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14 July 1978

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This serial publication, based on worldwide press and radio reports, contains information on the epidemiology of human, animal, and plant diseases. Disease incidence, reported outbreaks, and various related epidemiological factors are included. Items are presented by country of occurrence rather than by country of original press report.

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I. HUMAN DISEASES

INTER-AFRICAN AFFAIRS

CHOLERA SPREADS IN EAST AFRICA; BOTSWANA UNAFFECTED

Gaborone DAILY NEWS in English 1 Jun 78 p 3

[Text] There has never been any outbreak of cholera in Botswana. Medical authorities have enough facilities to combat any outbreak. A Ministry of Health spokesman explained that vaccinations are administered to people as a preventative measure. The spokesman added, however, that there is no threat of a cholera outbreak in the country.

The outbreak of cholera in Tanzania has now spread to nine of the country's 25 regions, and at least 400 people have died.

Reports from Nairobi say that four people have died and that the Kenyan Government has ordered the closure of the border with Tanzania as a precautionary measure.

At time of writing, there have been more than 10,000 cases in Tanzania, since the disease was clinically confirmed last October about 100 miles south of here. The first victim was a businessman in the Rufiji district who played host to a suspected "carrier" of the disease from Saudi Arabia. After a day or two, the visitor sailed for home and soon after the businessman died.

At first, the health authorities took the disease for dysentery or diarrhoea, and by the time it was diagnosed as cholera of the el-tor variety, the whole coastal strip of Tanzania, except for the island of Zanzibar, was affected.

More than 100,000 cholera posters have been printed and distributed countrywide, and health authority efforts have been supplemented by many

charitable organisations. Air Tanzania has suspended flights to Zanzibar, while Dar es Salaam region has banned the brewing and selling of local liquor and the sale of food from unauthorised kiosks in a bid to stop the spread of the disease.

Primary and secondary schools were closed in Dar es Salaam for most of March. The Minister for health, Mr Leader Stirling, warned that the measures being taken were no substitute for improved sanitation, which was the real solution.

Quarantine restrictions have been imposed and there are immunisation programmes in the affected regions.

At a recent meeting of the country's health officers, Mr Stirling said:

"This cholera outbreak has yet again brought to our attention the insanitary nature of our environment. The lack of latrines in many of our rural areas and certain common unhygienic habits of our people account for these sad events."

"Cholera will not be contained until and unless we improve our waste disposal systems, and our personal hygiene."

Apart from treating all cholera cases, the government medical teams in the affected areas have also taken charge of the burial of all people who have died since January, to ward off traditional and religious customs which are likely to lead to further transmission of the disease.

Permanent "health committees" have been established to propagate the "good-health campaign."

There has been pressure in the media for a mass immunisation programme, but Dr Stirling has turned this down, apparently because there is no drug on the market that can guarantee complete immunisation.

He rejected a suggestion that the government was not in favour of mass immunisation because it would prove too expensive. "For a country like Tanzania, with its natural value for human life, no cost can be too high to save people's lives."

The first el-tor cholera incident in Africa was reported in August 1970, when it struck in north Africa, at Tobruk and Tripoli, having apparently been carried from Lebanon and Israel.

It also occurred in Guinea in severe epidemic form and is said to have later appeared in smaller outbreaks in Sierra Leone, Liberia and the Ivory Coast.

Cholera has claimed four lives inside Kenya and 103 cholera cases were being investigated by health authorities. The Kenya Government ordered

the closure of the Kenya-Tanzania border, and set in motion various precautionary measures to contain the disease.

All the reported deaths were from Kenya's Coast Province where, according to officials in Nairobi, the disease first appeared following a visit by a woman from an area in Tanzania. The woman died.

The government dispatched a team of medical experts to the province. The team put into operation measures aimed at containing the disease, including campaigns to teach the people the need to observe sound hygienic measures.

Provincial Commissioner, Coast, Mr Eliud Mahihu, said that Kenya would not allow Tanzanians to enter the country and that those entering would be put under quarantine until cleared by the health authorities.

While most of the activities centred around the Coast Province, it was reported that a suspected case had been found at Thika, only 20 miles from Nairobi, causing fears that the disease would spread to the capital.

Cholera last hit Nairobi in 1975 and the government contained it through mass vaccinations and a country-wide campaign through radio and television for the people to observe hygienic rules and report all suspected cases of the disease, whose symptoms are diarrhoea and vomiting.

Nairobi DAILY NATION in English 16 Jun 78 p 2

[Text] Brussels, Thursday--Some 68 people have died of cholera in Zaire where an epidemic has hit the East of the Central African country, according to reports reaching Belgian health authorities here yesterday.

The Public Health Ministry said the epidemic had not yet been stopped completely but had lost much of its initial virulence.

The lack of sufficient supplies of medicine appears to be the main problem for the authorities in the former Belgian colony although stocks are understood to have been ordered from Britain and are now being shipped.

The Belgian Ministry could not confirm reports from Burundi that 300 people had died in the cholera epidemic in the eastern Zaire province of Kivu. The reports said also 300 other people suffered from the disease.

Zaire is consulting with Burundi and another neighbour, Rwanda, where no cases have so far been reported, on measures to check the epidemic.

The Burundi are particularly concerned about preventing refugees fleeing the contaminated areas from crossing the border into their country. Burundi's capital, Bujumbura, is just next to Uvira at the northern end of Lake Tanganyika.

Jean Bandusha, Burundi's Minister for Health, last week reported three deaths among 60 cholera cases in Rumonge, a small Burundi locality on the lake and the death of a child in the capital itself.

Strong health measures have been taken in Burundi to battle the epidemic. Orders have been issued prohibiting hand-shakes and fish from the lake that could have been handled by disease-carrying fishermen cannot be eaten. The same applies to meat, vegetables and fruit from the infected areas.

ARGENTINA

SIX RABIES DEATHS REPORTED IN CAPITAL

Buenos Aires CLARIN in Spanish 4 Jun 78 p 20

[Text] What is a stray dog? We find the definition in Article 10 of Decree No 4669 of Buenos Aires Province. "Stray or uncontrolled street animals are animals running on public roadways without being held with a proper leash by their owners or caretakers, whether or not registered and licensed in accordance with effective regulations."

Dr Ricardo Esquivel, chief of the Rabies Prevention Center of the Province of Buenos Aires expanded this interpretation: "There are many who believe that if their dog is let out for a couple of minutes to run around the block it courts no danger whatever, could not be bitten by another animal and, consequently, that nothing would happen to it. Such a dog is as stray as any other dog which spends the entire day in the streets."

This definition leads to another related area. How to deal with a captured dog? "In this case the law is very clear. In the case of dangerous epidemiological circumstances, duly founded, and always providing that the risk situation cannot be controlled by other preventive means, stray or loose animals caught will not be returned to their owners even though they may be registered and vaccinated against rabies at any given time, and must be destroyed immediately," pointed out Dr Juan Carlos Arrosi.

Such circumstances are developing in Buenos Aires Province, "for this year there have already been seven human deaths from rabies." Dr Ruben O. Moncaut, the institute's technical secretary, reported that in five of the

cases no antirabies treatment had been administered. Two of the rabies deaths were in Merlo; the others were in Pilar, Moron, General Sarmiento, Lomas and Junin.

This situation--about to improve--led to the extension of Resolution 00026 of the Buenos Aires government to 9 July 1978, calling for the immediate destruction of any animal caught on a public street.

Forcible Entry

In the course of the interview Clain discussed above all the points concerning the owners of pets: The right of the catchers to enter homes to seize an animal.

According to Dr Arrosi "the municipal personnel is authorized to enter a home after all preventive measures have been exhausted and a source of rabies exists." He noted, nevertheless, that before forceful entry has been effected the same law requires that the following minimum steps be taken: The detection of a source of rabies by a team of social workers and after the dispatch of vaccination and seizure teams should rabid animals be found. The social workers must fill a form listing the vaccinated animals and another listing animals presumed rabid. "If the owners are properly advised neither the forced entry nor the climbing of walls are necessary."

He added that the trend is toward traditional measures, i.e., the seizure of the animal and, following the tests, its return to its owner against payment of a fine.

Some communities have regained their rights in this matter and are proceeding with the restitution and registration of the animals.

Some 2 million dogs live in an area which includes Greater Buenos Aires, La Plata, Berisso and Ensenada. Statistics show that in some areas there is one dog for three people, whereas in the emergency situation areas there are two animals for each person.

The Only Formula

"Nevertheless, the situation is dramatic," said Dr Arrosi, "and we should not forget that in November 1976 there were 618 cases of human rabies in Buenos Aires Province, which made it first in America and third in the world."

He emphasized that "should the campaign we intend to launch in September turn out to be successful, the situation would be normalized and we would resume the restitution of nonrabid dogs."

Individual Cages

Dr Benjamin N. Rodriguez, interim head of veterinary medicine of the Three February Party, pointed out outright that "in order to avoid situations such as those already encountered," one must follow strictly the Buenos Aires rules which are consistent with the criterion of returning the animal to his owner providing that the animal is healthy and once the current epidemic has disappeared.

"However, this calls for modifying the seizure vehicles used," he pointed out, and avoiding all captured animals to be thrown in the same cage as is currently the case.

The captured animals--up to 30 per cage--bite each other and thus spread not only rabies but other diseases as well. Returning the animals to their owners under such conditions "would be very dangerous to public and animal health," the official said.

Advice of the Antirabies Center

The antirabies centers are giving different advice in cases of animal bites and with a view to preventing the leaving of animals on public streets.

Treat the wound immediately by washing it extensively with water and soap;

Then go to the closest antirabies center;

Should vaccination be indicated, go through the full treatment;

Have the animal immediately locked in the antirabies center;

Do not kill any biting animal or allow its disappearance;

Do not abandon your animals;

Should you be unable to care for them, take them to an antirabies center or your animal protection society;

Have the animal sterilized if you do not wish its progeny. Consult your veterinarian or the antirabies center;

Be cautious in handling the animals. Treat them with care and maximum concern without allowing yourself or your family hazardous contact with the animal's muzzle or saliva.

AUSTRALIA

MEAT WORKERS CONTRACT BRUCELLOSIS

Melbourne THE AGE in English 19 May 78 p 19

[Text] About 200 meat workers at Dromana have gone on strike because some of them have contracted the disease brucellosis.

Brucellosis is a cattle disease which can be passed on to humans.

The symptoms are fever, weakness, headaches, and other pains.

It is believed 57 of the workers have the disease, but because of delays with medical tests results--none of them can be sure if they are affected.

The strike is aimed at forcing the company, Playfair Meats, to reveal the results of tests done earlier this month.

The men also fear the disease might spread.

State secretary of the Meat Industry Employees Union, Mr. Wally Curran, said many workers had lost time off and had suffered severe nerve damage.

Mr. Curran said: "Last week it was learned that letters had been sent to 57 workers advising them to seek further consultations with their own doctor or the Fairfield Infectious Diseases Hospital.

"But the company was then instructed to withhold the letters, therefore all workers are uncertain and concerned as to whether their names are on the list."

Union officials will meet the industrial hygiene section of the Health Department on Tuesday.

BAHRAIN

MALARIA REPORTS

Manama GULF WEEKLY MIRROR in English 8-14 Apr 78 p 3

[Text] Bahrain has remained free of locally transmitted malaria for the whole of the first quarter of 1978, the Director of Public Health, Dr Rifaat A. Hameed Mahmoud, reported. All the 43 cases of malaria recorded in March were imported.

Manama GULF WEEKLY MIRROR in English 13-19 May 78 p 3

[Text] Twenty-nine new cases of malaria were reported in Bahrain in April, but all of them were imported. This brings the total for the year so far to 68.

One of the new cases was the malignant Falciparum malaria, the head of the Communicable Diseases Section Dr P. P. Matthew said. The sole case of malaria attributable to local sources this year was also of this type. It was reported during March, and was presumed to have been induced by blood transfusion.

The patient received ten pints of blood from donors, at least two of whom had visited malarial areas recently, according to a Public Health Directorate study of the case. The donors are being traced for blood film examination.

Dr Matthew said that since mid-April, the start of the local breeding season for mosquitoes carrying the malarial parasite, the Medical Commission has been taking blood samples from all migrant workers from malarial areas.

Manama GULF WEEKLY MIRROR in English 27 May-2 Jun 78 p 9

[Text] The government of Bahrain is taking over complete control of anti-malarial measures on the island from January 1 next year.

Traditionally, Bapco has looked after Sitra island, the area to the north of the refinery, and the western villages from Karzakan to Wasmiya as a service to the people of Bahrain.

Spraying was carried out by sub-contractors to the oil company. These contracts were due to run out on July 1, but will be extended until the end of the year at the request of the Director of Public Health, Dr Rifa'at A. Hameed Mahmoud.

Bapco will now be responsible only for its own work and residential areas. Dr Rifa'at commented: "The industrial area and large numbers of buildings have completely changed the circumstances since Bapco started anti-malaria control measures."

VACCINATION REQUIREMENTS CHANGED

Manama GULF WEEKLY MIRROR in English 22-28 Apr 78 p 42

[Excerpt] International health certificates--those bright orange booklets full of stamped details of jabs and vaccinations--are on their way out for travellers to Bahrain.

Cholera vaccination certificates have not been required since January 1974, according to WHO regulations. Smallpox certificates went off the list just three months ago, when Somalia, Ethiopia and Kenya were declared free of the disease; India, Bhutan and Nepal were declared safe in June last year, and Bangladesh in December.

This year, only yellow fever certificates will be required, for travellers entering Bahrain from infected areas--mainly countries in central Africa.

FOOD HEALTH PROBE

Manama GULF WEEKLY MIRROR in English 8-14 Apr 78 p 3

[Text] All foodstuffs coming into Bahrain through the airport or by sea are subject to inspection by the Directorate of Public Health, as from April 1.

Inspectors previously concerned themselves only with perishable foods, the food control section head, Mr. Yousuf Sayyigh, said this week.

Importers will be charged BD 6.500 for the inspection of each food consignment up to 5,000 kg. but when staff are called to see perishable goods out of normal duty hours there is a higher charge of BD 8.500.

The two-tier system may only be a temporary measure, until more qualified public health inspectors are available, Mr. Sayyigh said.

HEALTH INSPECTORS CLOSE BUSINESSES

Manama GULF WEEKLY MIRROR in English 27 May-2 Jun 78 p 9

[Text] Public Health inspectors last month issued closure warnings to 117 establishments in Bahrain where food is handled under unsatisfactory conditions, and 20 businesses were actually closed down for failing to effect improvements.

During April, staff of the Food Control and Hygiene Section, headed by Mr Yousuf Sayigh, paid a total of 907 visits to hotel kitchens, restaurants, coffee shops, sambousa stalls, bakeries and cold stores.

For less serious offences against good standards of hygiene, 53 businesses were given warning of fines unless they put matters right, and fines were imposed on 17 of them. In the course of their inspections, public health staff confiscated 217 cracked, damaged or unsuitable dishes and kitchen utensils.

Mr Sayigh is to be transferred to the sanitation section at the municipality, the Director of Public Health, Dr Rifaat A. Hameed Mahmoud, said this week. There he will have special responsibility for hygiene at the new central market.

BRAZIL

TUBERCULOSIS FOCUS IN AMAZON

Rio de Janeiro O GLOBO in Portuguese 26 Apr 78 p 10

[Text] Belem--According to the Para physician Almir de Almeida Gabriel, in a statement made yesterday, the Amazon region is the main focus of tuberculosis in Brazil. He spoke at the opening of the fifth working office of the National Division of Hygienic Pneumology and the meeting of directors and chiefs of units of that division (DNPS), which will continue until Friday on the premises of the Ophir de Loyola Institute and the Barros Barreto Hospital in Belem. Almeida Gabriel said that the high rate of incidence of the disease in the Amazon region is due to several factors, including the lack of a health education program.

POLIOMYELITIS KILLS FOUR

Rio de Janeiro JORNAL DO BRASIL in Portuguese 7 May 78 p 25

[Text] Cachoeiro de Itapemirim (Espiritu Santo)--In the municipio of Itapemirim, there are 17 cases of poliomyelitis on record, 4 of which were fatal. The head physician at the local hospital fears that the outbreak may spread, and recommends mass inoculation of all children, which could be done at the health-medical centers and at the Santa Helena Hospital in Itapemirim. It is suspected that the disease was carried to the municipality by the area's fishing boats which make stops in other ports along the Itapemirim River.

FATALITIES FROM RABIES CONFIRMED IN CEARA

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 10 May 78 p 15

[Text] The health laboratory of the Ministry of Agriculture in Fortaleza confirmed the fact that, between January and April of this year, seven persons died as a result of human rabies in the state as a whole. The official report also revealed that an additional 14 individuals died of canine rabies during the same period. Yesterday, however, a 17-year-old youth died as a result of the same disease in the municipality of Caucaia, 15 kilometers from Fortaleza.

A veterinarian associated with the Ministry of Agriculture whose identity was not disclosed because he claimed not to have permission from his superiors commented: "We can cite only the cases on record in our laboratory here; the death of the young man in Caucaia is not included in our records."

According to explanations supplied by Dr Lucilia, a Ministry of Agriculture veterinarian, last year there were 3 deaths from human rabies, as compared with 21 resulting from canine rabies. In her opinion, the causes of the high death rate from rabies are closely related to the need for a greater awareness of the disease on the part of the population. Despite the veterinarian's position, the situation prompted the head of the Department of Coordination and Health, Medivo Pedro Alvino de Queiroz, to call a meeting with the State Health Commission for the purpose of adopting immediate measures.

After the meeting, it was assured that the commission would start a campaign this week to alert the population to the dangers of rabies. Concurrently, another campaign in the interior of the state will be intensified to promote prophylaxis for rabies, by virtue of an agreement with the Ministry of Agriculture.

DEATH TOLL FROM TUBERCULOSIS SET AT FOUR DAILY

Rio de Janeiro O GLOBO in Portuguese 11 May 78 p 15

[Text] "Tuberculosis is a disease which, even 34 years after the discovery of the antibiotic to cure it, is still killing four Brazilians per day, that is, one every 6 hours, in addition to being responsible for the existence of 300,000 infected persons throughout the country. It is obvious that, with such high numbers, Brazil is not a country which can rest easily."

This statement was made yesterday at the Rio de Janeiro Association of Medicine and Surgery by phthisiologist Jose Silveira, a pioneer in the battle against tuberculosis in Brazil. In 1977, Professor Silveira won the highest award conferred in the health area in Brazil, the Brazilian Medical Association's Astra Prize for Medicine and Public Health.

The founder 40 years ago, and the current director of the Brazilian Institute of Thoracic Research and the Thoracic Hospital, in Salvador, the only entities in all of Latin America engaged in research and education concerning the disease, Jose Silveira explained: "The problem of tuberculosis is directly related to underdevelopment and, as such, it is a 'disease of the poor,' although from a scientific standpoint 95 percent of the cases are curable."

He said: "The problem does not lie with the discovery of a scientific and technical solution, because it already exists. The entire problem of the battle against the disease may be summarized in the fact that the use of this knowledge varies considerably depending on whether a country is developed or underdeveloped. In fact, what there is is a big gap, known as underdevelopment, between what is known scientifically and its actual utilization."

"Sad Reality"

According to Professor Silveira, in a country with a high rate of illiteracy and malnutrition, with a very serious housing problem and where the sanitation conditions are dubious (factors which he cites as typical of underdevelopment and hence responsible for the difficulty in applying the existing knowledge), when the same technology is used one cannot accrue the same results as are forthcoming in the developed countries.

The scientist declared: "Tuberculosis manifests itself differently depending on the socioeconomic and cultural status of each nation and region. Hence, whereas the mortality rate for tuberculosis is relatively low in the so-called large centers, such as Rio and Sao Paulo, in the North and Northeast, for example, they are still shocking. In any event, tuberculosis is a sad reality in Brazil."

EMERGENCY MEASURES TAKEN AGAINST CHOLERA DESCRIBED; NOW SUSPENDED

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 5 May 78 p 15

[Text] In a telephone call made at 2130 to the prefect of Santos, Health Secretary Walter Leser said that the cholera bacterium--a disease practically unknown in Brazil in recent decades--was identified in a sewage sample collected at Ponta de Itaipu, in Sao Vicente near the Pensil Bridge.

This finding led the Basic Sanitation Technology Center [CETESB] to expand its work of collecting materials quickly; posts were activated in Sao Paulo, Campinas, Praia Grande and several other points on the coast to check on the existence of the bacillus in other samples (normally it develops in feces and is transmissible by water). While the Ministry of Health was also informed and "all its resources" placed at the service of the Sao Paulo Health Secretariat, the Basic Sanitation Company of Sao Paulo [SABESP] sought to increase chlorination of water provided to all the cities of the region.

The Adolfo Lutz Institute also took action late in the afternoon to increase the number of posts in the districts of the capital. Tests of oysters and other mollusks are already being intensified: It is in those organisms that the cholera bacterium takes refuge after sewage is dumped into the ocean.

In an official note made public last night, the Secretariat of Health reported on the measures adopted and explained the safety measures that should be adopted--mainly care in personal hygiene (washing the hands well with soap before eating or handling food) and avoiding eating uncooked food such as vegetables, seafood and so forth).

In Santos, Prefect Antonio Manoel de Carvalho repeated those instructions, reminding that it is well to avoid swimming in the ocean far from the beaches. Practical measures will be taken beginning early today in several points of the Santos lowland.

The Note

The following is the complete text of the note made public by the Secretariat of Health:

Because of the identification of the agent which causes cholera in only one of the samples of material collected at sampling points of the Santos sewage system, the fact was reported to Governor Paulo Egydio Martins, who ordered the adoption of all necessary measures and the issuance of the following communique to the population:

Inasmuch as there were cholera outbreaks in several countries: Portugal and the West Coast of Africa being the most directly related to Brazil, a series of recommended measures were adopted for the protection of the population against the dangers of the possible introduction of the carrying agent of the disease into the country. One of them is being put into effect by the CETESB, which is making successive collections of sewage material in many points in Sao Paulo, Sao Sebastiao, Praia Grande, Campinas and Santos, in this city, including points of the estuary.

The collection points were selected because they are areas into which the feces of persons from the countries where the disease prevails could most probably be discharged. Up to now the results have been systematically negative. However, only one of the many samples collected in the sewage collecting system of Santos revealed the presence of the cholera vibrio, identification of which was made by the CETESB laboratory itself and confirmed by the Adolfo Lutz Institute. Such a finding justifies the vast amount of work which has been done by the CETESB for several years, because it allows the adoption of the proper measures without there having been any cases of the disease. Usually, it is only after the appearance of cases of the disease that such measures are put into effect.

The identification of the agent completed late this afternoon (4 May), several agencies were immediately put into action for the implementation of the following measures:

1. SABESP will proceed to increase chlorination of water supplies and will intensify the already strict control of water quality carried out by the CETESB. Chlorination of water in drains will also be increased;

2. The CETESB will intensify sample collection and examination work throughout the area for the purpose of checking on the possible dispersion of the agent, given the possibility that it is a case of an accidental and transitory contamination. Various types of seafood will also be examined, particularly oysters and other mollusks, in which the agent, when it is present in water, will concentrate;

3. The Secretariat of Health will take action, insuring conditions for laboratory diagnosis when necessary, with the participation of the regional laboratory of the Adolfo Lutz Institute, supported by the Regional Health Division (DRS-2); as follows:

A) Maintain strategic stocks of equipment and medicines for treatment;

B) Provide jars with chlorine solution for residential purification of drinking water to be used by the population not served by the SABESP service;

C) Promote the explanation to the people by every means possible of the preventive measures which must be taken.

These measures are the following:

1) Do not eat raw food such as mollusks, oysters and vegetables.

2) Wash the hands carefully with soap before eating or handling food.

