect in the future for the entire sea.

Everything stated above indicates that the available forces and resources should ideally be employed not for solving problems concerned with the local cleansing of individual sectors of the sea's bottom, but rather for the further development and complete implementation of measures aimed at completely eliminating all remaining sources of contamination of the waters of the Caspian Sea Basin, including the Bay of Baku itself.

In conclusion it bears mentioning that knowledge of the laws of nature, even in our case, aids man in eliminating the possible harmful consequences of human economic activity in the absence of undue alarm or tremendous expenditures. A water medium, owing to the laws of physics and the chemistry of the sea, in the final analysis enters a stage of self-cleansing, that is, the mechanism of cleansing the bottom and shores of the entire sea is actuated. There is a good basis for the motto of modern natural science and engineering practice which holds that when studying nature and the laws governing its development one should not oppose them but rather utilize them wisely in the interest of man and in behalf of protecting and using our natural resources in a rational manner.

7026

CSO: 5000/31

VOGEL VOICES NEW ENVIRONMENTAL POLICY PLANS

Frankfurt/Main FRANKFURTER ALLEGMEINE in German 15 Dec 82 pp 1,2

[Text] Bonn, 14 December. SPD Chacellor Candidate Vogel favors reorganization of the environmental policy: within the Federal Government responsibility for environmental policy must be centralized. This is the chancellor candidate's reaction to the proposal by Essen professor Meyer-Abich, his personal adviser for environmental, energy and technology policy, who is calling for a federal ministry for environmental protection and conservation. This is to indicate that environmental protection is getting the same status politically as economic and social interests. Meyer-Abich considers it intolerable that the federal food ministry on the one hand promotes agricultural production patterns and on the other hand is responsible for conservation.

Meyer-Abich has drawn up his ideas on environmental, energy and technology policy for the deliberations of the SPD campaign platform, which will be taken up by the party executive over the weekend. Vogel has not yet come to a final conclusion. He does not subscribe to every sentence in Meyer-Abich's draft. However, Meyer-Abich is confident that his ideas will have greater political appeal if the SPD returns to power in March. The very fact that Vogel is chancellor candidate gives Meyer-Abich hope.

Meyer-Abich proposes stopping as quickly as possible the construction of the Kalkar fast breeder, the financing of which is still uncertain. From today's standpoint, this project was a false start shaped by the growth euphoria of the postwar period. He says this technology will not be needed for the next 40-50 years. Even economically it is of no interest. Research and development work need not be interrupted but must be limited. But, in Meyer-Abich's view, the high temperature reactor deserves special attention.

The energy policy proposals by Vogel's adviser are along the lines of the majority recommendation of the investigating commission in the Eighth German Bundestag. A final decision on nuclear energy is to be made not before the eighties. Meyer-Abich approves of the construction of light-water reactors under the following conditions: priority must be given to saving energy; solar energy is to be utilized; the opportunities for using coal for heating must not be spoiled by excess capacities of nuclear energy; and

nuclear waste disposal must be ensured. Meyer-Abich favors direct final storage of fuel elements and opposes reprocessing. He demands that coal mining capacity be maintained, it being possible and necessary temporarily to adjust production to the decline in sales. Effects of harmful substances caused by the use of coal must be limited through modern technologies and all old power plants must be desulfurized. Energy saving should be supported by the state, whereby Meyer-Abich refers to the conditions, rules and prohibitions of the first nuclear energy investigating commission.

Environmental policy and research should be carried out with the widest possible participation of the public. Objections to private and public investments should be raised by means of class action suits. In Meyer-Abich's opinion, "local environmental quality" belongs under public control not of the authorities but of the residents who are to keep records in a citizens' report. Research goals are to be determined jointly with assistance from representatives of industry, science and politics. According to Meyer-Abich, in this process of the introduction and application of technologies it should be determined which developments are "meeting a need." Meyer-Abich thinks that the FRG must become a new industrial society with changed economic structures, even through partial abandonment of basic industries. The ideas adopted by chancellor candidate Vogel from Meyer-Abich will become apparent when the SPD election platform is made public.