3) Bathe in the ocean only at distances which are never less than 100 meters on each side of sewage drains.

4) Those people who are not served by the water supply network should obtain the chlorine solution from health centers for purification of drinking water.

Doctors of Santos must notify health authorities immediately, via telephone number 4-88-97, on cases of profuse, watery diarrhea in patients over 5 years of age so that the necessary measures may be taken.

Pursuant to instructions from the World Health Organization [WHO], the specific vaccination of the population is not indicated.

The Ministry of Health has already been informed and has placed all the resources of the ministry at the disposal of the state.

Although the isolated discovery of the disease vibrio does not imply the certainty of an outbreak of cases of the disease, the adoption of related measures, especially the explanation to the population, are the duty of health authorities and it may be expected that they will have the desired effect, which is that of maintaining the country free of the disease which is scourging all the other continents.

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 6 May 78 p 12

[Text] The director of the National Secretariat for Health Control of Rio, Luis Carlos Moreira de Souza, yesterday confirmed the imposition of a "state of alert" in the area to prevent the possible entry of persons carrying the cholera bacterium into the state. Luis Carlos, who is also president of the National Cholera Prevention Commission, sent a representative to Sao Paulo, the port director of health, Aristides Ferreira Lima Verde, to learn about the situation.

He explained: "Dr Aristides is going to check on the ways we can help, but first of all, I believe that we will not have any major problems because during the past 4 years, due to the decision of Minister Almeida Machado, we managed to avoid cholera despite the various outbreaks which took place in other countries."

Luis Carlos Moreira declares that for the time being he is going to require only a greater strictness in the examination in the wastes from the airplanes landing at the Rio airports. "It is a routine measure," he said, "but during this period of alert, when we shall be on guard for anything new, we are going to pay double attention. If some inspected airplane has cholera bacteria in its wastes, we shall check all the passengers to find out which one is carrying the disease."

The standards of vigilance, which have been intensified since the outbreak of cholera took place in Angola and Portugal, are being complied with in other capitals where there are international airports. In Recife, checks of passengers from abroad are made permanently by a team consisting of a doctor and a health guard, who take routine measures such as requiring certificates of vaccination from those who arrive from abroad

In Salvador, there has been no news of any case of cholera in the past 100 years but even so the federal health delegate, Samuel Cerqueira de Oliveira, declared that there is a plan in effect which can handle any emergency. In addition to vigilance at ports and airports, Salvador has another preventive plan: technicians of the Bahia State Health Foundation collect "raw sewage" at the port of Salvador and the sewers of the city twice a week.

In Manaus, a much more strict epidemiological watch is put into effect at the Eduardo Gomes Airport and at the port, where passengers are subjected to lengthy examinations before being released. In the hypothesis that one of them presented symptoms of dysentery, he is examined on board and if the infection is verified, he is placed in quarantine. If the infection is not confirmed, the passenger is released but remains under observation in the hotel. The Para Secretariat of Health has now adopted a normal vigilance plan, but it has another--very strict--created in 1975 after the outbreak of cholera in Angola and Portugal. At that time there were even inspections at the railway station.

At the international airport of Viracopos, the local team of the Health Service has already had problems in cholera prevention work. At the beginning of 1977, an airplane of the TAP took off from Lisbon without a check of health certificates and under the threat of a terrorist attack. When it approached Campinas, the aircraft commander informed the tower that none of the 120 passengers had been immunized. The emergency plan was immediately put into effect.

While that operation was being executed, an Alitalia intercontinental jet landed at Viracopos with explicit orders to remain parked on the runway. "The idea," explained a doctor, "was not to mix the two groups of travelers," a precaution which it was not possible to maintain because all the occupants of the Alitalia airplane decided to ignore the instructions of the commissioners and left the aircraft. As a result, the doctors had to make more than 200 injections of vaccine, because the 320 persons who had arrived in the two airplanes mingled together in the customs building.

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 6 May 78 p 12

[Text] Secretary of Health Walter Leser, in a collective interview yesterday, did not discard the possibility of an outbreak of cholera in Sao Paulo, but he declared that his secretariat is in a condition to fight the disease if it shows up. As part of the preventive measures, he sent to Santos the material stocked in the Emilio Ribas Hospital, and he ordered the reactivation of the State Cholera Prevention Commission, which held its first meeting in the afternoon, issuing the following official note:

"The commission continued to examine other measures, particularly with respect to a reactivation of the epidemiological vigilance activities in the area of Greater Sao Paulo. It was decided to maintain a permanent guard for receiving reports made by doctors, hospitals or first aid posts about suspected cases, that is, patients older than 5 years of age with watery and profuse diarrhea."

Telephone number 280-5864 has been reserved for that purpose and it must not be called for any other reason. The commission emphasized the need to continue to publicize, by every means possible, the recommendations which should be adopted by the population. They are: 1) do not eat raw food such as mollusks, oysters and vegetables; 2) wash the hands carefully with soap before eating or handling food; 3) bathe in the ocean only when you are at least 100 meters away from the banks of sewage drains; 4) those persons who are not served by the water supply system should obtain the chlorine solution for purifying drinking water from the health centers.

Walter Leser reported that those measures are more effective than the application of vaccine because, although it may be able to protect against infection, it does not change the clinical development of the disease. Therefore, it is not in the Secretariat of Health plans to carry out mass vaccinations. The secretary also spoke of the vigilance at ports and airports by the Specialized Services Coordinator of the Secretariat, declaring that its actions are very restricted, it being almost impossible to prevent the disease from arriving in the country. "That work would require a long time spent in examining passengers. The only way to confirm the presence of the disease is to subject the passengers who do not feel well during the trip to examinations."

Toward the end of the interview, Leser was more optimistic: "There is a possibility which eliminates the appearance of an outbreak of cholera: the hypothesis that the infection found was the only one, which in this case would have halted the spread of cholera since all necessary measures have already been taken."

In the Capital

The municipal area is also prepared to face the problem, although the secretary of hygiene and health, Fernando Proenca de Gouvea, does not believe in the possibility of a cholera outbreak. As far as he is concerned, the finding of a cholera vibrio in the Santos sewage shows the watchfulness maintained by CETESB throughout the state.

Proenca explained that representatives of his secretariat have been maintaining contacts since yesterday with the state secretariat for collaborating on the solution to the problem. At the same time, each unit of his secretariat was instructed to report the appearance of any case of suspected case immediately.

Even with the existence of almost 1,000 slums in the capital, where normally there is no piped water and sewage runs in open ditches sometimes polluting the wells of the region, Proenca does not believe in the possibility of an outbreak.

The secretary of hygiene explained, however, that if it does happen, the city will have enough medicines, hospitals and doctors to take care of the sick because there is a complete work plan drafted in 1975 when much was said about the outbreak of an epidemic in Sao Paulo.

Rio de Janeiro JORNAL DO BRASIL in Portuguese 9 May 78 p 16

[Text] Brasilia--Although the regional delegate of the Secretariat of Health of the State of Sao Paulo, Joao Dantas Romero, admitted that the symptoms of the two cases found are similar to those of the disease, the Ministry of Health revealed yesterday in an official note that no case of cholera has been confirmed in the Santos lowlands.

The material collected from two persons--admitted last Saturday to the Guilherme Alvaro Hospital--was sent for analysis to the Adolfo Lutz Institute laboratory. As of last Friday, more than 50 false alarms were analyzed by the doctors of Santa Casa and the Guilherme Alvaro Hospital of Santos.

A Ban and an Official Note

The symptoms noted in the patients admitted Saturday are the same as those of cholera: dehydration, intensive vomiting, dry skin and a high fever.

Last Friday, the finding of cholera vibrios in the sewage of Santos caused the intervention of authorities, who banned ocean bathing in the areas near the sewage drains.

The Coordinating Office of Social Communications of the Ministry of Health reports that there is no confirmation of any case of cholera in Santos. The Ministry of Health is maintaining permanent contact with the Secretariat of Health of Sao Paulo, following the situation resulting from the finding of the cholera agent in the Santos lowland area.

Of all the suspected cases reported, only two presented symptoms which advised continued observation. The necessary laboratory examinations, without which there can be no confirmation of the cases, are underway.

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 10 May 78 p 15

[Text] The secretary of public works and the environment, Francisco de Barros, yesterday ordered CETESB technicians to prepare a plan aimed at extending cholera preventive measures in the area of basic health to the entire state of Sao Paulo. The plan, according to assistants to the secretary, should be prepared today, it being said that one of the concerns is to improve the pattern of water treatment, primarily in the

cities where the supply systems are not yet joined to SABESP. In Santos, six more suspected cases were registered early yesterday morning but the Regional Office of Health reported later in the morning that "clinically nothing leads to the belief that it was cholera." At the same time, the press was forbidden to enter the Guilherme Alvaro Hospital, which is devoted to the admittance of cholera cases.

During last night's meeting at the Secretariat of Public Works and the Environment in Sao Paulo, technicians of the CETESB confirmed that the results of the analyses made last weekend will begin to be published today. Those analyses are considered important because the samples were collected after the official confirmation of the identification of the cholera vibrio, and cover new collection points. If all these analyses--more than 100 according to the CETESB--turn out negative, the possibility will increase that the vibrio identified in the sample collected on 14 May in Santos was not the indicator of a possible outbreak of cholera.

In turn, the secretary of health, Walter Leser, said he expects that the definitive analysis being made of the cholera vibrio sample by the Center for Communicable Diseases of Atlanta will bring additional explanations to the totally new situation being faced by the Sao Paulo health authorities. The sample was taken to Atlanta yesterday by the chief of the bacteriological section of the Adolfo Lutz Institute, Gil Vital Pessoa, who intends to return to Brazil on Monday.

At the same time that he confirmed the "release" of the two patients suspected of having cholera, the president of the State Cholera Commission, Otavio Azevedo Mercadente, declared last night that he had not received any reports on new admissions to the Guilherme Alvaro Hospital in Santos. "I spoke with the director of the Regional Health Division late this afternoon and he told me that only cases of diarrhea are being recorded."

Although the two female patients, with the clinical symptoms most resembling cholera have already been released, authorities of the Secretariat of Health did not hide their expectations yesterday on the results of the laboratory examinations of feces being made at the Adolfo Lutz Institute. Those results will be revealed "today or tomorrow," either confirming or denying the first diagnosis which did not agree that it was cholera in those two cases.

Photographed

A man who appeared to be 30 years old, dark and seminude, was photographed in Pavilion 4 of the Guilherme Alvaro Hospital in Santos by a photographer of O ESTADO yesterday at the exact time that the director of the Regional Health Division, Joao Dantas Romeiro Filho, declared that "no more cases have been recorded in the past 24 hours. Only some suspicions, which were discounted." The hospital director, Aurelio da

Silva Rocha, obeying orders from the Secretariat of State of Sao Paulo, did not receive reporters in the evening, declaring only: "I am not to blame, the order came from above. They give the orders." Since yesterday, the hospital director has given no more interviews and reporters are limited to those which may be scheduled by the Secretariat of Health in the offices of the Regional Delegation by Director Joao Dantas Romeiro Filho.

The order was given to the director of the Guilherme Alvaro Hospital by the hospital coordinator of the State Secretariat of Health, Salvador Gonzaga Morbak, who avoided any contact with the press. After a meeting of approximately 40 minutes, Joao Dantas Romeiro Filho did not want to talk to reporters, who waited for him to hear about the ban. He entered his automobile without even explaining the reason. Previously, before the prohibition--still in the Guilherme Alvaro--Salvador Gonzaga Morbak interrupted a conversation between one of the nurses and a JORNAL DA TARDE reporter with a curt: "Say no more," speaking to the nurse. Later on, at the Regional Health Delegation, the director, Joao Dantas Romeiro Filho, explained that the two women who were admitted to the hospital Sunday night were released because of a "significant improvement in their clinical picture."

Rio de Janeiro O GLOBO in Portuguese 10 May 78 p 10

[Text] Santos--Regional Health Delegate Joao Dantas Romeiro Filho reported that the two women admitted Sunday night with suspected cholera were released yesterday morning:

"The clinical picture of the two women improved a great deal during the past few hours. They are doing well and are properly medicated. There were no reasons for keeping them in the hospital," he said.

Six more suspected cases were recorded during the past 24 hours in Santos although there were no admittances to the hospital. Feces from persons suspected of having the disease were sent for examination to the Adolfo Lutz Institute in Sao Paulo.

The Regional Health Delegation of the state intensified inspections of restaurants and bars in Santos, trying to locate contaminated shellfish and today begins a campaign of hygiene in the surrounding districts.

Today, the CETESB should reveal the results of the first tests made at various points of Ilha de Sao Vicente. The results of the examinations made by the Adolfo Lutz Institute will not be revealed for a few days.

In Fortaleza, in view of the appearance of suspected cholera cases in Santos, the State Cholera Commission met yesterday to review and discuss preventive measures against the disease.

The measures studied are aimed, according to commission members, at insuring conditions for caring for cholera cases in such a fashion as to prevent its spread, primarily keeping in mind the poor sanitary conditions in the interior of the state.

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 11 May 78 p 28

[Text] Two new patients, suspected of being afflicted with cholera, have been admitted to the Guilherme Alvaro Hospital in Santos. They are a man and a woman, both of Guaruja. They were admitted Tuesday night. Yesterday the Adolfo Lutz Institute concluded the bacteriological examinations of the two patients who had been admitted to the Guilherme Alvaro Hospital--they have already been released--and the results were negative with respect to cholera. The CETESB did not find the cholera vibrio in the 13 samples collected at various points of the Santos lowland in recent days either. These examinations were concluded yesterday. The president of the State Cholera Commission, Otavio Azevedo Mercadante, yesterday confirmed the existence of two new patients suspected of having cholera. They have been in the Guilherme Alvaro Hospital since Tuesday night, after being removed from a hospital in Guaruja. The Adolfo Lutz Institute has already received fecal specimens from the two patients (a man and a woman) for the laboratory examinations which will make a final diagnosis possible.

The Adolfo Lutz Institute also concluded the bacteriological examinations of one of the two female patients who were in the Guilherme Alvaro Hospital until Monday, and the results were negative with respect to cholera. The violent attack of diarrhea which affected the patient was caused by escherichia coli, a common bacterium, according to Otavio Mercadante. Still lacking are new analyses for determining the type of bacteria, which are probably enterotoxigenic and produce symptoms similar to those of cholera because they release toxins in the intestine.

The president of the State Cholera Commission explained that the diagnosis of the second patient is going to take another week because it depends on serologic examinations. He said that in that case it was not possible to make bacteriological examinations because the patient ingested antibiotics before being admitted, neutralizing the infectious agent.

Seventy-two Notifications

Up to yesterday, the State Cholera Commission had received 72 notifications from doctors of the Santos lowlands reporting serious cases of diarrhea and, according to health authorities, stool specimens are being collected from all the patients for bacteriological examination at the Adolfo Lutz Institute. The chief of the commission said that the procedure is becoming routine, there being no reasons for alarm. Meanwhile, he believed this vigilance to be positive, declaring that the patient

who was released on Monday in Santos, even if she did not have cholera, ran a serious risk and could even have died if she had not received immediate help.

"In all the serious cases of diarrhea, we are acting as if it were cholera," explained Otavio Mercadante, saying that if a real case of the disease appeared, the Secretariat of Health would need to make no change in the present procedure. "We would only report the existence of the case because the necessary measures are being taken automatically."

Vaccines

Mercadante said that health authorities do not intend to immunize the population--at least for now--despite the existence of 500,000 doses of vaccine in Sao Paulo. The vaccine, according to him, is only useful under very particular situations.

He justified this position saying that the vaccine, in addition to protecting 50 percent of the population at a maximum, has a useful life of only 3 to 6 months. "Contrary to other diseases such as meningitis, transmission of cholera is not direct, but through food or water, that is why even persons who are vaccinated can be bearers of the cholera vibrio."

Survey

Yesterday, in Santos, the regional health delegate, Joao Dantas Romeiro Filho, reported that a survey is being made of registered admittances and the Institute of Forensic Medicine to link all the deaths which have taken place in the city since 1 April. He explained that such a survey seeks to check on the conditions of the death of several persons. Unofficially, it was reported that the Regional Health Delegation already has knowledge of the death of two adult persons, victims of a very severe diarrhea, during the period 1 to 30 April.

All the restaurants on the beach are undergoing a very close inspection by the technicians of the Regional Health Delegation and yesterday afternoon it was reported that one of the women admitted initially to the Guilherme Alvaro Hospital (already released) had eaten seafood at the "Balnearia" Restaurant. Inspectors found seafood and oysters in an advanced state of decomposition in that establishment.

The CETESB sent the first results of the analysis made on water, sewage, seafood and oysters collected in the Santos low areas to Secretary of Public Works and the Environment Francisco de Barros as part of the emergency plan put into effect as an epidemiologic watch against cholera. According to the agency, the 13 samples collected last Friday did not reveal the presence of the cholera vibrio. The samples were collected at various points in Santos and also at Praia Grande and Sao Vicente. Another 49 samples began to be analyzed yesterday.

Yesterday in Rio, the National Commission for the Prevention of Cholera of the Ministry of Health met to discuss the problem and to learn of all the preventive measures taken by the Secretariat of Health of the State after the identification of the cholera vibrio in the Santos low area. Acting Minister Sergio Raymundo Negrao de Souza Franco and the Sao Paulo secretary of health, Walter Leser, participated in the meeting.

According to an official note publicized after the meeting, "the measures applied with a view to the early detection of possible human cases of cholera in the Santos low area, despite being greatly intensified, have not up to now managed to find any case among tens of investigations made. Laboratory tests are still continuing."

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 13 May 78 p 44 PY

[Text] The Basic Sanitation Technological Center has found vibrium cholera in two other sewage samples collected on 8 May in the neighborhoods of Gonzaga and Aparecida in Santos. The samples of the bacillum have been sent to the Adolfo Lutz Institute, which will verify whether or not they are of the El Tor type as was the first sample isolated on 14 April.

Although vibrium cholera has been identified in three samples in the last 30 days, Environment and Works Secretary Francisco de Barros does not consider them sufficient to isolate the source of the contamination because all three samples were collected in different neighborhoods in Santos. He admitted that the existence of vibrium cholera in the sewage of the port of Santos continues to be a puzzling problem, more so since health authorities have not yet found any persons ill with cholera.

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 14 May 78 p 36

[Text] The first suspected case of cholera in Sao Paulo was reported on Friday night: It involved a resident of Santos whose name the authorities refused to divulge and who is employed in the capital. Upon experiencing the general symptoms of the illness, the individual was taken to the Santana first-aid station, and was subsequently transferred to the Emilio Ribas Hospital. The clinical condition showed watery diarrhea and vomiting, but the report issued by the secretary of health, Walter Leser, stated that this did "not indicate a typical case of cholera." In Santos, where the total number of persons hospitalized amounted to 102 during the week, no new cases were reported between Friday and 1500 hours yesterday.

The unprecedented aspect (this is the first case ever heard of in the Sao Paulo capital) has not worried the health authorities, because the general circumstances surrounding the suspicions are as yet insufficient,

as are those in Santos, to identify the disease. Yesterday morning, physicians from the Secretariat of Health observed the patient, but the Adolfo Lutz Institute will not release the results of their analyses until Thursday.

On the coast, the Regional Division of Health concentrated its efforts on a search for additional cases; and samples of material from 16 individuals who were treated were collected and sent to the Adolfo Lutz Institute. Today, Santos drugstores will be visited to ascertain whether there has been any increase in the sales of diarrhea remedies.

The woman confined at the Guilherme Alvaro Hospital in Santos is still hospitalized, but the hypothesis that she might have cholera has been rejected. The results of the technical examination conducted by the Adolfo Lutz Institute for the vibrio proved negative. Hospital director Aurelio da Silva Rocha said that he had not yet received the institute's findings, but was notified by the director of the Regional Division of Health that the patient is suffering from salmonella and is still being hospitalized because she needs further treatment.

Since the disease prevention system was set up, the hospitals have treated 102 suspected cases. Of them, only four required further treatment, and only one patient is still suspect. The possibility of cholera in the other cases was rejected.

Although the number of suspected cases has dropped, the director of the Regional Division of Health is concerned. Dantas Romero said: "I am afraid that the doctors are no longer notifying us of new cases. And now that two more focuses of the vibrio have been discovered, we shall have to intensify our vigilance."

Hence, the director of the No 2 Regional Division of Health issued an alert, calling upon all doctors, especially those who have offices in the Beach Point area (the locality where a focus was discovered), to report to the division any case of diarrhea, even if it is mild. As for the ban on beaches, Dantas Romero said that his division was consulted by the Secretariat of Works Projects and Environment, and that the Secretariat of Health is opposed to that measure, deeming it unnecessary.

Tourists

Cholera was the most widespread topic of discussion yesterday among visitors to the Santos beaches. However, because of the hot sun and great heat, the fear of contamination with the cholera vibrio from the water was dispelled, and many decided to take a lengthy dip in the ocean. Nevertheless, fear still affected the movement of tourists: Between 1200 hours on Friday and 1400 hours yesterday, only 22,000 cars passed through the Anchieta immigration system. During this season, the normal figure is 40,000.

Yesterday, 17 vehicles from the CETESB [Basic Sanitation Technological Center] were distributed along the beaches from Sapateiro ravine in Sao Vicente to the No 6 canal at Beach Point. Two cars were parked at each canal with two military policemen and two engineers from the environmental control agency, who instructed bathers not to go into the water closer than 100 meters to the canals, and distributing leaflets explaining preventive measures. Three other cars drove along the canals, with officials coordinating the operation.

The odor of chlorine in the sea was strong. Some more unconcerned bathers by no means remained at the 100-meter distance stipulated by the CETESB, and went swimming less than 2 meters from the sign ordering them to keep out. One of the bathers remarked: "Brazilians should be concerned with more important things than cholera; for example, the Mafia." "I am not worried about cholera, because if fate wants me to be sick preventive measures will do no good," argued a Sao Paulo vendor, while watching his two younger sisters romping in the water.

Today and tomorrow, 25 CETESB teams will begin visiting various communities in the interior of the state in order to disinfect with chlorine the areas not provided for by the SABESP [Sao Paulo State Basic Sanitation Service?], continuing "Operation Cholera," which is being carried out jointly by the Secretariats of Health, and Works Projects and Environment.

Since only 210 municipalities in the state (approximately 300 communities) are served by the SABESP, Secretary Francisco de Barros, of the Secretariat of Works Projects and Environment, said that there was an urgent need to provide for the regions where there is a greater risk of the disease being present owing to the lack of basic sanitation and piped water.

Yesterday morning (at the CETESB), while inspecting the equipment and apparatus being sent to the interior of Sao Paulo to reinforce the water treatment in the communities with systems lacking in facilities, Francisco de Barros stated that cholera is now a disease which is under control, "with a minimal degree of danger to life if it is treated on time."

He claims that infection with the disease can be avoided through preventive measures and by instructing the population in hygiene standards; because the fact that the water is treated and chlorinated and people refrain from eating raw food (especially ocean products such as oysters and other shellfish) precludes the spread of the disease.

603 Communities

In order to prevent the propagation of the "cholera vibrio," technicians from the CETESB will visit 603 communities in the interior of Sao Paulo, divided into three groups to facilitate the operation. In Group 1, they

will instruct the workers at the treatment stations and check the chlorination levels in 244 communities which have water supplies and treatment stations that are not controlled by the SABESP. In Group 2, consisting of 271 communities, they will have to set up chlorination systems, because the water distributed in those areas is not disinfected. In the case of Group 3, the 88 communities in the interior and in 10 percent of the outskirts of Greater Sao Paulo are supplied with well water, and therefore bottles of chlorine will be distributed to the residents. They will also receive explanatory leaflets prepared by the Secretariat of Health, instructing them in the method of using the chlorine, the bottles of which will last up to 2 months.

In this work, 60 water ejectors, 30 gage pumps, 90 chlorine gas cylinders, 350 sodium hypochlorite pumps, 20 chlorine gas gages and 350 residual chlorine meters will be used.

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 16 May 78 p 9

[Text] The Emilio Ribas Hospital and the Adolfo Lutz Institute announced yesterday that the three suspected cases of cholera in Sao Paulo (two treated at the Emilio Ribas Hospital and one confined at the Mararazzo Hospital) "had stool examinations with negative results for cholera." This means that, in a preliminary analysis, there is no cholera present. One of those treated at the former hospital was not admitted as a patient and the other, still under a physician's care, had a preliminary diagnosis of intestinal infection with shigella, a bacillus which causes dysentery. The Adolfo Lutz Institute also confirmed the presence of the cholera vibrio in the two samples regarded as positive by the CETESB last week, which were collected from sewage material at Beach Point and Gonzaga.

The samples were sent to the Adolfo Lutz Institute and, according to the tests made by epidemiologists, the vibrios which were found in the samples are not of the cholera type. The institute's director, Augusto d'Escragnole Taunay, stated: "The biochemical tests made thus far show that it is another type of vibrio similar to the 'El Tor,' but which reacts differently from the cholera vibrio in cultures."

Although the tests have not yet been finished, according to the director of the Adolfo Lutz Institute there is every indication that the bacteria found in the two samples are of the "parahaemolytic vibrio" type, which causes a type of dysentery that is common in Japan. According to the note released by the Secretariat of Health yesterday, this vibrio "is not pathogenic, and gives reactions similar to those of the cholera vibrio, something which occurs often among this variety of bacteria."

In the meanwhile, all three patients in the capital will be subjected to serological tests which are more efficient. Professor Taunay himself claims that the stool examination to diagnose cholera is 60 percent

reliable, and not until the serological conversion test is made, which would detect the presence of antibodies in the blood, will it be possible to make an accurate final diagnosis.

Moreover, the health authorities in the capital are concerned about the system for treatment in the Greater Sao Paulo hospital facilities. This afternoon, the chairman of the State Cholera Commission, Otavio Mercadante, will meet with specialists from city hall and the secretary of health and hygiene, Proenca de Gouvea, to decide which municipal hospitals and first-aid stations could participate on a full-time basis in the treatment of suspected cases of cholera. According to Secretary Walter Leser, of the Secretariat of Health, several hospitals could be mobilized. Leser remarked: "City hall has hospitals with the capacity and resources for treating the disease, and the municipal first-aid stations could play an important role in reporting and referring clinical cases wherein the assumption of cholera is compatible."

The director of the Emilio Ribas Hospital, Andre de Felice, stressed the fact that there are currently 20 beds available to accommodate suspected cases, but that it would be possible to mobilize all 320 beds in the hospital in the event of an epidemic. Furthermore, certain hospitals run by city hall, such as the Inacio Proenca de Gouvea, Tatuape and Sao Miguel Paulista, could isolate a few beds for possible cholera victims.

Meanwhile, of the 155 stool samples from patients suspected of having cholera who are Santos residents, which were sent to the Adolfo Lutz Institute, 74 have been tested and, according to its director, not one case was confirmed: The results show 10 percent to be cases of bacterial diseases of the shigella and salmonella type. But Augusto Taunay claims that the higher number of these bacterial infections "is within a bracket that has already been anticipated, and would probably have gone unnoticed if it were not for the alert to a cholera epidemic."

At the CETESB

The CETESB declined to comment on the analyses made by the Adolfo Lutz Institute which did not confirm the existence of cholera vibrios in the samples collected on 8 May at Gonzaga and Beach Point; and, early last night, it issued a note stating merely that it had not been officially informed.

The news of the non-confirmation evoked great agitation among the directors of the CETESB who, by the end of the afternoon, did not know how to react to the information from the Adolfo Lutz Institute. The chief of the CETESB's research team, Maria Therezinha Martins, reportedly tried to contact the Adolfo Lutz Institute to obtain clarification of the results of the tests made for confirmation, but the note disseminated early in the evening implied that the information was not sufficient for this purpose.

Meanwhile the CETESB itself made no official announcement of the discovery of a fourth vibrio which took place on Sunday, because of the fact that it was not of the cholera type. The sample is being subjected to further tests so that definite confirmation will be forthcoming today. Unlike the three previous samples which were collected from gauze drains placed in sewers for 24 hours, the one collected Sunday was from water collected from the Santos No 1 canal.

As of yesterday, the CETESB had the analyses on 108 samples of raw sewage water, gauze drains, shellfish and oysters collected since the intensification of the epidemiological vigilance system on 5 May. The CETESB officially reported the identification of three cholera vibrios, the first being of the "El Tor" type, confirmed by the Adolfo Lutz Institute, the Manguinhos Institute and the referral laboratory of the World Health Organization in Atlanta. As for the other two, reported on Friday as cholera vibrios, and awaiting only confirmation and a determination of type by the Adolfo Lutz Institute, the CETESB chose to keep "the information official" within the health area.

Rio de Janeiro O GLOBO in Portuguese 20 May 78 p 9

[Text] In an official communication made public yesterday, the Ministry of Health announced that it had decided to suspend emergency measures because the Center for Contagious Diseases in Atlanta, USA, has certified that the four samples of *Vibrio comma* found in the sewer conduits do not show any toxigenic matter and therefore are not the cause of the disease.

The communication is as follows:

The Department of Health in Sao Paulo has this evening informed the Ministry of Health that the examination of the sample labeled "V. Cholerae Biotico," El Tor, serum type Ogawa, after undergoing tests for toxigenic matter, has been declared a nontoxic agent.

The U.S. Center for Contagious Diseases in Atlanta sent this report to the Department of Health in Sao Paulo, and at the same time made it known that this nontoxic trait is very rarely found in the "V. Cholerae" and does not cause disease.

With this situation in mind, the health authorities have decided to continue normal epidemiological precautions while easing the severe restrictions imposed upon the discovery of the first vibrio comma, because the risk to health that justified these measures no longer exists.

[Text] Despite the news that the *Vibrio comma* found in Santos does not transmit disease, there has been very little activity in the Santos lowland over the weekend: deserted beaches, restaurants with no customers and fish markets with their stock of goods practically intact. The people did not want to take any chances and kept to the diet recommended by the Department of Health at the time the first *Vibrio comma* appeared: no seafood or fruits.

The changeable weather in Sao Paulo and in the lowlands was also responsible for the few cars coming down from the Serra do Mar, from Friday noon until 1400 hours yesterday: only 20,000 cars passed through the Anchieta-Imigrantes toll booth. Consequently, the hotels in the various coastal cities remained empty, leaving the owners at their wits' end.

The president of the Santos Syndicate of Hotels and Like Establishments, Ayres Rodrigues, yesterday accused the press and the Ministry of Health of "sensationalism," and held them responsible for the situation in that area. "It is very easy to tear down," he said very forcibly, "but very difficult to build up again," stating that there will be a sudden wave of unemployment in Santos if the government does not heed the tradesmen's demands. The seaside hotelmen and tradesmen want ICM [Tax Movement of Merchandise] exemption. The mayor has appointed Antonio Manoel de Carvalho to study the problem. He will be in Sao Paulo tomorrow where he is to have a meeting with the secretary of the treasury, Murilo Macedo.

The mayor, who has already sent the House a plan requesting ISS--Tax on Services--exemption, did not want to make any conjecture regarding the government's response to the tradesmen's request. "The decision rests with the secretary of the treasury."

Both the mayor and the president of the Hotel Syndicate yesterday affirmed that advertising firms had already been asked to submit estimates for making commercial films to be shown on all television channels, to attract tourists once more to Santos. According to the mayor, "money is no problem" to carry out the campaign. Ayres Rodrigues is now basing the success of the enterprise on the improvement of beach conditions and made this appeal to the governor: "For heaven's sake, get the maritime interceptor working right away."

Another Weekend With Few Tourists

For the Santos residents, it was only a mean joke intended to keep tourists out of the city. No one seems to believe that the cholera threat could really exist. For the majority it was no more than "another campaign," like those already carried out on several occasions with pollution as its catchword. The city yesterday, however, looked very desolate. The sky was overcast, the beaches were deserted and only

a few courageous souls risked playing football in the sand. The cabanas that were set up were empty until noon when they were taken down.

The lack of activity brought the street peddlers in little groups near the canals where the main topic was the appeal made by the mayor over the radio for the tourists to return to Santos. To the unlicensed peddlers who feel they are as persecuted as the tourists known as the "show-offs," the mayor's message did not make sense. "One minute he gives orders to expel tourists, the next minute he begs them to come to Santos."

Even the licensed peddlers criticized the general tourist policy adopted in Santos. Both they and the unlicensed peddlers last week suffered financial losses up to 99.9 percent (according to one of the most sarcastic) but think that all this talk about cholera is just part of a campaign promoted by the seaside tradesmen who are seeking tax exemption. "They do not comply because we street peddlers pay for neither water nor light." One of the peddlers, Claudio dos Santos, said that last week he had succeeded in selling only one candy-bar.

Two sisters, who flatly refused to believe what they called "this cholera fable," were sitting on a garden bench chatting away on the Gonzaga beach yesterday. "Have you ever thought of the heads of families whose livelihood depends on the sale of fish or on business here on the beach?" asked Florinda Rodrigues, who lives in Sao Paulo.

NEW MALARIA DRUG

Rio de Janeiro O GLOBO in Portuguese 19 May 78 p 10

[Text] Brasilia--Mefloquine, a single-dose drug which is already proving to be successful in the treatment of malaria in several countries, will be introduced in Brazil in January 1979. Its use, however, is contingent on Ministry of Health recommendations contained in an authoritative paper which the Pan-American Health Organization is carefully studying. Mefloquine is intended to replace traditional regimes in the treatment of malaria which last from 10 to 14 days. A single dose of this drug can cure or prevent disease. The paper suggests that the program be first introduced in Amazonia, the region with the highest incidence of malaria in the country.

HIGH LEPROSY INCIDENCE IN RIO

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 2 Jun 78 p 10

[Text] The high incidence of leprosy discovered in Parnoica, in Ilha Grande and Fragoso, in Magre, in the state of Rio, is causing deep concern among Brazilian Welfare League doctors and officials who provide

medical and social assistance in these two small settlements. To avoid panic, they are keeping the matter under cover. There are no official data on the problem as the reasons for the concentration of the disease in these two areas are also unknown.

MANDATORY IMMUNIZATION FOR CHILDREN TO BEGIN IN JANUARY 1979

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 2 Jun 78 p 16

[Text] The law requiring every worker, under pain of being denied his family pay, to present the mandatory vaccination certificate of his dependents born after 1 July 1977, will go into effect in January 1979 instead of July of this year as the law establishing the National Immunization Program had directed. Vaccination against smallpox will no longer be required within the first year after birth and vaccination booklets will be presented at the same time that the beneficiary deposits his child's birth certificate at his business concern, which is every year in January or July.

These are the main changes the Ministry of Health directive 221/78 has made in the ruling which controls the National Immunization Program of August 1976, by virtue of which every child born in July 1977 and thereafter is to be vaccinated within the first year after birth against poliomyelitis (three doses), diphtheria, tetanus and whooping cough (triple vaccine in two doses); tuberculosis (intradermal BCG [Bacillus Calmette-Guerin]); measles and smallpox. This last-mentioned vaccine, however, is mandatory only in the early school years and in specific instances of recruiting and selecting personnel "who have no vaccination scar."

The new directive of the Ministry of Health also establishes a 6-month term for the worker who, even beginning with the new date (January 1979) has not completed the requirements needed for the vaccination certificate with all the mandatory vaccines for the first year after birth.

According to Secretary Walter Leser, who yesterday made public the changes the Ministry of Health had made, these measures were necessary because "the ministry realizes that the departments of health are introducing a completely new immunization program and consequently a longer period of time should be allowed to fulfill the requirements."

In the communication which the acting minister of health, Sergio Raymundo Negrao de Souza, sent to Secretary Leser, he justified the 6-month period between the first and later fulfillment of the requirements as an "intervening time which makes possible further development along health education lines." The worker, therefore, will have a period of 6 more months, in the event that his department has not yet completed the vaccination certificate requirements. Only after the 6-month period beyond the first established date will payment of the family pay be suspended by law.

Secretary Walter Leser also said that his department has set aside next 15 June for the intensified Sabin vaccine campaign. On this day, every health station in the capital will be vaccinating children from 2 months to 4 years of age against poliomyelitis. The same campaign is to be carried out on 22 June in all the other municipios in Greater Sao Paulo.

POLIOMYELITIS VACCINATION CAMPAIGN STEPPED UP IN SAO PAULO

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 25 May 78 p 4

[Text] More than 500 vaccination stations set up in state health centers and prefecture health units, state and municipal schools as well as friendly neighborhood societies and service clubs will be used on 15 June for the 9th stage of the stepped-up immunization campaign against infantile paralysis in children from 2 months to 3 years of age who live in the capital. The State Department of Health will mobilize more than 1,000 people, one-half of whom will be vaccinators.

The vaccination schedule will be the regular daily one for each health unit and from 0800 to 1700 in the other localities. This stepped-up campaign will last only 1 day. The Department of Health therefore urges that not only children who have as yet not been vaccinated, but all those--from 2 months to 3 years of age--even those who have had four doses, should be taken to one of the stations to be revaccinated against infantile paralysis. After the campaign, the Sabin vaccine will be regularly found in all state and municipal health centers.

In order to give the people easy access to vaccination, this 9th stage is a part of a periodical intensified vaccination program which the Department of Health has been developing since 1975, along the same lines as the health centers routine activities mainly in those regions where there are not as yet a sufficient number of health units. Makeshift stations are therefore set up in schools and service clubs. Since October 1975, the Department of Health has been promoting this intensified vaccination campaign.

ADDITIONAL CASES OF LEPTOSPIROSIS REPORTED IN BAHIA

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 25 May 78 p 4

[Text] Six more cases of leptospirosis have been reported in the last 2 days in Salvador, bringing to 56 the number of patients interned this month alone in the Couto Maria quarantine hospital. Seven people afflicted with the disease have already died. Although state health authorities maintain that when the rains cease the outbreak will begin to taper off, an average of three cases a day are being reported.

The widespread incidence of the disease, which is transmitted by rats, has been noted in the outlying districts and in the capital suburbs, where the lack of hygiene and the accumulation of garbage present a more serious problem. Despite this fact, the municipio secretary of health, Miguel Castro dos Santos, yesterday contradicted the superintendent of SUCAM [Superintendency for Public Health Campaigns], Ernani Rocha, and a Ministry of Health source, who, the day before, in Brasilia, ascribed the responsibility for the leptospirosis outbreak to the Salvador prefecture, because of the accumulation of garbage over a major part of the city.

The secretary declared that a clean city is not necessarily one that collects the most garbage and that the problem is also caused by the lack of basic sanitation which is the state government's responsibility and to the faulty inspection of the vegetable and fruit farm products consumed by the people, the responsibility for which rests with the Ministry of Agriculture. According to the secretary, 90 percent of the city has no sewerage system.

MENINGITIS KILLS FOUR MORE IN PERNAMBUCO; NATIONWIDE SURVEY UNDERWAY

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 25 May 78 p 4

[Text] Within the past 9 days, 4 more persons in Pernambuco have died of meningococcal meningitis, bringing to 11 the number of deaths caused by this disease throughout the state from January until yesterday. Despite this increase, the Ministry of Health still considers vaccination "unnecessary."

According to statistics from the Epidemiological Department of the Ministry of Health, 35 cases of meningococcal meningitis (with 11 deaths) were reported this year up to yesterday morning as compared with 8 cases in the same period of time last year. Nonmeningococcal meningitis cases, which in 1977 reached 335 in the first 5 months, this year reached 356 cases with 84 deaths.

"According to the secretary of health in Pernambuco, Pedro Veloso da Costa, the Ministry of Health makes immunization contingent on the greatest number of persons affected. As records show only 35 cases of meningococcal meningitis, a number considered insufficient to warrant vaccination, the ministry's special envoy, Carlo Ivo, who spent last week in Pernambuco, recommended greater epidemiological vigilance."

Veloso Costa stated that "these cases cannot be considered as constituting an epidemic of meningitis," and denied that the two hospitals in Recife that are taking care of those suffering from infecto-contagious diseases are filled to capacity, as published in the local newspapers.

[Text] The 33 cases of meningococcal meningitis, with 6 deaths, reported in Pernambuco from January until yesterday, as compared with 7 cases of the disease in a like period last year, are a matter of deep concern to the state health authorities who declare the increase to be "above normal." In Brasilia, the Ministry of Health made it known that it is undertaking a national survey of the development of meningococcal meningitis over the past few years and, based on the results of this study, it will be able to carry out a large-scale vaccination program in those places where the people have not all been vaccinated against the disease.

Carlo Ivo, the technician from the Ministry of Health, is in Rio to study the increase of meningitis cases jointly with the Department of Health. Yesterday, after a meeting that lasted over 2 hours with Pernambucan health experts, Carlo Ivo announced that upon completion of an epidemiological study of the disease in Pernambuco, he will present a report including preventive measures which the state Health Commission is to make public. The report, according to the technician, will be ready within 3 days.

The head of the Epidemiological Division of the Pernambuco Department of Health, Amaury Vasconcelos, announced that the number of cases of the disease reported in the capital, from January until yesterday, "exceeded the total number predicted." According to Amaury, 12 cases of meningococcal meningitis were anticipated by the end of the year. However, by yesterday, they had already discovered 12 cases with 5 deaths in Recife.

The secretary of health, Pedro Veloso da Costa, is hoping that as soon as possible the Ministry of Health will release a shipment of anti-meningococcal vaccine "to immunize the age group most vulnerable to the disease."

Statistics

The last bulletin from the SESP [Special Public Health Services] Foundation reported 3,627 cases of meningococcal meningitis in 1976 as compared with 2,651 cases in 1977, with a decrease of 976 cases within the period of 1 year. Last year, the greatest incidence was reported in the Southeast region: 1,014 cases of which 398 were in Sao Paulo, excluding the state metropolitan area, 299 in Rio de Janeiro, 242 in Minas and 80 in Espirito Santo. The Southern region follows with 640 cases, of which 308 were in Parana and 264 in Rio Grande do Sul. In the Northeast there were 596 cases; in the Midwest, 412; in the North, 92 cases.

These data show a 17 percent decrease in 1976 in the number of cases of meningococcal disease as compared with 1975.

According to the SESP bulletin, there were 1,488 deaths from meningococcal meningitis in 1976.

DYSENTERY, DIARRHEA VIRUSES FOUND ON GUANABARA BAY BEACHES

Rio de Janeiro JORNAL DO BRASIL in Portuguese 27 Apr 78 p 33

[Text] On every beach investigated in Guanabara Bay (Dende, Cocota, Galeao and Moca in Freguesia), viruses were found which belong to the Echovirus and the Coxsackie groups and cause dysentery and diarrhea. On the Galeao beach, the total coliform index is 535 points greater than the maximum allowed by the Special Secretariat for the Environment (SEMA).

Yesterday, during the presentation of the works of six researchers and scientists at a meeting sponsored by the Brazilian Society for Scientific Progress (SPPC), the coordinator, Professor Tomaz Langenbach, criticized the press largely for its handling of the problems discussed there and went so far as to make it clear that the next seminar "might well be held behind closed doors without the presence of newsmen, radio and television."

Virus

When the scientist, Hermann Schatzmayr, from the Oswaldo Cruz Institute, took up the topic "Methods of Viral Concentrations Based on Water Accumulations and the Results Obtained," he said that the beaches at the deepest part of the bay tend to be more polluted than those outside this area.

Although those viruses considered more dangerous--hepatitis and poliomyelitis--were not found in the samples researched because the isolation methods are considered very costly, the researcher said that on many beaches the virus group responsible for dysentery and diarrhea was found in every sample.

The presence of viral particles not exceeding from one to five particles per 100 milliliters is considered normal, according to North American standards, because Brazil does not yet have on hand any virological data in this field.

The results given yesterday at the Brazilian Society for Scientific Progress seminar were as follows: Praia da Bica--9 viral particles per 100 milliliters from the Echovirus group; Cocota--0.8 particles per 100 milliliters (Coxsackie group); Dende--0.3 to 9 particles per 100 milliliters (Echovirus group) and the Moca beach (Freguesia), .03 to 9 particles per 100 milliliters (Echovirus and Coxsackie groups).

After describing the research methods and the best techniques which are in the process of development, Professor Hermann Schatzmayr admitted that "we are still in the early stages of this kind of work, and the results are merely flashes of intuition. Because our collection of virological data is poor, if we are to understand the biology of the bay, we must continue to conduct our research and analyze the data accumulated on a regular routine basis." He also recalled that the coliform index "is of no use as an indicator of virus."

He mentioned, as an important contribution to the research field, Professor Alice Nobomuto Christofolletti's treatise, "Evaluation of Virus Concentration and Application Methods in the Isolation of Virus in Sea Water," published in April 1976.

During the gathering of material for the research undertaken in order to detect the presence of virus in sea waters in recreation areas, they discovered in almost every collection spot on the several Ilha do Governador beaches that the presence of total coliforms far exceeded standards of the Special Secretariat for the Environment, determined in Ordinance 536-07 of December 1976, which established the maximum value of 5 total coliforms per 100 milliliters.

In some spots on the Praia da Boca, they found from 330 to 24,000 total coliforms per 100 milliliters; on the Cocota beach, from 3,300 to 170,000 coliforms; on the Dende beach, it varied from 3,500 to 350,000; on the Galeao beach, from 3,500 to 540,000 and on the Moca beach (Freguesia), it varied from 3,500 to 350,000 total coliforms per 100 milliliters.

Ecology and Pollution

Every work discussed yesterday had a bearing on the ecology of Guanabara Bay whose polluted load of organic matter is very high, a fact made evident in the work which the University of California microbiologist, Allen Norton, presented and whose thesis he is at present defending in Brazil while teaching in UFRJ [Federal University of Rio de Janeiro].

His thesis, which he is to submit on 5 May, is on "Ecology and Taxonomy of Ferments in a Polluted Estuary and Seashores in Rio de Janeiro." During the research process, he isolated 549 strains grouped in 67 species.

Of these, only 20 were responsible for 86 percent of the number of ferments--a term which the scientist connected with fermentation and the wealth of fungi found in water abounding in organic matter. Of the 20 species present, 6 are opportunistic pathogenes, also belonging to the group causing dysentery and diarrhea.

The scientist, Leda Cristina Mendonca Hagler, in her explanation of "Taxonomic Valuation of the Index of Total Coliforms and Survival in Sea-Water," also did research on coliforms in several spots in the bay, and isolated 118 samples judged insufficient to arrive at any conclusions.

The work involved not only the Ilha do Governador beaches, which showed a Most Probable Number (NMP) of total coliforms, but also those in Leme, Copacabana (Station Six), Botafogo and the Praca XV region, in an attempt to discover the presence of such pathogens as Escherichia Coli, Salmonella and Shigella. According to the research, the objective of the work is to study the factors in microorganisms which are resistant to antibiotics found in enterobacteria isolated on polluted beaches.

HEALTH MINISTER TO STEP UP ASSISTANCE TO MUNICIPIOS

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 28 Apr 78 p 16

[Excerpt] In an attempt to step up federal assistance which up to now has been handled by the state and at the same time to put an end to "political protectionism found in some ministries of health," Almeida Machado, the minister of health, intends again this year to review it with the municipios.

The minister in person made this important announcement yesterday on testifying at the Council Health Commission. He explained that only by effecting this change will it be possible actually to centralize the activities and programs of the Ministry of Health. In the same testimony, the minister recommended the union of the Secretariat of Environment with the Ministry of Health, because the "ecological problem increases in importance to the degree in which it affects man, and this is the province of the Health Office."