12356

CSO: 5000/2527

NEW COAL POWER PLANT PLANNED, DESPITE ACID RAIN FEARS

West Berlin DIE TAGESZEITUNG in German 3 Dec 82 p 5

[Text] Hannover (taz) The "Braunschweiger Kohlenbergwerke AG" (BKB) for 3 years has been working on the construction of the 350-megawatt "Buschhaus" brown coal power plant. Despite the excited discussions in all German Land parliaments on the effects of the "acid rain," the dirtiest German coal power plant will go on stream in 1984.

Annually 115,000 tons of sulfur dioxide is emitted into the air from the 300-meter high chimneys. The Lower Saxony Social Affairs Minister Schnipkoweit, who also sits on the BKB board of directors, sees to it that everything proceeds smoothly. The newly developed brown coal deposits near Schoeningen at the GDR border are to fuel the new Buschhaus power plant close to Offleben near Helmstedt. According to Lower Saxony Minister Hasselmann in response to a question by the "Greens" on 1 December in the Landtag, this is so-called saliferous brown coal which has an especially high sulfur content; it exceeds that of the Rhenish brown coal tenfold. Hasselmann justified the mining of the saliferous brown coal with its "energy economy importance" as a "domestic energy source."

The "Greens" in the Lower Saxony Landtag in their question had pointed out the violations of the recommendatin of the February 1980 conferences of environmental ministers by the Lower Saxony authorizing body. At that time the ministers conference had agreed on a maximum SO₂ emission figure of 650 mg per cubic meter for all large furnace facilities over 175 megawatts. The maximum figure approved by Minister Schnipkoweit for Buschhaus is about 16,445 mg per cubic meter, or about 25 times as much.

Generally Schnipkoweit seems to distinguish himself by excellent export knowledge: In November 1981 he contradicted SPD suspicions in the Landtag that the acid rain was linked to the coal power plants in Lower Saxony with the assertion that it was caused by the "higher salt content of the on-shore winds." His annual report submitted in April 1982 he did not say a single word about acid rain.

But as early as June 1982 Schnipkoweit assured the excited parliamentarians of the Hannover parliament during a question period that the sulfur fioxide

emission from the coal power plants will be drastically fought in the future. "Therefore, the conditions can only be improved if the sulfur content in the fuels is drastically reduced or the exhaust gases are desulfurized. Both approaches are being taken in Lower Saxony."

But the minister does not take the matter too seriously, at least in those power plants where he collects fees from his activity on the board of directors. The cautious question of the "Greens" whether the minister "in his dual capacity as member of the board of directors and approving minister did not have a conflict of interests" was rejected by Schnipkoweit's minister colleague Hasselmann. Of course the power plant was approved in 1978, he said, "adhering to existing law and therefore according to the status of technology. Therefore no conflict of interest could develop."

Quite different interests will be in conflict for the population in the Braunschweig-Helmstedt area in the future: As a result of the new development of saliferous coal mines, 1,000 jobs will be assured in the 1990's, according to the BKB. As a result, the sulfur dioxide figures for Braunschweig, which are now the highest in Lower Saxony, will considerably increase, especially in the winter months and the smog alert will become an everyday occurrence. This is quite apart from the more than 200 tons of sulfur which annually descend upon every hectare of agricultural land and forest between Weser and Elbe.

12356

CSO: 5000/2527

MINISTRY RESTRICTING USE OF BENOMYL AND THIOPHANATE-METHYL

Helsinki HELSINGIN SANOMAT in Finnish 30 Dec 82 p 11

[Article: "Use of Benomyl To Be Restricted"]

[Text] The Ministry of Agriculture and Forestry is restricting the use of herbicides and pesticides containing benomyl and thiophanate-methyl. The restriction will go into effect in the beginning of March so that it will be applied already during the next growing season.

The use of these substances will be prohibited in the prevention of diseases on fruit trees, strawberries, leafy vegetables, and radishes according to the decision. They can be used twice during the growing season in the prevention of diseases on tomatoes and cucumbers. These substances can be used on diseases attacking leeks as well as cabbages and beets if the treated products are stored at least until the end of the year.

The ministry increased the warning period for benomyl and thiophanate-methyl from 7 days to 14 days.

The stipulations were tightened up on the initiative of the Central Medical Board. The Central Medical Board referred to studies on the health hazards of these substances.

Also a tightening of the stipulations is being planned in the Business and Industry Administration. It is preparing a decision according to which the maximum content of benomyl and thiophanate-methyl in food products would be reduced from the present 2 milligrams to 0.2 milligrams per kilo.