Although called upon to speak on food supply and nutrition in the country, Almeida Machado, throughout the 3 hours he was at the Health Commission, chose to address himself to his favorite subject: the fight against epidemic diseases and the works undertaken by his ministry, stressing the need for basic sanitation, the improvement of rural housing and better distribution of income to enable the Brazilians to attain better health standards.

Addressing himself to the Northeast problems, he stated that the great affliction of the inhabitants of that region "is actually hunger, the lack of food," which, as he said, will not be remedied by importing beans from Parana and sending them to the Northeast or exporting soybeans but with the understanding that the small producer will put his produce on the market at cost price. "We cannot allow anyone to go to his death merely in order that we may carry out a philosophy of labor," the minister.

argued, "to defend the government's program of free distribution of food to low-income populations." He explained that in Alagoas the large milk suppliers accepted the Ministry of Health recommendations and are distributing among undernourished children the surplus produce which before, during harvest time, they threw into the river.

DISEASES AFFECT 50 PERCENT OF POPULATION

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 23 Apr 78 p 27

[Article by Anna Marcia Costalong]

[Text] Despite Brazil's inclusion among the world's greater economic powers, more than half of its population is ill: Chagas disease, schistosomiasis, tuberculosis, cancer, Hansen's disease, malaria, ankylosis, mental illness and chronic dehydration.

The country is suffering from controllable diseases to the extent that even the minister of health, Paulo Almeida Machado, has acknowledged that in actual numbers, every Brazilian is afflicted with at least three different diseases. Those afflicted with schistosomiasis alone cost the country around \$150 million (2.2 billion cruzeiros) a year (research made use of the lowest data on the economic financial losses caused by the disease, which are estimated at \$15.00 per capita), while adults with Hansen's disease cost the country 500 million cruzeiros annually.

Because these estimates do not exist for endemic diseases, technicians calculate that the financial losses in this category of illnesses entail some tens of millions of the gross internal product [PIB], a problem which could be remedied by means of preventive measures or periodic medical checkups.

The poorly nourished northeasterner cuts 1.5 tons of cane a day, while a Sao Paulo worker, in the same age bracket and better nourished, produces three times more. In the socioeconomic destitute areas, as the National Food and Nutrition Institute [INAN] demonstrated, anemia cases, because of the lack of iron, have reached as high as 80 percent of the people. Of every three children suffering from dehydration and hospitalized in Greater Sao Paulo, one dies. In the Northeast, this average is much higher. Those who have recovered, will return the next year suffering from an even more serious illness because they will continue living in unwholesome houses, drinking contaminated water, breathing polluted air, without any real health safeguards, with no improvement in hygiene on the part of the family.

Fundamental Problem, Low Income

Although Brazil is economically an up-and-coming country, millions of Brazilians are suffering from a wide range of diseases which could be eradicated by carrying out basic hygiene measures, proper housing and nourishment, a better distribution of the national revenue and an official health plan which would undertake a truly national program by means of efficient, unburdensome, simplified activities. The government's first official attempt was approval of the Inland Health and Sanitation Program [PIASS] which, designed to take care of up to 20,000 people with investments amounting to 4 billion cruzeiros, is already being launched in the Northeast.

It would suffice for Brazil to set up for all those coming under social welfare a thorough but inexpensive yearly checkup, involving the fewest possible laboratory tests. In this way only---technicians maintain---can they make an early diagnosis of diabetes, Hansen's disease, tuberculosis and the various heart ailments. The country has resources available for the early diagnosis of many diseases, and, starting there, it can take care of people and prevent a disease from progressing to more advanced stages. In this way, it will prevent a disease already in its initial phase from growing worse.

On World Health Day, taking a rather gloomy outlook on the future, Almeida Machado stated that socioindustrial growth will make possible the effacing of widespread diseases but, on the other hand, a foothold is being gained on an even larger scale by such chronic degenerative diseases as hypertension, which is already the prime cause of death in several countries in the world, or those resulting from ecological negligence. This is happening in Espirito Santo, among a people of German origin, where cancer of the skin is common in early infancy because of the sensitivity of the skin which was previously protected by the luxuriant woods now completely laid waste.

Within this frame of reference, there is another serious situation: every Brazilian has 5.3 decayed teeth to be extracted, which is to say that one-fourth of his permanent teeth is undermined by caries, bringing the total up to 531 million teeth to be taken care of. The present 41,000 dentists would take 6 years to finish the work, at the end of which time there would be 1.2 million more teeth in bad condition.

Widespread Diseases

According to official statistics on hand, today there are 300,000 persons suffering from tuberculosis, but the Koch bacillus has invaded the organism of more than 50 million Brazilians, who will inevitably die of it. About 12 percent of the children entering the first grade are already infected with the bacillus. Even so, tuberculosis statistics, at least those officially known, are gradually decreasing, and show that the

number of persons infected has dropped within 3 years from 500,000 to 200,000 cases. The same holds for malaria, which is declining at the rate of 10 percent per year. Today, there are 97,000 persons afflicted with this disease. The Amazon region is the greatest center from which this disease is disseminated to other parts of the country.

Malaria presents a perpetual threat to 81 percent of the national territory and, because of the ease with which it is transmitted and spread, it represents a serious threat to persons exposed to it. Every 12 months, this disease attacks 300 per 1,000 inhabitants.

The population of the malaria-infested area is 44 million inhabitants, which is 40 percent of the country's total population. Of these, 32 million live at present in an epidemiologically controlled area, which does not mean that malaria has either been wiped out or eradicated.

It is estimated that in Brazil there are around 1 million lepers, whom the Ministry of Health prefers to call "Hansenatics" to escape the stigma which keeps those afflicted on the outskirts of society.

If only those known to be ill were to make 10 cruzeiros a day, it would add up yearly to 459.9 million cruzeiros, because 90 percent are over 15 years of age. This amount typifies the PIB annual financial loss caused by the sick, not counting the government's outlay for leprosaria and sanatoria maintenance, retirement and pension expenditures and disease-prevention program costs.

For the 12 million moderately estimated by the health authorities as suffering from schistosomiasis, the government spends around 3 billion cruzeiros for the program to control endemic diseases, which threaten the states of Amazonas and Mato Grosso. Should the disease get a hold here, there would be absolutely no possibility of eradicating it because of its easy transmission and the snail's rapid reproduction. In 3 months, the number of one of these mollusks' offspring amounts to 90 million new animals.

The official schistosomiasis program [PECE] includes basic sanitation in northeastern endemic regions where there are already hundreds of bathrooms--white outhouses with blue doors--built by the SESP [Special Public Health Services] Foundation, but which the people find very pretty and prefer not to use them or hope to do so on some family festive occasion. This means that as long as hygiene instruction is not assimilated, the work accomplished will be small indeed because man is reluctant to give up the old habit of bathing in a river infested with snails, and which also happens to be a place to relax, provide water for household needs and is the spot where the women prefer to wash their clothes.

Chagas disease, in turn, is a spreading endemic disease which, in addition to the killer bug, is transmitted by blood transfusions. This

insect inhabits more than 2 million square kilometers of the country, that is, one-fourth of the national territory. A characteristic endemic disease of the poorest rural areas and lowest socioeconomic brackets, the disease is spread out along inland swaths of land and is acquired by anyone whose ability to work is systematically exhausted by the total lack of those physical conditions which are needed to resist disease. In the rural areas in the Northeast, one frequently finds someone suffering at one and the same time from Chagas disease, schistosomiasis and trachoma, another illness resulting from very poor basic health conditions, which attacks 5 percent of the population and if not properly treated leads to blindness. Or, even exchange one of the above three for tuberculosis, whose incidence among northeasterners is twice as high as among the people in the South or East.

Chagas disease, as even the Ministry of Health acknowledges, can only be controlled by improving housing so that the walls of the houses cannot become infested with the killer bug. Although the exact number of those infected with the disease is unknown, scientific literature mentions the existence of from 6 to 14 million sick people. This will be known for certain only within another year when the national investigation now underway is completed. By and large, it attacks man in the most productive age bracket: from 25 to 55 years of age. This does not prevent 5-year-old minors from becoming ill as well as teenagers and the aged.

Brazil annually records 100,000 new cases of cancer, in addition to the thousands already under treatment in official programs. To carry these out, the Ministry of Health obtained abroad a \$10 million loan which it used for the most sophisticated radiotherapeutic equipment, now being installed or already in use throughout the country. Among Brazilians the highest incidence of cancer is that of the breast, uterus, mouth and skin, but as in the majority of other diseases, only after a few more months will we know the exact number of those affected. The official data bank is at present computing this information.

To make this picture even more formidable, the infant death rate is the highest. In Recife, for example, there are 258 deaths out of every 1,000 infants born alive, whereas the universally accepted rate is five times lower. Death coefficients are very high for the contagious diseases, such as measles, because of the systematic use of isolation facilities in general and children's hospitals, although vaccination is obligatory. However, maternal mortality also stands out with rates 11 times greater than those in Canada and Scandinavia and three times higher than those in Venezuela. According to Ministry of Health estimates, 13,200 women run the risk of their lives if they become pregnant. As a rule, their children are born biologically defective or die after birth because of the mother's state of health and her personal habits, such as smoking, which can cause a loss of weight in the fetus. For this reason, the government has established a broad mother-infant care program which is now being launched in some specific areas of the country and which includes the distribution of contraceptive pills.

Insufficient Preventive Measures

According to specialists, Brazilian health problems can be solved only by preventive health measures because, as they say, the desired returns from investments in health reach a satisfactory level only when they are made in preventive medicine, a work that begins before the disease appears, or begins to develop in the human organism. This is the pre-pathogenic stage, which also includes mass immunizations against certain diseases or groups of diseases such as those which are contagious, or meningitis. However, preventive medicine, as the technician tells us, is far more than this. It is not a therapeutic arsenal that can assure the health of a people--little more than 20 kinds of medicine suffice to preserve public health. Neither is it a large number of hospital beds that can save a sick population, although the hospital is essential for caring for those who cannot prevent or escape illness. In the meantime, developing countries are managing heroically to survive amid this incongruity. A low income leads directly to a qualitative and quantitative lack of proper nourishment, hygiene, housing, clothing, sanitation and a number of other elements conducive to good health.

A sickly people produce less and end up requiring greater resources in order to provide the indispensable remedies needed for public health and social medicine. This is the "iron cycle of disease" described by the former director of the Pan-American Health Organization, Abraham Horwitz, "a kind of iron vessel hard to break."

In matters of health, there still remains the sad fact that Brazil is a country with no statistics. However, on the basis of data obtained in other countries, we have extrapolated a national numerical measure relative to those afflicted with mental illness. More than 18 million people are mentally ill, although half are suffering from nondisabling neuroses; 6 million are alcoholics, now also recognized as ill, in need of specific treatment. The remainder are distributed among other types of diseases which impose heavy expenditures on the INPS [National Social Security Institute], for example, with the payment of pensions and relief. Although the Ministry of Health approves this clinical treatment of the sick, it is not unusual to find dozens of hospitals in the country where patients--some for life--exist among rats, cockroaches and fleas, surrounded by the most degrading lack of hygiene.

The lack of a national health policy, the pathetically small number of organizations engaged in health services--five departments in the National Health service--are responsible for the picture drawn here, a photograph of the sector in the Brazilian past.

BURMA

MALARIA REPORTS

Rangoon THE WORKING PEOPLE'S DAILY in English 27 May 78 pp 1, 4

[Text] The Health Department is making arrangements to open malaria-detection laboratories at Township Hospitals and has intensified its efforts to control and eradicate malaria as there has been a resurgence of the disease beginning from 1972 with mortality rate of 9.184 per 100,000 as compared to 3.6 per 100,000 during the period 1963-67.

Malaria is prevalent in Arakan, Kachin, Shan, Karen and Chin States and Tenasserim Division.

Before the Second World War, there were teams led by a doctor who carried out anti-malaria activities in the country. Priority was, however, given only to areas where the then Governor toured and areas where mining and timber extraction work were carried out by foreigners.

Malaria Pilot Demonstration Project was started in Lashio with the co-operation of the World Health Organization in 1951. Malaria-case detection work was also carried out in Taunggyi and Akyab at the same time.

According to these malaria detection work, 75 per cent of the rural population in hilly regions were found stricken with malaria.

Malaria eradication programme was launched in Burma in 1953. This programme was carried out by dividing the country into three zones, namely A, B and C zones, according to the nature of the plan and geographical conditions. Zones A and B consisted of spray and malaria-case detection areas, and Zone C of spray areas only. Out of the 23.73 million population of Burma, 10.25 million fell in the spray (attack phase) areas, 11.37 million in the malaria-case detection (surveillance) areas and 2.11 million in urban areas which were not sprayed.

In the spraying operations of 1955 to 1962, a total of 10.6 million people in all accessible areas were protected against malaria. In 1963, spraying was carried out during the period January to April. In 1964, altogether 6.73 million people were protected against malaria during the period January to March. DDT was used for spraying at the dosage of 200 milligrammes per square foot.

Regarding malaria-case detection work carried out during that period blood smears were collected from 1,151,435 persons, 548,630 blood smears examined and malaria parasites were found in 2,039 cases.

In addition, surveys on malaria-carrying Anopheles mosquitoes were conducted in Toungoo, Prome, Bassein, Shwebo, Mandalay, Meiktila, Sagaing and Katha Districts. Tests on mosquito resistance to DDT and on the longevity of mosquitoes after spraying were also carried out.

In 1954, as a result of malaria, mortality rate stood at 90.8 per 100,000 and malaria ranked fifth among ten leading causes of death.

The mortality rate dropped to 3.6 per 100,000 during the period 1963 to 1967, and there was a resurgence of the disease beginning from 1972 with mortality rate of 9.184 per 100,000 and 16.26 in 1974. The resurgence also occurred in other South-East Asian countries.

In carrying out malaria combating work, preventive and curative measures were taken. These measures include spraying of DDT and giving chloroquine to those stricken with malaria.

When DDT was first used in the country, it could be bought at about 450 US dollars per ton and Burma bought about 1,000 tons yearly. The price of DDT gradually increased and one ton of DDT cost 1,500 US dollars in the years after 1970. As a result Burma bought only about 200 tons a year.

Malaria control work was also hampered by other factors. One of them was that insurgents were present in most areas where malaria combating work was carried out. Malaria became widespread as a result that a large number of people in groups from malaria-free areas who went to the areas where malaria was prevalent got stricken by the disease. For instance, some persons from malaria-free areas travelled along jungle trails to carry out smuggling business and they were usually stricken with malaria. Some persons in large groups went to work at new projects where malaria was prevalent.

Last year many workers of Yadanabon mine were stricken by malaria and malaria combating teams had to be rushed there to stop the outbreak.

On studying the causes of outbreak of malaria at the Yadanabon mine, it was found that drains dug for outflow of waste water had too many zigzags allowing rooms for stagnant water and thus creating breeding grounds for mosquitoes. As suggested by malaria suppression teams, drains were dug straight. The malaria incidence at the Yadanabon mine this year dropped to ten per cent.

Though there are no malaria-carrying Anopheles mosquitoes in Rangoon, a department of health malaria control unit has been opened on Kaba Aye Pagoda Road since 1975 and treatment has been given to patients.

Of 884 patients who sought treatment at the malaria control department in Rangoon in 1975, malaria parasites were found in 228 persons; malaria

parasites were found in 662 out of 1,399 patients who sought treatment in 1976 and there were 1,269 patients who were found with malaria parasites out of 2,976 who sought treatment in 1977.

It was also found that most of the patients were engaged in black-marketing and smuggling activities and other patients came from the areas where malaria is prevalent.

Due to bio-environment measures carried out in Akyab, the yearly number of malaria patients have dropped from 300 to ten.

In some areas malaria-carrying Anopheles and other species developed resistance to DDT and the parasites build up resistance to chloroquine.

In such areas spraying of DDT have to be increased and quinine injection used.

Among those who travel from malaria-free areas to areas where malaria is prevalent, persons with low resistance and poor constitution and children are generally attacked by malaria. If effective treatment is not given on the first attack, these people may suffer from cerebral malaria.

Rangoon MYANMA ALIN in Burmese 7 Jun 78 p 5 BR

[Text] With cooperation from health units in Muyitkale, Ywalut, Thotkaw and Mudu, Chaungzon Township Health Department has been making blood tests to collect statistics in the region. Of the 2,923 persons checked in 1975-76, 211 were found to carry malaria; of the 2,959 persons examined in 1976-77, 105 persons were infected with malaria; and of the 3,215 persons examined in 1977-78, 75 were found to carry malaria. The Health Department is carrying out a malaria prevention campaign in the region.

CHOLERA STATISTICS

Rangoon LOKTHA PYETHU NEZIN in Burmese 24 May 78 pp 6, 7 BR

[Summary] As a result of an intense heat wave in Rangoon, ponds and wells have dried up and cholera cases have been reported in Thaketa, Dawbon and North Okkalapa townships, which are dependent on these sources for water. Of the 173 cholera patients from these townships, 5 have died to date. Similarly, out of a total of 1,116 cholera cases reported in other regions, 96 had died as of 13 May. The following is the breakdown of cholera-infected areas, number of patients and deaths: In Irrawaddy Division--Moulmeingyun, Kyaiklat, Pyapon and Dedaye townships--217 patients, 48 deaths; in Mon State--Moulmein, Chaungzon, Mudou, Paung and Kyaikmaraw townships--437 patients, 8 deaths; in Magwe Division--Taugdwingyi, Minbu, Pakkoku and Chauk townships--397 patients,

21 deaths; in Mandalay Division--Myingyan, Taungtha, Kyaukpadaung, Meiktila, Thedaw and Wundwin townships--20 patients, 6 deaths; in Arakan State, 4 patients, 2 deaths; in Sagaing Division, 20 patients, 5 deaths; and in Karen State, 21 patients, 6 deaths.

Rangoon LOKTHA PYEITHU NEZIN in Burmese 19 Jun 78 p 5 BK

[Text] A cholera epidemic is breaking out in wards and urban areas of Pegu. Of the nine patients admitted to the Pegu city hospital, two men, both of whom are from Pegu prison, have died. All entry permits to the prison have been stopped since 15 June while health officials are undertaking preventive measures inside the prison as well as other Pegu areas.

Rangoon MYANMA ALIN in Burmese 31 May 78 p 4 BK

[Text] A cholera epidemic broke out in Mohnyin Township of Kachin State on 16 May. The epidemic in Nan Mun and Mong Nawng villages of Indawgyi Region in the township has claimed 17 lives while two cholera patients, one each from Zibyugon and Nyaunggaing villages, have also died. Two separate cholera cases have also been reported in Hopin Town but both patients are recovering at the people's hospital.

Rangoon THE WORKING PEOPLE'S DAILY in English 2 Jun 78 p 1 BK

[Text] A cholera epidemic which broke out in Nattalin has claimed the life of one person and four others have been hospitalised. Two health teams have been inoculating the people against cholera in residential wards since 29 May and have been chlorinating wells and organizing the people to carry out sanitation work. Cholera cases have also been reported in Kantha, Kyandawsu and Kyungalay village tracts.

BURUNDI

RABIES CONTROL ASPECTS EXAMINED

Bujumbura LE RENOUVEAU in French 18 Apr 78 p 5

[Article by Zacharie Sindayigaya]

[Text] Last Saturday, an interministerial commission convened at the Ministry of Public Health. Its purpose was the study of the possibilities of rabies control. During the last few days, rabies flared up in certain provinces of the country and particularly in Ruyigi, Gitega, Bubanza and Muramvya.

The members of the commission are officials of the public health, national defense, agriculture, livestock and interior ministries.

This meeting was chaired by health officer Bandusha Jean, minister of public health, and a series of measures have been recommended to provincial officials as well as the people at large, in order to bring this plague under control or to limit its damages. Because it is impossible to carry out the vaccination of all the animals in a short delay, provincial officials, as well as the people are advised to enforce these measures until more precise directives can be issued to them. We are listing below, for you, the various recommendations issued by the officials from the different sectors of national activity.

The Agriculture Ministry reports that, currently, in Burundi, there are 70,000 dogs and 15,000 cats, animals which are rabies carriers and that besides, there are jackals which constitute links in the transmission of this disease. In addition, the ministry is announcing that, in cooperation with the administrative services and the National Defense, any stray dogs will be destroyed. Besides, antirabies vaccination is compulsory and a vaccination certificate will be issued to owners of either dogs or cats. Any dog owner must keep his dog tied or on leash. Whenever a stray dog is reported to be responsible for bites, the administrative services and the people must cooperate to catch it in order to examine it and confirm whether it suffers from rabies. Dogs which have been destroyed must also be examined. As to jackals, people must help the Veterinary Services to spot their burrows and to proceed with their destruction.

The Veterinary Services are asked to supervise the enforcement of these measures.

The Ministry of Public Health is taking this opportunity to let everyone know that if someone is bitten by a dog or a cat, that person must go as quickly as possible to a dispensary or hospital for medical attention. Medical authorities will keep in touch with veterinary authorities in following developments and in the adoption of measures.

When a person is bitten by a rabies carrying animal, the wound must be cleaned with soapy water, rinsed thoroughly with water and, if possible, disinfected.

For its part, the National Defense Ministry is reminding everyone that the dispositions of the 1956 ordinance are still in force: here are its contents:

1. Throughout the nation, dogs must be kept tied or confined, so that they cannot come in contact with unsuspecting persons or with any other animal.

2. On public thoroughfares, in public places or places accessible to the public, in the fields, in the bush or in the forests, dogs must be tied or on leash.

3. Any stray dog which is not vaccinated can be apprehended, put in the dog pound and eventually destroyed.

If their capture proves difficult or risky, these dogs may be destroyed on the spot by any representative from the authorities, by the use of a firearm, if need be.

4. Dogs and cats having been bitten or licked by an animal afflicted with rabies or having come in contact with it, must be destroyed immediately.

5. Domestic animals, except for dogs and cats, having been bitten or licked by an animal afflicted with rabies or assumed to be so, must undergo vaccination or be destroyed without delay depending on the decision of the veterinary authority.

6. District officers and brigade commanding officers must assist veterinary authorities in the enforcement of these measures.

In these circumstances, the authorities from the Interior Ministry appeal to the spirit of solidarity of the citizens. When a rabies case is reported, people are asked to inform the veterinary authorities such as nurses or technicians and veterinarians about it. Administrative authorities are requested to coordinate all activities and to relay without any delay all necessary information to administrative headquarters. Councilmen, area chiefs, communal administrators, district commissioners, governors must keep each other informed in order to bring the disease under control in time.

Bujumbura LE RENOUVEAU in French 21 Apr 78 pp 11-12

[Excerpts] Because rabies has become enzootic in Burundi, it is going through growth cycles which, under close scrutiny, are occurring alarmingly closer and closer.

Last year, the people were warned against the disease which sprung up in a few provinces such as Ruygi, Bururi and Gitega. Today the disease is gaining all over and this becomes more alarming yet because several cases are reported in humans.

Rabies, a viral disease (caused by a virus), whose morbidity applies to man as well as to animals, seems to fail to retain the attention of people either in urban or rural areas. It is nevertheless a fearsome disease on account of its severe and fatal consequences.

It was in 1954 that a few isolated cases in the former Kitara chieftainry (currently Kayokwwe - Mwaro township) alerted responsible officials. Regulations and various announcements to the public were issued in order to slow down spreading of the disease. In spite of these measures, the disease did spread and, in 1977, through a decision by the Resident, Burundi was declared a rabies affected area. The same regulation banned stray dogs and transportation of dogs and cats species made antirabies vaccination compulsory.

For the same purpose, two ministerial ordinances have been issued since the liberation in order to support the enforcement of the legal texts.

In spite of so many efforts to advertise such a momentous danger, people fail to respond. Not through negligence, but through an indifference which, to be sure, is due to ignorance. First of all, let us make it clear that rabies may affect all mammals including man. Let us also stress that there is no appropriate medical treatment and that in this sphere one needs without fail to "prevent it from developing because it is impossible to cure it." On this subject, it certainly is worth stressing that rabies would no longer exist if police regulations were heeded and that many countries managed to suppress it completely.

Capturing and killing stray dogs, the obligation to take pets out only on a leash, and the destruction of all animals which have been bitten would be enough to ward off the danger.

The last decision concerning rabies is as recent as Saturday, 15 April 1978: it was adopted through the convening of an interministerial commission grouping officials from public health, national defense, animal health and interior ministries.

Urgent measures which have been proposed and amply advertised, are being clarified in this brief discussion which constitutes an all-round appeal not only for the enforcement of these measures by the authorities, but also for the good will of owners of disease-carrying animals. If each one swept his frontage, the whole street would soon be clean.

The danger of sylvatic rabies would still remain as a possibility, but with good will on the part of the people, it could be conquered.

CUBA

DENGUE FEVER PREVENTIVE MEASURES RECOMMENDED

Havana JUVENTUD REBELDE in Spanish 25 Apr 78 p 2

[Excerpts] At the beginning of this century, the learned Cuban Carlos J. Finlay was able to eradicate yellow fever from our environment by eradicating its carrier, the *Aedes aegypti* mosquito, by means of health measures adopted by the people and the government authorities at that time.

Today, it is not that disease that concerns us because it no longer exists in Cuba, but rather another disease, which, although benign in its consequences, affected the health of our people as well as the economy of this country when an epidemic struck here last year. We are referring to dengue fever.

In order to get rid of dengue, it is necessary to eliminate the factor most responsible for the disease, the *Aedes aegypti* mosquito. This has been stated many times. However, despite the fact that it had been repeated again and again, it is still important.

The mosquito, this insect which is not only a nuisance, but also is extremely harmful, must be combated without respite. No truce can be made with it.

Dengue has appeared again in our country after an absence of more than 30 years; it wrought its greatest ravages during the last few months of 1977, but was not, of itself, the cause of deaths.

This is a disease transmitted to man solely by the bite of the carrier of the infection, the *Aedes aegypti* mosquito. The illness is characterized by a fever that lasts about 5 days, by severe headache, pain behind the eyes, in the joints and in the muscles, and by a rash.

Four types of viruses that can produce dengue have been identified, and it has been further pointed out that a combination of some of these viruses closely related to them and that have not yet been isolated, can cause violent symptoms with quite dangerous consequences.

Our country, which is within the region where the carrier mosquito exists in sufficient numbers throughout the year to transmit the disease, has been unable, up to the present, to rid itself of this disease, which although in abeyance at the present time, may regain force with the arrival of the rainy season.

For this reason, the preventive measures as well as the treatment of patients should be intensified and maintained to put an end to this epidemic once and for all.

In houses where there is a patient infected with dengue, the patient should be isolated, not because he could infect someone else directly, but because he is a carrier of the disease. He should be kept protected from mosquito bites for the 5 days subsequent to the appearance of the disease, in order to break the chain of transmission of the infection.

Cases of Dengue Grouped by Month
(September 1977 to February 1978)

<u>Month</u>	<u>Number of cases</u>
September	22,735
October	133,245
November	201,399
December	120,061
January	26,519
February	7,548

CYPRUS

MALARIA EPIDEMIC THREATENS TURKISH CYPRIOT REGION

Nicosia HALKIN SESI in Turkish 16 Jun 78 p 1 NC

[Article by Erten Kasimoglu]

[Summary] In a circular sent to all doctors and hospitals in the Turkish Federated State of Cyprus [TFSC], the Ministry of Health has asked for preventive measures to be taken against malaria. The circular, signed by the acting under secretary at the Ministry of Health, Dr M. S. Ozkan, asks for mass blood tests to diagnose hidden malaria cases. The circular underlines the necessity of taking preventive measures against a malaria epidemic. It also appeals to the public to report any suspect case immediately.

Meanwhile, in a statement to HALKIN SESI, Minister of Health Mustafa Cagatay has said that there are 47 cases of malaria in the Magusa region. He added that these are not new cases and that those infected are under continuous observation.

INDIA

REPORTS ON MALARIA

Calcutta THE STATESMAN in English 6 May 78 p 3

[Text] Malaria is on the wane, according to the health department of Calcutta Corporation. From 290 cases in 1973 and 519 in 1974, the figure jumped to 2,701 in 1975 and reached its peak in 1976 with 3,124 cases in the city. Last year 1,971 attacks were reported and the figure for this year till the end of March is 82.

The authorities, however, admitted on Friday that there was little reason to be complacent, for a large number of cases remained unreported. They felt that unless the increasing mosquito menace in the city was tackled, malaria would always be a "thorn" in the city's health programme.

In Calcutta, the breeding sites of mosquitoes cover 30,000 acres of which 12,000 acres fall within the Corporation's jurisdiction, excluding septic tanks, cesspools, and gully-pits. The remaining 18,000 acres are within the jurisdiction of the Irrigation Department, Central Public Works Department, Defence, Railways, Port Commissioners, 24-Parganas district, adjacent municipalities, the CMOA and other authorities.

As early as 1932, Calcutta Corporation had started a Mosquito Control Department as a separate wing under its health department. Its work is to control of the mosquito menace, of the Culex and Aedes varieties, and the disease itself through elimination of the Anopheles variety.

A senior officer of the mosquito control department said on Friday that they were trying their best to counter the mosquito threat. Apart from the "anti-larval operation" an "anti-adult operation" had also been launched this year.

Asked why there was no appreciable difference in spite of their "best efforts" the officer complained that the department was short-staffed and the area under their surveillance was increasing. The breeding groups of mosquitoes include 382 miles of open surface drains, approximately 1,173 tanks, ponds, wells and pits, 20 miles of canals, about 41,648 cess pits, 7,229 septic tanks, 2,000 khatalas, and about 20,000 privies.

For the last eight years, there has been no permanent Mosquito Control Officer, whose job is being done by officers of the Corporation's health department in addition to their own work. There has been no entomologist, nor any surveyor for a long time. There is also a shortage of mosquito inspectors and sub-inspectors, not to speak of the

dearth of sarkars and labours. In the present position and with the existing labour strength, each field worker will have to cover in a day 332 metres of surface drains, 0.11 mile of canal, nearly 23 cess pits, four gully pits, four septic tanks, and about 11 privies--a nearly impossible task.

Another impediment to the proper functioning of the department is the lack of transport. Recently, three jeeps were sanctioned to them--one from the Government and the others from the Corporation authorities.

The seriousness of the problem can be gauged from the fact that the West Bengal Government had set up a 23-member high-power committee, with the Director of Health Services as its chairman, to fight the mosquito menace in the city. The committee will coordinate the efforts of different organizations engaged in anti-mosquito operations and mobilize resources for a "large-scale war" against them.

Apart from starting an all-out campaign, the committee will propagate a health education programme through the media to make the people aware of the problem.

The committee decided to issue a guideline to building construction agencies because mosquitoes often breed in water stored for construction purposes. Anopheles, the carrier of malaria, only thrives on clean water. This is one of the reasons why malaria attacks have increased in the Park Street, Sambhunath Pandit Street and Camac Street areas in recent years.

Calcutta THE STATESMAN in English 8 May 78 p 6

[Editorial: "Chasing Mosquitoes"]

[Text] It would be unwise in the extreme to derive too much comfort from the reported decline in the incident of malaria in Calcutta. More relevant to national and international trends--the main topic of discussion at the World Health Organization's May 8 meeting in Geneva--is the alarming disclosure that Delhi's health officials detected 33,296 positive cases between January and May, against only 5,389 in the comparable three months of last year. Calcutta Corporation should also bear in mind that recorded cases usually reflect only a fifth of the actual number of sufferers, which suggests there were nearly 10,000 victims in 1977. The all-India picture continues to be disturbing since the number of patients increased from only 40,000 in 1966 to six million a decade later. On a worldwide basis, the WHO believes that more than a million children die annually from the disease. Malaria would not today have posed such a serious health hazard in India but for official complacency in 1965 when the eradication programme was virtually disbanded. Research into causes, effects and cure tapered

off. The National Malaria Institute was converted into the National Institute for Communicable Diseases with consequent diffusion of aims; and the near-collapse of almost all sanitary services--and resultant pools of stagnant water--encouraged mosquito breeding grounds. The diversion of health funds and personnel to Mrs Gandhi's birth control campaign further exacerbated the problem.

But this is not to suggest that the authorities today display any greater realism in coping with a major threat. Mr Raj Narain's recommendation of dry agriculture and a weekly water-less day is hardly practicable in a rice-growing country. The controversy over merger of the malaria eradication and filaria control programmes (which involves the Union Health Ministry and the Planning Commission) is not very helpful either. Nirman Bhawan is incredibly naive in its thinking, apparently convinced that a massive mosquito-swatting campaign is all that is called for. This simple approach overlooks the fact that the main reason why the earlier effort, which was launched in 1953 and initially met with outstanding success, failed was because 43 species of mosquitoes developed immunity to DDT and several other kinds of pesticide. The suggestion of a joint exercise is strongly resisted by experts who are convinced that malaria and filaria have very little in common and that the "mixed game," as it is called, will only weaken the effort and encourage both diseases.

Clearly, the authorities--both Indian and international--are baffled by the dimensions and complexity of the problem. WHO has carried out some experiments in sterilizing male mosquitoes through radiation so that the female insect (which draws human blood only to fertilize its eggs) is robbed of the motive for biting. But this is obviously too expensive and time-consuming a method for a country of India's size and geographical diversity. The same objection applies to the scheme to breed varieties of fish that survive on mosquito larvae. New Delhi's plan to provide 1,200 million chloroquine tablets (which has replaced quinine treatment) seems more realistic, but this is a cure and not a preventive. Similar difficulties are faced by Bangladesh, Burma, Sri Lanka, Nepal, Indonesia and Thailand where also the incidence of malaria is rising, particularly such dangerous strains as Plasmodium Falciparum. A four-day international workshop in New Delhi recently talked of a campaign which is likely to cost \$20 million over five years: the WHO director-general insisting that there was no long-term alternative to genetic control. But much can be achieved in the short term by a consciousness of public hygiene, some display of official determination and a revived spraying programme.

Madras THE HINDU in English 8 May 78 p 12

[Text] New Delhi, May 7--Sweden is giving an assistance of 80 million Swedish kroners (equivalent to about Rs. 14.5 crores) to India for the

next five years for malaria control work under an agreement signed between the two countries. The assistance will be given by the Swedish International Development Agency (SIDA).

The Swedish assistance will help India intensify the programme for arresting the increase in the incidence of plasmodium falciparum in 55 districts in Bihar, Orissa, Madhya Pradesh, Andhra Pradesh, West Bengal, Rajasthan and Gujarat in addition to the States in the north-eastern region. These districts account for 80 per cent of the P. falciparum cases in the country. P. falciparum causes cerebral malaria.

The Swedish assistance will also be utilised for operational and field research to ascertain various epidemiological situations and develop the methodology for the control of malaria. To this end, a network of field research units will be established.

The SIDA has also shown interest in providing assistance for the national programme for control of leprosy and tuberculosis. The details about the utilisation of Swedish assistance for this purpose are being worked out.

Sweden is among the few developed countries whose assistance to the developing countries approximates to just a little over one per cent of their gross national product. Sweden's budget for 1978-79, which has a deficit of 32,200 million kroners (which is far higher than the deficit for 1977-78 and three times that of 1976-77), makes an allocation of 2.5 per cent of its total expenditure for international development cooperation.

Madras THE HINDU in English 29 May 78 p 14

[Text] New Delhi, May 28--The Health Ministry has made arrangements to secure, through the UNICEF, 220 million tablets of Primaquine drug for use in the treatment of malaria cases.

This is in addition to 100 million tablets already made available to the States against their total estimated requirement of 150 million tablets. When the additional 220 million tablets are available there will be no shortage of this drug.

Apart from this, the Health Ministry sources claimed that there is no dearth of other drugs like Chloroquine and Quinine, nor is there any problem in the supply of insecticides. The claim was made after a high-level meeting here on Thursday reviewed the measures to combat the resurgence of malaria.

Officials of the Ministry of Health, National Malaria Eradication Programme, Directorate-General of Health Services, Hindustan Insecticides Limited and State Trading Corporation attended the meeting.

Spraying of DDT

According to present estimates, 16,600 tonnes of DDT will be needed for completing spray in two phases this May and August. In addition about 35,000 tons of BHC will be required for spraying to combat malaria in different parts of the country. The stock position showed that there was enough DDT to meet the needs in full. In regard to BHC, supplies have been arranged for the two rounds of spray in May-June and June-July. For the third round to be carried out in August-September, efforts are being made to ensure supplies.

In places where mosquitoes have shown resistance to DDT and BHC arrangements have been made to supply about 4,500 tons of Malathion.

On the curative side, 700 million tablets of Chloroquine have been supplied all over the country as part of the National Malaria Eradication Programme. In addition, 500 million tablets have been released to the market. Besides this, 250 million tablets of Chloroquine are in stock. In certain areas, where Chloroquine is not effective, sufficient quantities of Quinine tablets have been supplied.

Mr. J. P. Yadav, Union Minister of State for Health, who presided over the meeting exhorted the officers concerned to ensure not only the required supply, but also to see that the medicines and insecticides supplied in the field were put to actual use. He also emphasised the need for proper inspection, right up to the village level, so that the last tablet and the last drop of insecticide reached the beneficiaries.

Calcutta THE STATESMAN in English 9 Jun 78 p 9

[Text] New Delhi, June 4--At least 43 species of malarial mosquito in India and other countries have developed resistance to DDT and Dieldrin, according to a World Health Organization report, says UNI.

This is the most important factor in the resurgence of malaria in recent years. From about 75 million cases and about 800,000 deaths in India in 1953, malaria cases were brought down to an all-time low of 40,000 in 1966. But there was a spurt and the number of cases rose to six million by 1976.

The report has predicted that unless timely steps are taken, by 1980 India could well have over 12 million cases--400,000 of them fatal.

Conditions are particularly bad in north-eastern India and parts of Terai jungles in the foothills of the Himalayas.

Last year, there was a clear increase in malarial cases--varying from 0.31 percent to 227 percent--in Meghalaya, Nagaland, Himachal Pradesh, Kerala, Punjab and the Union Territories of Delhi and Pondicherry.

In parts of Uttar Pradesh, Madhya Pradesh, Orissa, Gujarat, Maharashtra, Punjab, Haryana and Karnataka, mosquitoes have become resistant to DDT. Benzene Hexachloride and Malathion were used as substitutes. But the substitutes are expensive and, being less effective, they have to be used in larger quantities. In some areas mosquitoes have developed resistance to these two insecticides as well.

Other problems have come up. Two scientists, Mr Pattanayak and Mr V. P. Pathak, have noted that malarial mosquitoes have changed their habits in Meghalaya, Arunachal Pradesh and Assam.

Normally mosquitoes bite their victims indoors and rest on the walls inside houses and in cattle sheds where they pick up a lethal dose of insecticide if the walls are sprayed in advance. But in the eastern region, mosquitoes have started biting human beings outside their houses and rest outdoors, avoiding contact with sprayed walls.

In some pockets of Assam and Meghalaya, a more virulent malarial parasite, plasmodium falciparum, has developed a degree of resistance even to chloroquine, a drug more effective than quinine.

The oil crisis is considered an important reason for the setback in the fight against malaria. All insecticides are petroleum-based and their prices have gone up 300 percent to 400 percent in the past five years.

While the impact of insecticides on mosquitoes falls, its impact on the environment continues to rise.

A report by the Nairobi-based U.N. Environment Programme says: "The progressive contamination of virtually all global ecosystems by DDT, with traces in rainfall and in soil, and in organisms ranging from song birds to ocean fish, from desert gazelle to Antarctic penguin."

This means, the report says, more effective and more environmentally sound weapons have to be found in order to control malaria.

It recommends a return to environmental methods like draining stagnant waters where mosquitoes breed, intermittent irrigation to wash away mosquito larvae, and the introduction of "mosquito fish" which eat the insect larvae.

JAUNDICE EPIDEMIC

Madras THE HINDU in English 8 May 78 p 16

[Text] Bombay, May 7--Greater Bombay is in the grip of jaundice. Generally, the disease afflicts a large section of the community, particularly those residing in slums and unhygienic places, immediately

after the monsoon. It lasts for a short while and then disappears. But now it is a different tale.

The graph of incidence is on the increase, according to the Municipal Corporation. Mr. B. G. Deshmukh, Municipal Commissioner, said that monthly an average of 10,000 persons were affected. But fatality was low, 0.35 per 100 patients in Greater Bombay.

The municipal authorities came to this conclusion after making a two-day survey in the last week of March, when 1,42,630 [sic] people were covered by stratified random sampling covering all the socioeconomic groups in all wards. This sample represented two per cent of the population of Greater Bombay. It gave the figure of jaundice affected persons as 344, meaning an incidence of 5.9 per 1,000 population.

The disease has spared none, including doctors and nurses in public hospitals. The Corporation has taken measures to fight it on a war footing. A mass campaign has been launched to educate the people on the do's and don'ts. The Civic Market Department is destroying large quantities of unwholesome foods and drinks.

The medical authorities are baffled and are divided in their opinion on the cause of the disease. There is one school which holds that the higher incidence this year might be due to the antigenic variation of the virus. In that case, the immunity acquired against the previous strain does not protect the person.

The Executive Health Officer has already drawn attention to the adverse effects on public health caused by the uncontrolled growth of population and the lack of finances to put up and maintain a civic infrastructure capable of dealing with this growth. He has also emphasised the importance of spending large amounts for completely overhauling the drainage system in private properties. This is a matter of serious concern for the Corporation.

In the opinion of experts, the long-term solution has to be: (1) to keep the public water distribution system fully charged for all the 24 hours so that chance contamination does not occur and (2) renovation of the water distribution system as well as the drainage system in private properties, especially in old ones. Unless both these are done, the incidence of jaundice cannot be brought down to a tolerable level. This is bound to cost huge amounts and take years to achieve.

In some of the heavily crowded areas, the municipal authorities propose to improve the drainage system with their own resources without waiting for the consent of the house-owners. The expenditure incurred would be recovered from them later.

It was recently reported that in some of the hotels, servers and cooks as well as residents suffered from jaundice. Later on it was found that it was due to the poor quality of ice supplied to hotels.

One of the latest measures taken by the Corporation is to distribute chlorine tablets free. It is also increasing the chlorination of water. For this purpose, eight mobile chlorinators would be used at the spots indicated by the executive health officer.

BRAIN FEVER OUTBREAK

Madras THE HINDU in English 2 Jun 78 p 13

[Text] Madras, June 1--A team of experts deputed by the Tamil Nadu Government has found that the pig is the carrier of the virus which caused the brain fever in Tirunelveli district and that it is transmitted by mosquitoes.

The fever that had claimed about 100 lives in the past six months in Tirunelveli and adjoining areas was now under control, the Health Minister, Mr. R. Soundararajan, told newsmen today.

He said the team, which consisted of experts from the Microbiological Unit of the Directorate of Medical Education, Directorate of Public Health and Preventive Medicine, Central Virus Research Institute, Poona, and the Vector Control Research Institute, Pondicherry, was still at work and had initiated preventive measures in the affected areas.

The fever occurred in Vellore some time back and later in some districts of West Bengal. It had now come back to Tamil Nadu. A study showed that the virus appeared in areas which were hit by continuous drought for two or three years followed by heavy floods, he added.

Madras THE HINDU in English 3 Jun 78 p 13

[Text] Villupuram, June 2--Ten children died in the Kallakurichi taluk due to brain fever in the past five weeks.

Mr. P. Muthusamy, MLA has given a memorandum to the Tamil Nadu Health Minister stating that out of the 50 children affected by the brain fever, 30 had died in the Sankarapuram area.

Medical experts from Poona, Pondicherry and Kodaikanal visited the area. The South Arcot district medical authorities are taking steps to protect children against brain fever.

CHOLERA OUTBREAK IN NORTH INDIA

Hong Kong AFP in English 0705 GMT 16 May 78 BK

[Text] New Delhi, May 16 (AFP)--Cholera has broken out in epidemic form in Gonda District in Uttar Pradesh in North India and has so far claimed five lives, reports reaching here said. The reports said a number of cholera cases have been admitted to hospital. Adjoining villages in the area have also reported increased cholera cases.

INDONESIA

WHO TO SPONSOR STUDY ON PRENATAL MORTALITY

Jakarta KOMPAS in Indonesian 14 Apr 78 p 8

[Excerpts] One way to know how healthy a nation is (particularly in a developing country) is to look at the mortality and morbidity rates for babies in the prenatal period and to examine the birth weight for babies.

If the infant mortality rate is high in the prenatal period and the birth weight on an average is less than 2,500 gr, then national health conditions are still unsatisfactory.

This is the opinion of Dr Anna Alisyahbana of the children's health division of the University of Padjadjaran [Unpad] Medical School, given to KOMPAS in Bandung.

She said the prenatal period is from the 28th week of the baby in the womb through the first 7 days after birth.

According to Anna, the prenatal mortality rate in Indonesia annually is 35 per mil. The World Health Organization [WHO] however estimates the rate to be even higher, around 70 per mil.

According to Anna, this could be true, since cases of stillborn infants are seldom reported in the villages. What is contained in the village reports is only the number of live births (mainly those delivered by midwives). For village people, a stillborn child is a matter of fate not to be talked about further.

According to Hasan Sadikin hospital records in Bandung, the annual mortality rate for babies in the prenatal period is quite high, somewhere around 100 per mil. This information cannot be used as a yardstick, however, since the hospital in Bandung is a rehabilitation hospital specializing in cases too difficult for the other hospitals in West Java. So, the prenatal mortality rate for infants would be higher at the hospital.

As regards the birth weight for infants, Anna said that babies born weighing less than 2,500 gr run a high risk of sickness and death in the prenatal period.

Based on her research of 2,000 babies born in two large hospitals in Bandung, Anna can prove that the birth weight of babies at the two hospitals on an average is not much different from the birth weight of babies born in Colorado, United States. Generally birth weights are above 3,000 gr.

Anna added that since the prenatal mortality and morbidity data is important, the Unpad Medical School in cooperation with the department of health and sponsored by the WHO is carrying out exhaustive research on the subjects.

A survey lasting a year will be located in the villages of Ciniru, Cileunyi and Cibiru in the Ujungberung subdistrict of Bandung. The population of these three villages is 37,000 including 7,000 mothers of households. The number of births in the villages is 1,500 a year with a mortality rate of 100 per mil annually.

She added that in addition to Indonesia, WHO is also sponsoring similar research in Thailand, India, Burma and Sri Lanka under a program called "Collaborative Study on Prenatal Mortality and Morbidity."

The goal of research here is not to describe the situation throughout Indonesia. The results are only for reference by the department of health and WHO.

INCREASE IN REPORTED CASES OF RABIES

Jakarta KOMPAS in Indonesian 8 Apr 78 p 8

[Excerpt] Even though rabies has been known in Indonesia since 1889, it still has not been eliminated. Investigations reveal that this danger to public health is greatly increasing. In fact, a rabies "explosion" is taking place in several regions. Incidents of rabies-infected animals biting people have also increased.

These investigations were carried out by Soehardjo Suratmo and Amri Siregar of the bacteriology and virology staff of the Bogor Institute of Agriculture and results were presented at the Microbiology Seminar II held on the Bulaksumur campus in Yogyakarta 5-7 April.