Substances containing benomyl and thiophanate-methyl have been used in the prevention of mildew and molds on berries, vegetables, and fruit, among other things. According to the board governing pesticides and herbicides Finns consume an average of 14 milligrams of benomyl per person annually from the food they eat.

10576

CSO: 5000/2531

BRIEFS

MINISTRY TO STUDY PCB HAZARD--The Interior Ministry has commissioned a committee to conduct an immediate study on the danger of equipment and substances containing PCB as well as to compile proposals for improving the situation. The committee must complete its report by the end of February 1983. PCB is a general environmental poison, which is used primarily in electrical equipment, in condensers and transformers, in particular. Previously, it was used for many purposes such as certain hydraulic oils, self-duplicating paper, and even chewing gum. The poison can be found in the environment nearly all over the world as the result of evaporation, the incorrect treatment of waste, and dumping in the sea. The most difficult properties of PCB-substances are their permanence in the environment and their concentration in organisms. PCB presents a special problem in fires and explosions in which dangerous poisons can be formed. Waste containing PCB should be destroyed by burning at very high temperatures. Finland will not have such a capability until the completion of the hazardous waste plant in Riihimäki. The committee will compile instructions for preventing hazards from equipment containing PCB presently in use and receiving PCB being taken out of use as well as instructions for making it harmless and other means of treatment. Also the study will deal with the manufacturing, importing, and restricting or prohibiting of PCB. [Text] [Helsinki HELSINGIN SANOMAT in Finnish 5 Dec 82 p 8] 10576

CSO: 5000/2531

MARINE BIOLOGISTS TO STUDY IMPACT OF OIL DRILLING IN ARCTIC

Oslo AFTENPOSTEN in Norwegian 5 Jan 83 p 6

[Article by Torill Nordeng]

[Text] An attempt will be made to place Norwegian marine ecological research in Arctic regions under a joint overall program for the next few years. The greatest emphasis will be placed on research concerning the marine ecology food chain and pollution problems. Depending on funding from year to year, it is estimated that from 12 to 23 million kroner a year will be spent on this. The overall program was presented to a number of different research institutions at a meeting in Oslo yesterday.

The initiative for establishing a joint overall program for marine ecological research in the Arctic was taken by the two research councils, the Norwegian Research Council for Science and the Humanities (NAVF) and the Norwegian Council for Fishery Research (NFFR). Both director Roald Vaage of NFFR and the leader of the polar group of NAVF, Professor Anders Johnsson, are very satisfied with the reception the overall program has received so far. But both of them stressed that talks are still in the initial stages and that many concrete issues must be dealt with.

They also stressed how important it is for research results that the various institutions have a joint plan of action and joint objectives for their work in Arctic areas. "Norway has a special responsibility here due to its administrative responsibilities in polar regions," Johnsson said.

There is no plan in the overall program to set up a new administrative apparatus to supervise activities. The established research institutions will control developments themselves, "but of course we hope the authorities will give individual institutions more money," said Johnsson and Vaage. They will ask for increased appropriations from the Ministry of Environmental Affairs in the 1984 budget.

Marine biologists Bjorn Gulliksen and Egil Sakshaug prepared the proposal for the overall program and they have concentrated on biological research in the ice periphery zone and the coastal and fjord areas of western Spitsbergen. In a program profile, it is proposed that the research be

related to basic research and that it be aimed at acquiring more knowledge and understanding of natural processes and human influence in polar areas. It was also stressed that the research should be of a long-range nature.

If the timetable proposed by Gulliksen and Sakshaug is followed, concrete projects must be worked out between February and June 1983 for implementation in 1984. It is proposed that the program last for at least 6 years.

The proposal for the overall program stresses that the biggest single outlay would be for the use of ships. But Sakshaug said that ship expenses would not represent any real increase in comparison to the current level. No special increase in personnel wages is expected either, because it is assumed that most of the employed personnel already receive wages paid for by public funds. The biggest extra expenses will be for all the investments that will be needed, food and lodging expenses and extra travel pay for the personnel and the operation of the scientific part of the program, according to Sakshaug and Gulliksen.

"The ambition level in the overall program is too high, but we interpret the reception as a big step forward for a unified effort in Norwegian marine biological research," said Sakshaug.

6578

CSO: 5000/2532

END