Rabies in People

It was also discovered that there were 3,000 incidents in which people were bitten in 1973. After 1973 the number of incidents increased to

more than 8,000. In the 9 provinces studied (Aceh, North Sumatra, West Sumatra, South Sumatra, East Kalimantan, Metro Jakarta, South Sulawesi, North Sulawesi and Lampung) there was an average of 8,930 cases recorded per year for the 1972-1976 period, or 744 cases a month. This means that on an average every day 24 people were bitten by animals suspected of having rabies.

There were 113 incidents of rabies in people recorded for the 1948-1972 period. This is around 4.91 cases a year in the nine provinces of North Sumatra, West Sumatra, South Sumatra, Lampung, West Java, East Java, South Sulawesi and North Sulawesi. In the 1973-1976 period there was an average of 38.8 cases per year in the five provinces of Aceh, West Sumatra, South Sulawesi, North Sumatra and North Sulawesi.

These figures represent an increase of eight times that of the 1948-1972 period for all of Indonesia, or an increase of 68 times for the same five provinces. So, according to the investigations, during the last 3 years of the investigation period, one person died of rabies every 10 days.

Animal Deaths

The incident of rabies deaths in animals for 15 Indonesian provinces for the 1972-1976 period was an average of 395 each year. This means 32.9 deaths per month or more than one animal every day.

The areas where rabies is present are increasing too. Even former rabies-free areas are being affected. Up until 1975 there were only five provinces in all Indonesia, Bali, West Lesser Sundas, East Lesser Sundas, Maluku and Irian Jaya, which were still reported to be rabies free.

The incident which occurred in East Kalimantan in 1974 shows how an area which was rabies free and even separated from epidemic areas by sea can become a rabies-infected area.

The variety of animals being infected is also increasing. It is no longer only limited to dogs, cats and monkeys. The investigations show that rabies is spreading to domesticated animals such as horses, goats and cattle, which are economically important.

ANTITUBERCULOSIS EFFORTS

Jakarta ANTARA in English 0726 GMT 1 Jun 78 BK

[Excerpt] Bandung, June 1 (ANTARA)--Efforts toward eradicating tuberculosis will be given top priority in the Third Pelita (5-year development plan), Dr Rustandi told newsmen here on Wednesday [31 May]. Dr Rustandi, chairman of the Second Congress of PPTI (Indonesian Tuberculosis Eradication Association) being held in Bandung from Wednesday to Saturday this

week, said that the PPTI will always work hand in hand with the government in combatting dangerous diseases affecting the people. He said that the PPTI had gradually reduced tuberculosis in the country. Results of surveys in this community disease [as received] indicated 6 of 1,000 people, living in the remote areas are suffering from tuberculosis compared with 2:1,000 in towns, the doctor said. The PPTI will step up its activities in combatting tuberculosis in the country by providing cadres training and health information to the people in the rural areas, he said.

KENYA

NEW CHOLERA CASES REPORTED IN KWALE, MOMBASA DISTRICTS

Nairobi Domestic Service in English 1400 GMT 15 May 78 LD/EA

[Summary] Reports from Mombasa say that 20 new cases of cholera have been detected in Kwale and Mombasa district, but the coast provincial medical officer, Dr (Fernandes), says there have been no deaths. Dr (Fernandes) said that although the situation was being brought under control, people in the area should continue to observe strict hygiene and warned that hawkers who kept ignoring the ban on the sale of food would be dealt with more severely.

MALAYSIA

RURAL HEALTH SERVICE MAKING PROGRESS IN SARAWAK

Kuala Belait BORNEO BULLETIN in English 11 Mar 78 p 3

[Article by Robin Nawan Balla]

[Text] Long Teru, Baram--Since the Rural Health Service was set up several years ago, notable changes in health and cleanliness have taken place in most longhouses along the Tinjar River.

These are especially marked because of the parallel progress of such "minor rural projects" as clean water supplies and environmental sanitation. The effect of these has been anything but "minor."

One can imagine, however, how difficult it has been for the rural health workers to convince the people of the need for change.

They were accustomed to their old ways and styles of living and they did not give in easily. They said that for centuries they had been living in a certain way and new ideas could make little difference.

Nevertheless, constant gatherings were held on longhouse ruai (verandahs), with the health workers seeking the support of those who had travelled much and seen the advantages of the proposed changes.

But it was a slow process because not until everybody was willing to accept the projects could they go ahead.

Take for example, a problem which arose at Kampung Ajoin, an Iban longhouse on the Tinjar, one and a half hours by longboat from here.

A new longhouse had been completed and everybody accepted the need for a water system--except for one quite aggressive man.

The place where the dam was to be sited was too far away, he complained, and the pipe to bring water to the longhouse must go through his rubber garden.

He was reluctant to let this happen and it took several attempts by the villagers to convince him that a pipe running underground would not affect his trees.

Then, when the water system was being installed he demanded several free taps on his land. This the rural health staff would not agree to because people are expected to buy their own.

As a result, this man is still a nuisance in the longhouse, threatening from time to time to cut the pipes or block the water by other means.

Perhaps the most difficult task was to convince the people not to let their livestock wander.

It was normal practice for the ulu people to let their goats, pigs and buffaloes roam free, and find shelter under the longhouse at night or during rain.

This produced filthy conditions and also, because the animals trampled the soil under the longhouse, led to pools in which mosquitoes bred.

But as time went by, the people began to listen and made separate fenced farms for their livestock as one of their agricultural projects.

The water systems today play a vital part in the life of the rural people, but unfortunately not all longhouses are able to get one because the land is too flat or because streams are too small.

Where this is the case 200-gallon aluminium water tanks are given as an alternative.

In the Baram, especially along the Apoh, Tutoh, Baram, Tinjar and Teru rivers and in the Kelabit Highlands, many new and modern longhouses are coming up, almost all with water systems and environmental sanitation (which means mainly toilet bowls).

Piped water has produced many changes.

In the past, women had to carry water in buckets and bamboo containers from a river--perhaps a long distance away.

Several trips a day were necessary so there was a tendency for the family to economise on water.

For instance, dishes, cups and cutlery were rinsed rather than washed thoroughly with the result that illness such as diarrhoea and dysentery was spread from one person to another.

Today, however, as pipes lead right into the kitchens, women are keen on washing their plates and cooking utensils.

They also buy wire-mesh cupboards to prevent flies from landing on the clean plates and food, and they wash their floors and their mats.

Also notable is the use of toothbrushes, which they like to display on their walls.

A bad effect, however, is that people may be reluctant to go swimming in the rivers and it is possible that their children will not learn to swim.

The piped water also enable the longhouses to install flush toilets, which cost around \$200 a set in Marudi, or the simpler cement bowl toilets.

In setting up these toilets, the rural health workers supervise the work while the owners provide the labour. This programme has been very successful.

People now realise that the longhouses must be kept clean at all times, that drainage is important and that the playgrounds where children spend most of their time if they are not in school must be free from litter.

To ensure that cleanliness is maintained, each longhouse has a committee which makes sure that every "door," or family, abides by the regulations.

Constant visits are made by medical workers and their supervisors to ensure that all is well--and to give advice and treatment whenever there is an outbreak of sickness.

CHOLERA, MEASLES CERTIFICATION NOT REQUIRED AT THAI BORDER

Kuala Lumpur NEW STRAITS TIMES in English 9 Mar 78 p 1

[Text] Johore Baru, Wed.--All travellers by air and land between Malaysia and Thailand will not have to produce health certificates for cholera and measles from April 1.

The Director-General of Health, Dr. Raja Ahmad Noordin, said this decision was reached by representatives from both countries at the Malaysia-Thai Border Health Conference which ended here today.

Dr. Raja Ahmad, who led the Malaysian delegation to the three-day conference, said malaria eradication efforts at the common border would also be doubled.

The conference also agreed that DDT spraying operations be stepped up in border areas and that an international agency be asked to help supply the chemical free.

Discussions would be held among Asean members for the setting up of a DDT store in case of a shortage of the chemical.

The leader of the Thai delegation, Dr. Somboon Vachrotai, said the Thai health authorities would take steps to prevent the spread of certain diseases, especially venereal disease, along the border.

Posters would be put up at entertainment spots, including nightclubs, to draw the attention of tourists.

ANTARA REPORTS CHOLERA FIGURES

Kuala Lumpur International Service in English 0830 GMT 7 Jun 78 BK

[Text] ANTARA news agency reporting from Jakarta said 4 persons died and 78 others have been suffering from cholera in 2 West Java regencies in the last 2 weeks. A West Java province health office spokesman was quoted by ANTARA as saying that preventive measures against the spread of the disease have been conducted throughout the regencies and nearby districts. The agency said over 50,000 were reported killed by cholera in West Java province in earlier months.

CHOLERA CASES

Kuala Lumpur Domestic Service in English 0000 GMT 15 May 78 BK

[Text] Perlis is to be declared a cholera-infected area in view of the increasing number of cases discovered since the middle of April. The state medical and health services director, Dr Ahmad Adnan, stated this on 14 May.

Kuala Lumpur Domestic Service in English 1130 GMT 15 May 78 BK

[Text] The Perlis government has set aside a special allocation to prevent the spread of cholera in the state. The state medical and health director, Dr Ahmad Adnan, reported that the cholera situation is under control. Thirteen cases and 20 suspected cases have been detected in the state so far.

Kuala Lumpur Domestic Service in English 0000 GMT 15 May 78 BK

[Text] In Kelantan, 6 more cases of cholera were confirmed, bringing the total to 181, including 8 deaths. An information department statement said the new cases, three of them involving children, were in the Kuala Krai, Majang and Kota Bahru districts.

CHOLERA REPORTED AT VARIOUS LOCATIONS

Kuala Lumpur NEW STRAITS TIMES in English 14 Mar 78 p 20

[Text] Kota Kinabalu, Mon.--Four more cases of cholera have been detected in Sabah during the weekend in addition to nine cholera carriers discovered since March 5.

The Medical Department here said two of the cases were discovered at Kampung Ice Box in Tawau while the other two were from Semporna district.

All the patients have been admitted to district hospitals and preventive measures have been undertaken in the areas affected.

In Seremban, a total of 134 residents in a rubber estate at 5 1/2 mile Jelebu Road and the nearby areas have been inoculated against cholera following the discovery of a cholera case there last week.

Well Water

State Health and Medical Director Dr. Jones Varughese said today a 10-year old boy who drank water from a well was confirmed to have cholera by the district health office.

In Penang, ten cases of cholera have been confirmed.

The State Director of Medical and Health Services, Dr. Haji Ahmad Shah bin Syed, said today six of the cases were symptomatic while the rest were nonsymptomatic (contacted cases).

Another two cases--one in Immigration Road and the other in Teluk Kumbar--were confirmed on March 10 and 11. Both cases were admitted into the General Hospital here.

Dr. Ahmad Shah said all necessary preventive measures including giving cholera jabs have been taken in the affected areas.

Kuala Lumpur NEW STRAITS TIMES in English 4 Mar 78 p 12

[Text] Fri.--Two confirmed cases of cholera have been reported to City Hall's Health Department today.

The first patient is a 24-year old Iban soldier from Wardieburn Camp in Jalan Genting Kelang while the other is a seven-month old boy from Jalan Chan Sow Lin here.

Federal Territory's Director of Health Services Dr Rosman Kasa said today the soldier was admitted into the Kuala Lumpur General Hospital yesterday while the baby was admitted into the same hospital on Wednesday.

He said this was the first outbreak of the disease since 1976.

He urged the public, particularly the residents staying in the affected areas, to boil all drinking water and not to take cold drinks or eat cut fruits sold by the roadside.

Those who wish to have cholera inoculations could go to City Hall's Health Department in Jalan Raja Bot during office hours, he said.

Dr Rosman advised those suffering from diarrhoea and vomiting to seek medical advice immediately.

He said the City Hall's Health Department was taking necessary action to prevent spreading of the disease.--BERNAMA

Kuala Lumpur NEW STRAITS TIMES in English 10 Mar 78 p 16

[Editorial]

[Text] Cholera to a government is a little like the child's headlice to a mother--it is a sure sign of uncleanness and a cause for shame. But

Malaysia sits in the middle of an area where cholera is endemic and there is no way that the disease will ever cease to be a threat to the health of our citizens. Seven cases were reported in the capital over the last week; there have been nine recent cases in the eastern districts of Sabah and one in Kedah. But although people can carry the disease from one country to another it cannot spread except in insanitary conditions. A lack of fresh water for personal use allows the bacteria to be transmitted through contaminated food or water. The only way the disease can be eliminated is through constant vigilance in areas where there is no piped water, through chlorination of wells and the provision of sanitary latrines. Hawkers must also be supervised and provided with piped water and not allowed to set shop anywhere they please. The inoculation teams which the Health Departments in K.L. and Kedah have sent into infected areas are also important, although inoculation alone is no guarantee against contracting the disease.

It seems odd in these circumstances that the Thai Border Health Conference decided to scrap the requirement of cholera jabs for travellers between the two countries. It may make things easier for tourists and strengthen ties between the two states in the short run, but in the long term it can only increase the incidence of cholera in Malaysia.

MOZAMBIQUE

TETANUS VACCINATION CAMPAIGN IN SUSSUNDENGA

Maputo NOTICIAS in Portuguese 28 Apr 78 p 4

[Text] In Dombe, Sussundenga district, Manica province, 15,443 people have been vaccinated against tetanus, smallpox and tuberculosis.

The information was offered by the Provincial Health Directorate, which added that the inoculations were performed by a National Campaign brigade. The brigade has already been operating in Manica district, where it has vaccinated 42,110 members of the population.

SMALLPOX VACCINATION CAMPAIGN IN NIISSA

Maputo NOTICIAS in Portuguese 21 Mar 78 p 1

[Text] After visiting some points in Niassa province, a brigade of the International Commission for the Eradication of Smallpox has concluded that the vaccination campaign has reached over 90 percent of the school population.

Day before yesterday the brigade worked in Metangula, Lago district, where over 500 children were examined.

MEETING TO PUBLICIZE ANTIMALARIA CAMPAIGN

Maputo NOTICIAS in Portuguese 22 Apr 78 p 5

[Text] Chibuto--A meeting chaired by the provincial health director and attended by members of the party and government at the district level took place in Chiputo district, Gaza province.

The purpose of the meeting was to educate and mobilize the structures represented at the meeting regarding the importance of the antimalaria campaign being developed in Gaza province, as well as the preventive measures that should be taken against the disease.

During the meeting a district committee was formed, composed of eight individuals who will develop promotional efforts in various sectors, such as communal villages, education centers and enterprises.

At the end of the meeting, the provincial health director appealed for better control of the number of people who are to receive medicine.

In addition, an education team from the first brigade of the national vaccination campaign arrived yesterday in the same district. It will meet with local organs, for joint planning of operations pursuant to the national health campaign.

Yesterday morning the vaccination campaign brigade visited the communal villages "25 June" and "Samora Machel," where they talked with the people in order to learn about the problems the latter were facing and about the life in the communal villages.

NEW ZEALAND

'NOTIFIABLE DISEASES' REPORT

Christchurch THE PRESS in English 31 May 78 p 4

[Text] Five cases of notifiable diseases were reported by the Department of Health in Christchurch last week: Two cases of hepatitis A and one case each of hepatitis B, salmonella and tetanus. Thirty-three new cases of venereal disease were attended to at the Christchurch venereal disease clinic in April.

NIGERIA

MENINGITIS OUTBREAK DECLINES

Kaduna NEW NIGERIAN in English 20 May 78 pp 1, 7, 10

[Text] The killer disease--cerebro-spinal meningitis (CSM)--which broke out in parts of the northern states, has been reported to be on the decline.

Reports reaching Kaduna from the affected areas show that so far, 1,741 people have died since the break out of the epidemic in February this year as compared to about 630 during the same period last year.

The decline in the number of cases has been attributed to "cooler" weather conditions in the northern states following the onset of the rainy season as well as the use of the vaccine sent to the affected areas by the Federal Ministry of Health.

Our correspondents however said the quantity of vaccine sent in by the FMG was inadequate.

Isa Husaini, filed in this report from Kaduna: About 80,000 people were believed to have been vaccinated against cerebro-spinal meningitis (CSM) in Kaduna State. Most of them were children between one to 15 years old.

The disease which broke out in November last year in the state, affected about 1,285 persons out of which 83 died.

This was disclosed to me during an interview with a senior official of the Epidemiological Unit of the Kaduna State Ministry of Health and Social Welfare.

The official, tracing the history of the disease in Nigeria, said that it first broke out in 1905 at Katsina and spread to Sokoto where it killed about 46,000 people in the year 1921. Suta sulphur drugs, he disclosed, were introduced in 1936, and it helped greatly. But in 1968, the bacteria of the disease became resistant to the drugs.

He revealed that between 1941-1961, the disease spread extensively in the northern states killing about 28,673 and as at now, he said, the cycle movement of the disease started in 1974 and it was expected to last up to the year 1980 before it would die down for some period.

The official said great care should be taken for the effective use of preventive medicine, because, according to the State Epidemiological Unit, the disease would come back in full swing again this year.

He said the disease spans the sub-region from Ethiopia in the east to Upper Volta in the west and moves with the climatic conditions of these areas, adding that about 50,000 cases of the disease were being reported yearly in West Africa alone.

On the effective control of the disease, the official said CSM could not be controlled easily. He added that the vaccine sent in by the FMG has not yet been determined to assess its effectiveness in controlling the epidemic.

The official then told me that the outbreak of the epidemic was caused by bacterias called "Meningococcus Neisseria Meningitis" of which there were four sub-groups. "The disease," he said, "thrives in hot, dry climatic condition, poor environmental condition and low socio-economic standards."

He then gave the breakdown of the disease in Kaduna State as follows: Daura, 114 cases reported with 15 deaths; Katsina, 244 cases with 28 deaths; Malumfashi, 84 cases of which two dead; Funtua, 265 cases with three deaths, and Kankia, 143 cases and 13 deaths.

Others are Mani, 73 cases out of which eight died; Zaria, 169 cases with a record of four deaths; Kaduna, 162 cases with nine deaths; Dutsin-Ma, 20 cases with one death, while Saminaka, seven cases; Kafanchan two and Kachia, 22 with no deaths.

The official said that about 96,000 doses of vaccine sent in by the FMG were distributed to the various local government areas in the state.

Jerry Ejem sent in this report from Kano: Facts gathered from the Kano State Medical Management Services Board revealed that 6,664 cases of the deadly disease were reported for treatment in Kano State this year. About 345 of these died. The board said that 6,587 cases were treated and discharged while 32 cases were still receiving treatment at the Infectious Diseases Hospital (IDH), Kano.

Dr. Mohammed Kabir, the medical officer in charge of the Epidemiological Unit, who spoke to me, said the fact that only 32 cases remained to be discharged was indicative that the disease was in the decline. He said that there had been no fresh cases of infection in the last one week.

A comparison with last year's outbreak showed that more CSM cases were recorded with less death toll. In 1977, 7,207 people were infected by the communicable disease, 310 died from the epidemic while the rest were treated and discharged.

Speaking about the vaccination and drugs that were used to combat the epidemic this year, Dr. Mohammed Kabir disclosed that in Kano State, 139,000 doses of vaccine received from the Federal Military Government

were administered to approximately 139,000 people at one dose per person. He said that most of the vaccines were used in the local government areas and schools which reported cases of CSM.

Also, he said, 760,000 Sulta sulphur drugs were administered this year.

Dr. Kabir said that when compared with last year, more vaccines and less drugs were used to fight the disease this year. In 1977, only 7,000 doses of vaccines were administered in a few local government areas, but over 140,773 suta sulphur drugs were used by 200,106 people.

Asked how effective the vaccines from the Federal Military Government (FMG) had been, Dr. Kabir said that nobody received the vaccine and had an infection. But he observed that to "exactly ascertain how effective the drugs are, there has to be a medical study."

Explaining the various measures used to control the spread of the epidemic, Dr. Kabir said that the Epidemiological Unit utilised radio and television to publicise what he described as "health talk." He said that in the health talk, people were informed of how to prevent infection by CSM and to immediately report any sign of infection to the nearest hospital.

Emergency wards were also put up; more doctors and nurses were drafted to the IDH to contain the spread of the epidemic, he said. Dr. Kabir said that looking at reports, the most striking thing was that over 55 per cent of the cases recorded this year were people between five and 15 years of age. This meant that at this age, people were more susceptible to the disease, he concluded.

Ibrahim N. Salihu writes from Yola:

About 1,309 persons suffered from the killer disease in Gongola State, during the period 1977/78. Out of that number, 123 died.

Giving the breakdown of the meningitis cases, and the number of deaths, Dr. Joyce B. Mathison, Senior Medical Officer in charge of Epidemiological Unit, Yola General Hospital, said there were 785 cases which culminated in 76 deaths in 1977. For this year, she added, there have so far been 524 reported cases of the disease with 47 deaths, she said.

Dr. Joyce Mathison further explained that most of the cases occurred during the first four months of the last and current years. She indicated that 477 patients were treated and discharged this year.

She explained that the Federal Ministry of Health had asked them "not to use the term cerebro-spinal meningitis, except where laboratory test confirmed the presence of meningococcus." It was not practicable, however, to do a spinal puncture on every case of the disease, she said.

The figures thus supplied included those not so far confirmed, she pointed out. She also added: "Our reporting units are so irregular in making this distinction at present that it is not reasonable to report them separately."

Dr. Joyce Mathison added that about 397 cases were reported within the first four months of 1977 out of which 39 died.

In respect of treatment and prevention of the disease, she revealed that the state received 350 doses of anti-meningitis drugs from the Federal Ministry of Health on November 26, 1977. On April 17, this year, 11,200 doses were received, she said.

She observed that though the quantity was far too small, the selective use of it "was probably instrumental in interrupting outbreaks of the disease" and in protecting medical workers involved with the operation.

She further told the NEW NIGERIAN that since the receipt of the last supply of the vaccine, there were fewer reports of the disease coming in and there was no major outbreak to combat. She then expressed delight over the stocking of some quantities of the vaccine with which they would meet any emergency. To supplement all their efforts, Dr. Joyce Mathison disclosed that the field team of her unit had been in several areas of the state assisting local medical facilities in the treatment of the deadly disease.

She concluded: "Close surveillance and early diagnosis and treatment are still our best weapons against the disease."

From Ibrahim A. Biu in Minna, came this report: Seventeen people died in Niger State this year as a result of the outbreak of CSM. An official of the state's Ministry of Health in Minna said that only ten people died of the disease between July and December, last year.

He said that 53 people were treated and discharged at various hospitals throughout the state between December, last year, and April 17, this year.

The official said that 15 cases were reported at the Zungeru rural health centre, out of which seven died while seven cases were reported at the Bida General Hospital out of which two died this year.

Other reports of the disease were nine cases at the Minna General Hospital with three deaths; five cases at Mokwa with two deaths, and seven cases at Abuja with four deaths. The official said that a medical team which comprised officials from both the federal and state ministries of health was deployed to the state's rural areas to combat the spread of the disease. He said that the 100,000 suta tablets received from the federal government were distributed to all medical institutions in the state.

The drugs received from the federal government contributed immensely towards checking the spread of the disease, he added.

Yaro Ali Maiduguri writes from Bauchi: Two hundred and forty-six people were killed as a result of the outbreak of the disease since the beginning of this year in Bauchi State.

Altogether, a total of 3,510 victims were admitted in hospitals for treatment this year.

This was contained in a report just released by the state's Ministry of Health and Social Welfare in Bauchi the state capital.

The report explained that only one case out of those who received the vaccine got afflicted with the disease. This, it further explained, was a case of a student from the teacher's college, in Bauchi, "but the said student got only a mild form of the disease."

On the measures used to control the disease effectively, the ministry said that all the known cases were confined to isolated units of hospitals and in temporary shelters in various local government areas.

Other methods, it went on, included prophylactic administration of suta drugs to all contacts of cases and education of the masses through the various health personnel deployed to different local government areas.

The other was dissemination of information on preventive measures against the disease.

The report also disclosed that a total of 90,626 vaccines were used during the period under review.

Sani Haruna sent in this despatch from Maiduguri: "Cerebro Spinal Meningitis epidemic is cyclic and it repeats itself every six years," the Borno State Commissioner for Health, Alhaji Baba Gana, has said.

In an interview, the commissioner said the epidemic started last year with a little over 200 cases reported. From January to April this year, an additional 4,024 cases were reported out of which 420 people died.

Alhaji Baba Gana said it was difficult to know the exact number of people who died because a number of people, especially in the rural areas, might have died without the knowledge of health officials.

The commissioner was happy that the situation had been successfully arrested and now the epidemic has been effectively checked throughout the state. He expressed gratitude to the federal government for coming to their aid with satisfactory quantities of vaccines.

Alhaji Baba Gana said since it had been discovered that CSM was a cyclic epidemic, his ministry has already started making necessary arrangements to guard against future occurrence. He said the establishment of area health management committees in all local government areas would help greatly.

The commissioner said that in its efforts to improve health services throughout the state, the state government has decided to build five more hospitals in Damaturu, Monguno, Kukawa, Ngala and Damboa. Contracts for the project would soon be awarded, Alhaji Baba Gana said.

Abdulsalami Zubairu, writing from Sokoto, said (CSM) which broke out earlier this year in Sokoto State claimed 583 lives. He said the disease had been checked as a result of the strong measures taken by both the state and federal government.

His report continued:

The Permanent Secretary of the state's Ministry of Health, Alhaji Shehu Kangiwa, said that the total number of 8,597 cases of CSM were recorded while 8,014 were treated and discharged as at April 29, this year.

The permanent secretary said during 1977/78, 334 more people died compared with the previous year when only 249 deaths were recorded.

Alhaji Shehu added that preventive measures taken against the disease included isolation of the victims for treatment and erection of more isolation camps all over the local government areas.

Preventive drugs, he said, were also distributed to the patients and health education all over the state intensified.

Newspapers and other media houses, Alhaji Shehu said, have also helped tremendously in this respect. With the arrival of the Federal Ministry of Health's special vaccines, school children and areas of large gatherings like Army barracks, police barracks and Secretariats were given priority, while local government areas were also not left out.

The permanent secretary then expressed satisfaction over the effectiveness of the vaccine, "because since we started vaccinating in March, the effectiveness was felt."

Alhaji Shehu however explained that 200,000 doses of the vaccine were utilised during the campaign exercise in the state.

PANAMA

MALARIA FIGURES

Panama City Domestic Service in Spanish 2230 GMT 10 May 78 PA

[Text] Health Ministry authorities reported today that only the provinces of Panama, Darien and Bocas del Toro are included in the health map as regions where malaria cases continue to appear. The National Service for the Eradication of Malaria said that 674 cases were registered in Panama in 1977 but that in most of those cases the disease was picked up in other countries of Latin America.

PHILIPPINES

GASTROENTERITIS REPORTED IN METRO MANILA

Manila Domestic Service in English 1300 GMT 31 May 78 OW

[Text] The Department of Health today warned against the outbreak of upper respiratory and gastrointestinal diseases with the advent of the rainy season. The warning was raised even as the Saint Lassaro hospital reported 112 admissions for gastroenteritis and 63 for bronchopneumonia. Saint Lassaro hospital director Cesar Juilanko advised the public to take all precautions in order not to be inflicted with the seasonal diseases.

Juilanko said Metro Manila residents are on an incubation period during which they should build up resistance in order not to get infected with the viruses of these diseases. Incubation period, Juilanko explained, starts with the rainy days during which viruses build up and reproduce on bodies of weak persons. Juilanko advised Barangay officials to coordinate with the Health Department in educating Metro Manila residents on how to avoid the contraction of seasonal diseases.

REUNION

TYPHOID CASES REPORTED

Port Louis L'EXPRESS in French 6 Jun 78 p 1

[Excerpts] About 30 cases of typhoid have been reported in the commune of Saint Joseph. The Health Ministry is watching the situation closely.

Saint Denis TEMOIGNAGES in French 6 Jun 78 p 1

[Text] A typhoid epidemic is affecting the south, especially Saint-Joseph and Saint-Philippe. Last week only a few were affected, but now more than 40 persons have been hospitalized. The Langevin River is mentioned as the source of the epidemic.

RHODESIA

WAR SITUATION AFFECTS MALARIA CONTROL PROGRAM

Salisbury THE RHODESIA HERALD in English 17 May 78 p 2

[Text] Bulawayo--Malaria cases in Bulawayo in the municipal year (which ends on June 30) total 151 to date. But only one patient is considered to have contracted the fever in Bulawayo, Dr E. F. Watson, Medical Officer of Health, said yesterday.

There were no deaths in Bulawayo from malaria this year, and none last year, he said.

In the last municipal year malaria cases in Bulawayo totalled 81, but "after investigation" none were considered to have been contracted in this city.

Extensive mosquito traps were operated by the city Health Department throughout the past rainy season. But not one malaria-carrying mosquito was caught, Dr Watson said.

The Secretary for Health, Dr Eric Burnett-Smith, said there had been an upsurge of malaria in areas which used to be "protected" by anti-malaria campaigns, but which were no longer protected (because of the war situation). He was unable to give figures on the incidence of malaria because "we work on a four-year cycle."

The Provincial Medical Officer of Health for Matabeleland, Dr A. O. Pugh, said some anti-malaria programmes in Matabeleland had been curtailed because of the war.

"To my mind, the most tragic feature is that in parts of Matabeleland clinics and hospitals have been closed," he said.

The number of malaria cases reported to the World Health Organisation had doubled in the past five years, the Danish director-general of the WHO, Dr Halfdan Mahler, said in a report published on Monday, IANA-AP reports from Geneva.

POSSIBILITY OF RUSSIAN FLU

Salisbury THE SUNDAY MAIL in English 14 May 78 p 2

[Text] Supply agents of pharmaceutical products are stocking up on influenza vaccines with built-in protection against "Russian" flu--a new strain of the virus which could hit Rhodesia.

Mr Peter Hodder, sales manager for one Salisbury company, said: "It has been predicted that this strain of flu would hit South Africa at the end of the month. If that happens it could spread here."

There were widespread outbreaks of Russian flu, or A-USSR-90-77, in Europe last winter.

"Seasonally we are about six months behind Europe and our flu season is just beginning.

"In the past few weeks people have been asking for vaccines containing protection against the Russian flu in addition to the others, such as the Hong Kong and Victoria strain."

Mr Hodder said that an additional 1,000 doses would be arriving in the next two weeks as "holding stock."

"Although the vaccines are imported there should be no difficulty in getting more if the need arises."

SINGAPORE

TOTAL ERADICATION OF MALARIA ANTICIPATED

Singapore STRAITS TIMES in English 20 Mar 78 p 7

[Text] Singapore has succeeded in preventing outbreaks of diseases spread by insects and rodents, although many developing countries continue to be plagued with epidemics of such a nature.

And this success has come despite factors conducive to vector population growth like the hot and wet climate, luxuriant vegetation, density of human population and its strategic position making it vulnerable to importation of diseases from foreign visitors.

Malaria

The uphill task of keeping the diseases under control has been accomplished by the Vector Control and Research Department (VCRD) of the Ministry of the Environment.

It works hard to stop any outbreak of yellow fever and plague and to control, among others, vectors of diseases such as malaria, dengue haemorrhagic fever (DHF), Japanese B encephalitis and filariasis as well as keeping wasps and bees in check.

Writing in the MIRROR, a weekly publication of the Culture Ministry, the head of the VCRD, Dr. Chan Kai Lock, says that before the unit was established, it was only possible to carry out malaria mosquito control.

However, within three years, it was able to tackle not only the oppressive malaria problem effectively but also successfully control the raging onslaught of DHF, which was then ineffectively checked in other parts of the world affected by it.

Dr. Chan quotes the example of malaria, which today still claims many lives and affects some 300 million people in the world, saying that although it used to be one of the deadliest killers in Singapore, it is practically eradicated today.

There were fewer than 200 cases reported annually, of which the vast majority were imported and there were virtually no deaths.

Says Dr. Chan: "Singapore is well on the road to total malaria eradication. The malaria situation is improving as the country rapidly urbanises, aided by Malaysia's eradication programme.

Eradication

"For the past two years, Singapore has been free of indigenous malaria. If this record is maintained for another year, Singapore will have achieved total malaria eradication for the first time."

However, he adds, even under eradication conditions, all the transmission-prone areas will still have to be kept under constant vigilance, surveillance and control as routine disease and vector checks enable new cases to be picked up quickly and controlled.

Other effective measures undertaken by the VCRD is the eradication of the yellow fever mosquito, the *Aedes Aegypti*, through the use of a device known as the autocidal ovitrap.

Research

In fact, Singapore is the first country in the world to have succeeded in getting rid of the insect.

And although DHF was considered a killer here, especially during the epidemic years between 1966 and 1968, the department has once again successfully developed an integrated system of controlling the mosquito

vector, using source reduction, health education, legislation and chemical control.

Dr. Chan, however, points out that a substantial health problem is that posed by the breeding of flies in chicken droppings and pig wastes in rural farms.

Research studies are being undertaken to control flies at these sources, he says.

SOUTH AFRICA

MENINGITIS DEATH REPORTED

Johannesburg THE STAR in English 26 May 78 p 3

[Text] All physical training and weekend sport has been frozen at the Pretoria Police College to prevent spreading of the Meningitis virus which killed one of the student constables.

The commanding officer, Brigadier W. A. van Zyl, said the students had been immunised by the Department of Health and inspectors were paying daily visits to the college. He was confident that the case of student Constable J. S. C. Steyn, who died on Wednesday, was an isolated one and that the danger had passed.

FLU OUTBREAK DENIAL

Johannesburg THE STAR in English 29 May 78 p 19

[Text] No flu viruses of any kind have been detected so far this year, a State Health Department official said today.

"Children said to have flu are probably suffering from the common cold or some other virus, certainly not flu," he added.

Russian flu, the current strain, was not expected for another month.

It was widely reported last week that Pretoria schools have high absence rates as a result of a flu outbreak and that Johannesburg schools are also affected.

Two companies have imported vaccine which is effective against the Russian strain. One has already distributed 150,000 doses and will have another 50,000 doses available on June 10.

Most of these will probably be used in institutions for the aged, TB hospitals and other at-risk people.

The Health Department spokesman said there was no need for panic. It was a mild flu and no problems had been encountered anywhere in the world.

TANZANIA

DAR ES SALAAM REPORTS OUTBREAK OF CHOLERA

Dar es Salaam in English to Central and Southern Africa 0400 GMT
12 May 78 LD/EA

[Text] Kigoma--A total of 33 people have died and 73 others have been admitted in Kogoma district hospital since the outbreak of cholera in Kigoma region last Monday, May 8.

Doctors were yesterday rushed to (Makizege), (Kitege), (Nyamoli), (Ngarakanza), (Mgambo), (Mtanga) and (Mitale) villages to deal with the cholera cases. An emergency meeting of the leaders in the district has ordered a closure of all primary schools with effect from today and the district has been put under quarantine. A special committee to fight the disease in Kogoma region is meeting this morning to find new tactics of fighting the disease.

VACCINES TO ZANZIBAR

East Berlin ADN International Service in German 1140 GMT 17 May 78 LD

[Text] Dar es Salaam--The entire population on the island of Pemba, which belongs to Zanzibar, is being immunized against cholera with vaccines donated by the GDR Solidarity Committee. The consignment of 200 kilograms is enough to protect over half of the island's population against cholera. Thanks to strict quarantine regulations, necessary in the fight against cholera, the epidemic has been contained in Zanzibar.

DAR ES SALAAM REPORTS MORE DEATHS FROM CHOLERA

Dar es Salaam in English to East Africa 1000 GMT 16 May 78 LD/EA

[Text] Lushoto--Three people died of cholera in (Funda) (?Ward), (Bomburi) division of Lushoto district last week. According to medical authorities in Lushoto, six others are undergoing treatment at various villages in the (?ward). Reports from Lushoto say it is believed that

the disease spread from neighboring (Kwangurue), (Vongoi) and (Hua) villages in (Mai) (?Ward) in the same division, where it had already claimed five lives.

Medical experts in Lushoto district are worried that it might be difficult to totally eradicate the disease, due to poor health conditions prevailing in the division and inadequate supplies of anticholera drugs.

THAILAND

HEMORRHAGIC FEVER CASES

Bangkok BANGKOK WORLD in English 14 Jun 78 p 3 BK

[Text] Udon Thani provincial hospital is admitting 5 to 10 haemorrhagic fever patients per day, a report from Udon Thani reaching Bangkok metropolis disclosed yesterday. Many cases were also admitted to private clinics in the provincial capital, the report said. According to the provincial hospital's record book, the patients came from all districts in the province indicating that a widespread epidemic has broken out. Striped mosquitoes are the carriers of haemorrhagic fever.

CHOLERA FIGURES

Bangkok Domestic Service in Thai 0530 GMT 7 Jun 78 BK

[Text] The number of nationwide cholera victims since its outbreak on 19 September 1977 was 3,489, of which 112 died, according to a Public Health Ministry report. As of 29 May 1978, the total number of victims throughout the country was 21--in Bangkok, Samut Sakhon, Nonthaburi, Trat, Chanthaburi, Songkhla, Chiang Mai, Nakhon Ratchasima and Si Sa Ket.

TURKEY

VICTIMS OF UNKNOWN DISEASE

Istanbul TERCUMAN in Turkish 7 Jun 78 pp 1, 10

[Text] Samsun (AKAJANS)--In the village of Karsi in the Ayacik sub-district of Carsamba district, six children have died of a yet unidentified illness. Health teams sent to the village yesterday have begun work. Doctors have been unable to diagnose the illness, which appeared 1 month ago and which has caused the deaths of six children between the ages of 3 months and 12 years. It was stated that the children

contracting the disease died within a very short time. Various individuals claimed that the children contracting the disease died 2 hours after saying "I'm sick."

VIETNAM

IMPROVEMENTS IN PUBLIC HEALTH SECTOR DISCUSSED

Hanoi QUAN DOI NHAN DAN in Vietnamese 15 Apr 78 p 2

[Article by P.K.T.]

[Text] Having passed through a long and fierce war which was full of difficulties, the people have very great needs regarding medical treatment. In the north, there are still a large number of people needing treatment. In the provinces in the south, the illnesses left by the old society are very serious. According to figures left by the puppet regime, the number of people having social diseases reaches record numbers: more than 1 million people have venereal disease, 10 million people live in chronic malaria areas, 300,000 people are addicted to narcotics, and so on. In the localities, there is still a rather widespread situation in which the people's needs concerning medical treatment are not satisfied promptly, there is a shortage of hospital beds, and there is a shortage of drugs. People who are sick must waste a lot of time waiting to be examined and treated. This is a great requirement which the party and government are very concerned about satisfying. Even so, we can still affirm that our system has made great efforts in treating and preventing diseases and looking after the health of the people.

As compared with before the August Revolution, at present the number of hospitals in the country has increased 20 times and the number of doctors (doctors and physicians) has increased more than 150 times. During the period of French domination, the country had only 47 hospitals and 9 maternity hospitals with approximately 4,000 beds, which served the rich and powerful, and there was 1 doctor for approximately every 180,000 people. Every year, for every 1,000 babies born, 300 to 400 died. In the rural and mountain areas, many of the people were superstitious and when they became sick they made sacrifices to the spirits and used incense and urine to treat the disease.

Today our country has a widespread hospital network from the villages to the central echelon; it is becoming better and better equipped and has large numbers of doctors and physicians. In 1960 in the north there were 1.4 doctors for every 10,000 people; in 1975 there were 127 physicians and doctors, a 9-fold increase. The average medical allowance, calculated on a countryside per capita basis, which the government

issues the people each year will gradually rise from 8.27 dong in 1977 to 11 dong in 1980 and 13 dong in 1985. People entering the hospital for treatment do not have to pay the medical expenses. All of the villages in the north have public health stations to look after the health of each family, diagnose and treat general diseases, and handle pregnancies and deliveries. Thus, more than 90 percent of the pregnant women in the rural areas and lowlands and more than 70 percent of the pregnant women in the mountain areas come to the public health stations, maternity hospitals, or hospitals to deliver. Regarding the provinces in the south, since liberation, village public health has expanded rather quickly; by the end of 1977 there were 191 medical aid stations and district hospitals with 11,936 beds and resident doctors. Treating children has been given much attention. In the 33 provinces there are 13,164 hospital beds for children. All hospitals have pediatrics wards and first aid wards for children. Along with the hospitals and medical aid stations, there are 99 recuperation centers with 10,410 beds, 508 pharmacies, and 1,154 drug sales points.

Our hospitals are manifesting a spirit of self-reliance, using modern and national medical science in a creative way in diagnosing and treating diseases and compounding medicine and are the centers spreading propaganda and popularizing science and overturning the superstitious habits in many backward rural areas. Along with treating diseases, our medical science has applied a number of the newest techniques concerning diagnoses, examination, and treatment. Vaccinating people to prevent them from contracting such contagious diseases as cholera, typhoid fever, poliomyelitis, smallpox, hemorrhagic fever, tuberculosis, and diphtheria is being carried on according to a vaccination timetable for the targets and age groups. The main vaccines are being produced by the institutes of sanitation and epidemiology in the country. Because of this, a number of contagious diseases such as smallpox and cholera which often occur in Southeast Asia and in many other regions in the world were eradicated from the provinces in the north in 1959. Since 1961 we have controlled poliomyelitis and not allowed it to grow into an epidemic.

The prevention of malaria has achieved encouraging results. Almost all the provinces in the north have virtually eradicated malaria. In the 1976-1980 Five-Year Plan, the public health sector is struggling to advance to eradicating malaria throughout the country.

If these achievements are compared with [those of] the public health sectors of the developed capitalist countries, socialist public health has clearly manifested its superiority in the mission to support all the laboring people. If compared with those of the developing nations in Asia and Africa, the results we have achieved are very great. We have far surpassed many countries concerning the percentage of hospital beds, doctors, and physicians on a per capita basis and concerning the results of eradicating dangerous contagious diseases, even though our country had to pass through its longest and fiercest war.

On the journey forward, we firmly believe that the people engaged in public health work in our country will study the good models such as the Van Dinh hospital in Ha Son Binh and the Vietnamese-Czechoslovak hospital in Haiphong, make an effort to overcome the shortcomings, manifest the strengths, open up many more new possibilities, achieve even greater results in preventing and treating diseases, and make glorious contributions in strengthening the health of the people.

ANTIEPIDEMIC PRECAUTIONS

Hanoi Domestic Service in Vietnamese 0400 GMT 25 May 78 BK

[Text] Ho Chi Minh City is applying many measures to control rainy-season epidemics. Cadres of the public health sector and Red Cross Association members go to every house to motivate people to eliminate flies, mosquitoes and rats, to eat clean foods and drink clean water, and to keep clean houses. The antiepidemics hygienic station has sprayed insecticide to kill flies and mosquitoes and taught people how to eliminate them.

ORGANIZATIONS NEGLECT INOCULATION DUTIES

Hanoi HANOI MOI in Vietnamese 21 Mar 78 p 2

[Article by Dr Xuan Ha]

[Text] There are many methods of preventing and resisting disease, maintaining sanitation and promptly discovering sick people in order to isolate, thoroughly treat and eradicate causes and carriers of the disease, administer immunization vaccine and restore health.

Under conditions in which housing and streets are still crowded and narrow and sanitation is limited, the periodic use of vaccine to inoculate healthy people in order to actively immunize them against disease is extremely necessary and is still actively practiced by the Hanoi public health sector. Thanks to active inoculation during the past several years, Hanoi has eradicated cholera and smallpox and restricted to the lowest level a number of other diseases such as diphtheria, typhoid fever, poliomyelitis, etc.

According to investigative data of the Municipal Preventive Hygiene Station, during 1977, seven children caught diphtheria and poliomyelitis and two adults caught typhoid fever. None of the cases above for one reason or another were inoculated during phases organized by the public health sector.

Annually, the public health sector still organizes phases of systematic inoculation for every age group. Between two inoculation phases (from 6 months to 1 year) in all maternity wards, village public health stations and hospitals, patients are inoculated for tuberculosis and newborn infants are orally administered polio vaccine. The Ba Dinh Ward Public Health Bureau for many years has made efforts to organize monthly registration and supplemental inoculation of small children who have not participated in an inoculation phase.

The sporadic inoculation of an individual with preventive vaccine only means protection for each individual. However, in a crowded city, in order to block and prevent the recurrence of disease, it is necessary to practice widespread inoculation of everyone. Besides, the conditions for assuring vaccine quality and inoculating precisely in accordance with technology and the schedule, the ratio of people inoculated must be from 90 to 100 percent to have an active meaning.

Through results recorded during many years in the city, it is noted that: the highest ratio of kindergarten, nursery and general school students inoculated is from 95 to 98 percent. The ratio of people (subsector and village) inoculated is from 70 to 80 percent and that of agencies, enterprises, worksites, colleges and vocational middle schools is the lowest: from 50 to 70 percent. Occasionally, a unit is not inoculated or only at a ratio of 10 to 20 percent. Of course, a number of agencies and enterprises have a high ratio of inoculation.

Agencies and enterprises are firmly organized units with many mass organizations and actually should be the most rapidly and best inoculated. However, the data above indicates a contrary situation. Why? According to our thinking, there are several primary reasons:

Unit public health personnel do not widely publicize the significance and objective of each inoculation phase. Usually, they are only announced on the blackboard or loosely disseminated at a meeting.

Unit leaders do not give the proper level of concern to inoculation, assign the task to public health personnel and do not follow or inspect results. In the recent urgent phase of plague inoculation, the Social Sciences Committee only achieved 17 percent and the Dai La Materials Enterprise and Do Luong Enterprise, through two investigations of the Public Health Service and Public Health Bureau, failed to inoculate cadres and workers for plague. Worthy of attention is that even a number of public health agencies have also been lax in inoculating their own cadres and members: the Vietnam-Democratic Republic of Germany Hospital did not inoculate for cholera or typhoid fever during the September 1977 phase; and the Medical Science Library did not inoculate for the plague during the January 1978 phase. The fact that public health units failed to inoculate or achieved only a small ratio is clearly not a problem of professional knowledge but of not strictly executing disease prevention regulations.

Based on clauses stipulated in state regulations for which violation is punishable, all echelons in the public health sector also must organize inspection and submit reports on prosecuting units violating hygiene regulations of which disease prevention and inoculation is of prime importance.

CHOLERA, TYPHOID FEVER, DIPHTHERIA INOCULATIONS SCHEDULED

Hanoi HANOI MOI in Vietnamese 21 Mar 78 p 2

[Text] From 20 to 30 April 1978, the Public Health Service will inoculate all the people for cholera and typhoid fever and the children for diphtheria.

Ages requiring inoculation for cholera and typhoid fever are from 6 months to 60 years old.

Ages for diphtheria inoculations are from 6 months to 3 years old. Only those acutely affected by the disease will be immunized.

Cadres and workers of the grain and food and beverage sectors in four districts of rural Hanoi will receive plague inoculations before and after the cholera and typhoid fever inoculations.

Agencies, enterprises, hospitals and schools must immediately formulate a plan of registration to receive serum at the Public Health Bureau in the location where their unit is registered for activity.

MALARIA CAMPAIGN

Hanoi Domestic Service in Vietnamese 0900 GMT 17 May 78 BK

[Text] Gia Lai-Cong Tum Province recently held a conference to review activities in the first phase of the antimalaria campaign in the province. In the past 2 months, the Provincial Public Health Sector mobilized large numbers of professional cadres and means and set aside a large volume of medicine to support this campaign. Some 154 villages in the province have set up antimalaria committees to carry out the campaign. The province has used nearly 5 million antimalaria pills, 124,000 antimalaria injection units and more than 75,000 kg of DDT for the campaign.

ZAIRE

TYPHOID EPIDEMIC

Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 8-9 Apr 78 p 3

[Letter to the editor from Ya Tambwe Bowa, Kampemba Area]

[Text] You certainly learned that the "Cite des Jeunes" students had rebelled recently and had assaulted some of their officials. In the opinion of certain poorly informed observers, this event had assumed a riot aspect. Other ones had only read in it the manifestation of a barbaric behavior and nothing more.

However, at close scrutiny, one realizes that these youngsters were not completely wrong. This riot situation was, as a matter of fact, the result of the development of a sudden typhoid fever epidemic among the boarders of this vocational school located in the Kenya area.

To be sure, right after that, the vaccination of students had been carried out. But this did not prevent untimely deaths and a large number of hospitalizations. And if the youngsters had complaints against their officials, it was not for lack of medical care; it was rather because the very origin of this epidemic had been kept hidden from them for a long time.

Everyone surely recalls that last year, the Lubumbashi campus had been devastated by the same epidemic. This leads one to believe that this type of disease springs up most often in boarding schools. And we do have a large number of them in the Copper capital...

A surprising fact is that there are, right here, a regional physician and medical services which are supposed to be able to take care of the health of all the inhabitants in our area, curatively as well as preventively. But the existence of these fine people is only noticed when an epidemic has already started somewhere. And then, in order to justify their presence, they supply in a hurry to whomever is willing to listen the precautions to be taken to prevent the spreading of the disease!

But, where were they before the disease started? Are they not supposed to regularly visit boarding schools in order to ascertain about the health conditions of the place? If the cause of these diseases is known ahead of time by boarding school officials, the latter's duty is to avoid their development.

As long as people are restricting themselves to taking care of the disease after it springs up, I believe that all boarding school students will remain exposed to disastrous if not fatal consequences.

Therefore, special seminars should be organized for boarding school staffs, to enable them to take better care of their boarders' diet. But above all, these staff members must come under a periodical control. Because, given the weakness of human nature, it is very possible that, in the long run, some negligence be recorded.

Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 8-9 Apr 78 p 5

[Excerpts] On the days following the publication of the articles on the subject of the typhoid fever epidemic at the Cite des Jeunes, that establishment's staff deemed it necessary to mail us a letter in order to supply precise details on the facts.

"On Wednesday, 29 March 1978, and above all on Monday, 3 April 1978, an article by a person unknown to us containing several inaccuracies and even errors appeared in the columns of the MJUMBE JOURNAL.

"The CDJ's staff is supplying the following precise details."

"So far, three persons are dead, not four: two day students and one boarder. The 25 March death, discussed in the 29 March issue, has nothing whatsoever to do with the Cite des Jeunes.

"The staff did not restrict themselves to vaccination. They already had carried out the dorms' disinfection and medical examination of kitchen personnel, and dispositions had also been taken in order to have any young person showing the least symptoms of the disease examined and taken care of in the hospital.

"Not only Dr Kisula, but also Dr Bouchet, whose field of specialization is epidemics, came to give clarifications to all the young people and to reassure them."

"The other cases mentioned by the newspaper deal with those who had also requested for their friends and for themselves an examination before taking the school tests, but who had changed their mind after clarifications from the administration. Gratuitous accusations, resulting from the resentment and the jealousy of those who have been punished should not be condoned."

"The report on the epidemiology inquest conducted by two physicians on Saturday, 18 March 1978, which they signed, states in its conclusions: 'The epidemic appears to come from a source outside of the Cite des Jeunes, as proven by the findings of the above inquest.'"

Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 25 Apr 78 p 3

[Article by Y.M.M.]

[Text] The Lubumbashi subdistrict Public Health Services have just decreed an antityphoid fever epidemic fever vaccination campaign. This took place several weeks ago. This department of the medical services, always on the lookout, very recently detected isolated symptoms of typhoid fever, which justifies the current vaccination undertaking.

According to the Public Health Services officials, the major infection centers of typhoid fever are the Kamalondo, Kenya and Katuba areas. The typhous bacillus, the virus which is responsible for typhoid fever, is finding propitious grounds over there. Backwaters, low temperatures, dampness and generally speaking plain filth constitute an ideal culture medium for the development of the typhous bacillus. With just a casual glance, one can note how well these three areas qualify for the hatching of this disease.

As the saying goes, an ounce of prevention is better than a pound of cure. The vaccination campaign is the best step which can be undertaken in order to contain this plague. When forced to consider the action leading to the rooting out of the disease, vaccination by itself remains inadequate. The Public Health Services cannot obtain enough vaccine for the whole population of the Lubumbashi subdistrict area. Thus, this vaccination undertaking which is aimed at immunizing the body against the typhous bacillus needs additional supplies.

On their part, in addition to this vaccination campaign, the Health Services are exercising a control on all food products consumed by the people. It is stressing in particular sale, manufacturing, preserving conditions--in one word, the processing of food products.

Concurrently, the Health Services are urging everyone to boil water before using it for any ingestion. They are requesting a concerted effort on the part of the Regideso [Water and Power Distribution Administration] in order to improve the quality of the product which it is putting on the market.

The Health Services are asking people to collaborate in order to arrest the disease. For this purpose, it is heavily stressing hygiene in lodgings and in the environment. Cleanliness in the home not only drives out the typhous bacillus but other disease vectors as well.

As far as the environment cleanliness is concerned, although this is for a large part the responsibility of the Environmental Services, the people have their say about it. Not only must all refuse be cleared away from the immediate vicinity of houses, but, at the same time, all trash must be dumped in locations far removed from any populated areas.

On the whole, the antityphoid fever vaccination campaign is a very commendable undertaking. The Health Department officials can be proud of it. However, this undertaking will prove inadequate without the people's participation: they must avoid contributing to the spreading of the typhoid fever germ.

SCANDAL IN SAKANIA

Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 20 Apr 78 p 5

[Text] Citizen Mukobelwa wa Ngakyumo, assistant commissioner of the zone of Sakania, has recently opened an inquiry in order to examine personally the functioning of the administrative services in the chief city of the zone.

In the course of his inquiry, citizen Mukobelwa confirmed that the health officers of Sakania are dealing only in the sale of vaccination cards instead of actually vaccinating the inhabitants as the state service recommends.

The zone commissioner then added that besides that, the health cards of unmarried women must be checked monthly, contrary to what the health officers are doing to force them to come in daily for a checkup.

II. ANIMAL DISEASES

ANGOLA

OUTBREAK OF FOOT-AND-MOUTH DISEASE

Salisbury THE RHODESIA HERALD in English 9 May 78 p 6

[Text] Johannesburg--Foot-and-mouth and contagious bovine disease have broken out in Southern Angola and teams have started inoculating cattle in border areas of Owambo, the Owambo Minister of Agriculture and Forestry, Chief Taaipopi, told the SABC yesterday.

BOLIVIA

UNIDENTIFIED VARIETY OF FOOT-AND-MOUTH DISEASE FOUND

La Paz PRESENCIA in Spanish 5 Jun 78 p 3 PY

[Text] Santa Cruz, 4 Jun--The Tropical Agricultural Research Center (CIAT), which has its experimental station in Saavedra, north of Santa Cruz, has warned cattle raisers and national officials about the appearance in the country of a strange virus which has serious consequences. The CIAT indicates that so far there is no way to immunize against this virus, which mainly affects cattle.

This is the first time that CIAT director Carlos Vaca Diez has found a virus which could cause serious consequences to the cattle, which the experimental station raises. Vaca Diez said that this type of foot-and-mouth disease is "spreading in Brazil and it is practically unknown in Latin America."

The CIAT director stated that when the virus was detected in cattle at the experimental station, they thought it belonged to a type known as "A," which was unexpected since the cattle had been immunized against the A type. After some studies, it was determined that it was a subtype of the virus. The experimental station is awaiting the results of tests which are being carried out by the Panamerican Foot-and-Mouth Disease Center, under the UN World Health Organization [WHO], where samples using different reagents were sent, according to an official report.

CIAT technicians have not released details of this virus for fear it would cause uneasiness among cattle raisers. It is believed, however, that due to the seriousness of the case, a number of talks and lectures must be held to make the public thoroughly aware of the danger.

It was pointed out that this virus is resistant to all available vaccinations. CIAT indicated, however, that Brazil has probably found a solution to control this strange type of foot-and-mouth disease and that cooperation from Brazil will be requested.

BOTSWANA

FOOT-AND-MOUTH DISEASE REPORTS

Gaborone DAILY NEWS in English 25 May 78 p 3

[Excerpts] The Minister of Agriculture, Mr. E. S. Masisi, is due to address a number of kgotla meetings on the foot and mouth situation and the P50 Relief Scheme.

During the tour the Minister will be accompanied by the Minister of Health, Mr. L. M. Seretse, and Mr. Maswikiti, MP for Sebina/Gweta.

Gaborone DAILY NEWS in English 26 May 78 p 1

[Excerpt] The Director of Veterinary Services in the Ministry of Agriculture has declared the whole of the Central District and Chobe District free of the Foot and Mouth Disease. The announcement was made yesterday by the Deputy Director of Veterinary Services Mr J. E. Bradley.

Mr Bradley said the declaration follows intensive inspection carried out this month, which proved no active infection in the two districts. He, however, said that although this is an encouraging situation the cattle movement restrictions within these areas must remain in force for some time yet.

With regard to Ngamiland, he said the situation is not yet very good and a small amount of infection is still occurring in the Lake Ngami area and in the Haina Veld.

He said, however, that a supply of vaccines has been obtained and a vaccination campaign in these areas is being carried out.

The declaration of the two districts as free from foot and mouth is indeed a green light for the areas. It will mean that owners will truck their cattle to BMC. However the Ministry has not yet announced when they will be free to do so. Residents in the two districts have to wait a little longer for the word from the Ministry to say it is time for them to truck cattle to the Botswana Meat Commission (BMC).

Mr Bradley said he would like to thank the public for the cooperation the Ministry enjoyed during the Foot and Mouth Disease emergency. He urged the public to continue to assist the Department of Animal Health until the restrictions can be lifted.

The herding regulations and stock-free zone regulations are still in force in Ngamiland and Central District west of the Central Ngwato Cordon fence.

Since the outbreak of the Foot and Mouth Disease some six months ago, Botswana was placed in a huge economic dilemma following suspension of Botswana's beef to the United Kingdom, which was the highest paying market.

The Minister of Agriculture Mr E. S. Masisi visited United Kingdom last month in the struggle to try and revive resumption of meat exportation to the country.

Mr Masisi returned with high hopes that in the long run the EEC will accept our beef.

Gaborone DAILY NEWS in English 31 May 78 p 1

[Excerpt] The Director of Veterinary Services in Gaborone last week declared the entire Central District and Chobe District free from foot and mouth disease. But these areas may have to stay another six months before they can be allowed to truck their cattle to BMC [Botswana Meat Commission].

Gaborone DAILY NEWS in English 31 May 78 p 1

[Text] The Botswana Livestock Development Corporation (BLDC) of the Ministry of Agriculture will from today start administering pledges on

the P50 per beast advance scheme in the Lake area of Northwest District Council. The Veterinary Department will also be vaccinating cattle against foot and mouth disease starting today.

The scheme was first implemented about two weeks ago to farmers of Shakawe.

Farmers in the Lake area who like to take up the P50 advances are advised to be ready to pledge their cattle on the same day when their cattle are being vaccinated.

Farmers will be called up by the Veterinary Department notifying them of the day when their crushes are to be done.

The Ministry announced a week ago that the Chobe and Central districts were now free from the outbreak. Cattle movement restrictions, however, continued to be in force since there are still some isolated cases of the disease in the Chobe District. The Veterinary Department has launched a vaccination campaign to eradicate the outbreak which started last year.

VACCINE PRODUCTION INSTITUTE

Gaborone DAILY NEWS in English 29 May 78 p 1

[Text] Botswana Government and France have signed an agreement for the construction of a Vaccine Production Institute in the Broadhurst extension of Gaborone later this year.

The agreement was signed early this month in France and also includes the training of Botswana at the institute who will be studying virus strains prevailing in southern Africa and develop corresponding specific vaccines.

According to Director of Veterinary Services Mr J. E. Bradley, the building of the institute will be divided into two phases.

The first phase is the construction of a temporary emergency unit to produce two million mono-valent doses each year to fight against one virus.

Construction of the first phase is likely to start in July when building materials and French technicians are expected to arrive in the country. It is expected to cost P1.5 million.

The second phase will probably be off ground after two years. This will be a permanent unit capable of producing five million tri-valent doses each year and is expected to cost about P2 million.

The purpose of establishing the institute will be to try to control foot and mouth disease in the country by studying the virus strains in southern Africa.

The agreement was negotiated early this month by Permanent Secretaries in the Ministries of Finance and Development Planning and Agriculture Messrs B. Gaolathe and M. Sekgoma respectively and Attorney General M. D. Mokama with Lyons experts in France.

Gaborone DAILY NEWS in English 1 Jun 78 p 1

[Excerpt] [At Magothwane] among other things [Agriculture Minister Masisi] told his audience that his Ministry has already paid a deposit of P518,000 for the Foot and Mouth Vaccine Factory in Botswana and expressed optimism that work on the building of the factory would start in three months.

Salisbury THE RHODESIA HERALD in English 3 Jun 78 p 2

[Text] Gaborone--Botswana and France have signed an agreement to establish an institute here for the study of foot and mouth disease and the production of vaccine against the disease.

French technicians are expected to arrive in Gaborone this month to launch the \$1.3 million project.

BRAZIL

FOOT-AND-MOUTH DISEASE REPORTS

Rio de Janeiro O GLOBO in Portuguese 20 Apr 78 p 22

[Text] Foot-and-mouth disease has broken out among the herds of cattle in several Rio Grande do Sul municipios, mainly in the prairie areas near the Uruguay border. The Ministry of Agriculture is particularly concerned about the disease centers which are situated in the Dom Pedro municipios (412 kilometers from Porto Alegre).

According to the general superintendent of the ministry, Claudio Manoel Figuero, the department is already taking steps toward the total revaccination of the municipio herds, estimated at more than 400,000 head. Disease-combat teams have been sent to the region with 80,000 doses of vaccine; 400,000 more doses will be sent in the next few hours.

For the time being, assures Claudio Figuero, the situation is a matter of concern, "but has not yet become a cause for alarm." He said that the studies undertaken so far have not yet made it possible to draw any conclusions concerning the causes of the outbreak. He explained, however, that cattle roving about, which is normal at this time, may have furthered the dissemination of the disease. Figuero admits that the vaccinations have not yet reached a satisfactory degree of effectiveness. The principal cause of the outbreak, according to Dom Pedrito cattlemen, was the very poor quality of the vaccine administered every 4 months.

Porto Alegre Radio Guaiba in Portuguese 2150 GMT 21 Jun 78 PY

[Text] Campinas--Experts of the Office for Technical Assistance Coordination have confirmed the outbreak of foot-and-mouth disease in herds of Sao Joao da Boa Vista, Aguai, and (Bargem Grande do Sul). Outbreaks of this disease are also suspected in the districts of Espirito Santo do Pinhal and Aguas da Prata. [all towns are in Sao Paulo State]

Veterinarians of the Coordination Office have officially confirmed the existence of at least eight outbreaks of this disease and have therefore recommended the cancellation of a livestock exposition which was to be held in Sao Joao da Boa Vista, where 5 of the 212 sick animals are located.

REPORTAGE ON SWINE DISEASE OUTBREAK

Rio de Janeiro JORNAL DO BRASIL in Portuguese 19 May 78 p 23

[Text] An unidentified disease is decimating the Paracambi municipio swine herds. An extensive area near the Ponte Coberta on President Dutra highway at Km 56 has been roped off by the military police, under orders from Ministry of Agriculture technicians who are afraid the disease can be transmitted to human beings.

Those living in the municipio say that this incident has been going on for a number of days, but that the Ministry of Agriculture has been keeping it very quiet. No one knows whether or not there are people isolated in the area, but if there are, they will remain in quarantine until the problem has been solved and the necessary precautions taken.

The Facts

The state director of the Ministry of Agriculture, Mr Rubens Fontes Marcillac, said that there are traces of a disease which is attacking the swine herds. However, he said that he would not give any further information on the matter until he received the results of the tests he ordered to be made, "so as not to happen what did in Santos where up to the present time they do not know for sure if hepatitis is there or not."

"I have already sent a team of technicians to the site where they are studying the case and doing research. On Monday they will bring me the first results. I can say no more," he concluded, "for this is a ticklish case and any false information could cause serious harm to the sector's economy."

In the Federal Rural University of Rio de Janeiro, where the 12 Ministry of Agriculture technicians are, the team head, Dr Marcos, said that only the Ministry Public Relations Division could furnish any information. He also said that he knew nothing regarding the disease or the numerous deaths of swine and that he was doing research on little locusts in the grazing land.

The dearth of data and the extensive activity of police and Ministry of Agriculture official cars and the daily fires in the locality have sparked curiosity and even some anxiety among the region's residents who now have several versions about what is going on at the "Seu Severino Farm, an important swine-breeding site," as the place is called.

Many say it is a case of swine gripe which made it necessary to slaughter all the hogs in the area and burn them together with the pigsties. Others say that it is a strange disease, unknown to the Ministry of Agriculture veterinarians and "that it has killed thousands of hogs which are thrown into deep ditches and covered with earth."

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 27 May 78 p 22

[Text] Beginning on Monday, about 400,000 hogs will be slaughtered in the Paracambi municipio, the Fluminense Lowlands, by order of the Ministry of Agriculture, in order to prevent the spread of a still unidentified disease which is attacking them. A farm held to be the focal point of the epidemic is being heavily guarded by military police soldiers. The national farming and cattle-raising secretary, through the medium of Minister Paulinelli, asked that the Federal and Highway Police and the Ministries of the Army, Navy, Air Force, Transportation and Treasury help in the enforcement of a government regulation handed down yesterday which forbids, beginning today and until further notice, the transport of any kind of animal outside the state or from one municipio to another.

The secretary of farming and cattle-raising, Jose Alberto Lira, met with representatives of aviation companies and asked them to remove pork from their menus. Lira also asked that the airlines not put aside food leftovers to feed pigs--as they usually do--because it is suspected that the source of the disease is to be found in these leftovers. Similar cases have been reported in Portugal, Spain and Africa. The breeders of the pigs to be slaughtered will be reimbursed in keeping with market prices.

[Text] In the Paracambi municipio, state of Rio, at Km 57 [sic] on the President Dutra highway, soldiers shot to death and burned more than 2,000 animals including pigs, chickens, ducks and cows. The slaughtering, ordered by the Ministry of Agriculture, began 10 days ago in order to prevent the spread of the still unidentified disease which has attacked animals in the area. The military police then placed a ban on two farms in the Fluminense lowlands.

According to Department of Agriculture public health expert Aldo Rangel, the disease may be the "African swine pest" which is transmitted by a virus and for which so far there is no treatment. Public health officials throughout the world have tried to solve the problem by immediately slaughtering the pigs and forbidding the marketing of this kind of meat for a specified period of time, which could be from 2 to 6 months, until the outbreak disappears. Professor Rangel, who does not know the results of the laboratory tests which are being done in secret by the Agricultural and Livestock Division of the Department of Agriculture, said that this type of pest has never attacked Brazilian swine herds because of the strict control exerted by public health officials who have banned the importation of pork.

"In the incidence of the African swine pest," he went on to say, "herd infection is extremely rapid and for the animals death is instant. When attacked by this disease, the swine show signs of hemorrhaging in the lymphatic ganglions and in the kidneys. Although the disease does not attack man, as a precautionary measure public health authorities, nevertheless, prohibit the marketing and consumption of pork as soon as there is any sign of the disease."

Aldo Rangel went on to say that if the laboratory tests confirm the existence of an African swine pest outbreak in and around Paracambi, the infection is to be attributed to the kind of foodstuffs contained in the leftovers coming from foreign ships and airplanes.

"Ministry of Agriculture authorities," said Professor Rangel, "are always alert to this kind of pest. One reason for banning the entry in harbors and airports of pork sausage and frankfurter meats brought by passengers is to prevent the virus from ultimately attacking the national herd. In regard to pork, we have adopted the same procedure as the United States has adopted in regard to Brazilian beef, which is always suspected of having foot-and-mouth disease."

According to Professor Rangel, in the common swine pest, the death rate is not so high and in the majority of cases, the herd can be treated and saved, whereas, on the contrary, the African swine pest demands the immediate slaughter of the animals.

"The pigs infected by either the common pest or by the African disease, have a roundish black-and-blue rash over their bodies (reddish spots on their heads, belly and neck) and hemorrhages in the lymphatic ganglions and kidneys. In African pest cases," the health officer explained, "the hemorrhages become evident through dark blood spots which, in the majority of cases, make it possible to identify the outbreak without delay."

Restaurant

The slaughtering, preceded by an interdiction, also took place on the farm belonging to Domenico D'Amico, at the back of station Km 52 on the Dutra highway. There, Ministry of Agriculture officials seized 17 pigs, one of which had been slaughtered for consumption at the restaurant which is operated on the premises.

The seizure was in compliance with standard regulations with the presentation of a "slaughter warrant" from the Ministry of Agriculture, issued by the Animal Health Protection Service and signed by the veterinarian, Carlos Rodrigues Lima.

Access is forbidden to the farm belonging to Severino Pereira Lima at Km 57 on the Dutra highway. A bamboo and galvanized-steel roofing barricade has been set up 3 miles away to prevent the entry of cars. Two entries have been blocked off--on Km 57 on the Dutra highway and through Paracambi. Only residents of the quarantined area--where a dense cloud of flies is seen hovering--are permitted to pass through the police barrier and then only after presenting documents previously furnished by the police.

In the area yesterday there were six policemen, part of a 50-man squad from the Nova Iguacu PM [Military Police] 20th Battalion who take turns on a 24-hour sentry shift. The groups obey specified health precautions such as disinfecting their clothes before leaving the premises when replaced by another team. The same holds for the Ministry of Agriculture workmen who are charged with clearing the ground of vegetation, which is later to be burned.

Rio de Janeiro O GLOBO in Portuguese 31 May 78 p 27 PY

[Excerpt] The Agriculture and Supply Secretariat of Rio de Janeiro State issued two emergency regulations yesterday through its Farming and Livestock Department to control the swine disease which affected a herd in Paracambi. The first regulation states that the "Animal Products Classification and Inspection Division should suspend operation of establishments under federal inspection which slaughter, process and/or store products derived from pork for 60 days in the surrounding area (within a 50-kilometer radius)."

The measure, in addition to instructions that the "Animal Health Division intensify its epidemic controls and health education projects, seeks rapid actions to control the swine disease." Almiro Goncalves de Castro, director of the Agriculture and Livestock Department, reported that despite the fact that the disease is limited to a certain area, every effort is needed to prevent it from spreading and infecting all swine herds in the state (142,000 head).

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 1 Jun 78 p 31

[Text] The African swine pest, the disease that attacked the pigs on the Floresta farm in Paracambi, is threatening to spread to other sectors of the Fluminense lowlands, the secretary for animal-health protection made public yesterday. The final diagnosis brings with it many health-related problems, according to Under Secretary Ubiratan Mendes Serrao, since it can endanger the entire Brazilian herd not to mention connotations of an economic and social nature.

The report which, according to Ubiratan Serrao, "merely confirms the suspicions aroused from the beginning by Brazilian authorities," bears the signature of swine-pest specialists from the Plum Island Center for Animal Diseases, a division of the U.S. Department of Agriculture.

"The danger is enormous," the secretary said, as he explained that the swine pest, which entered Brazil through contaminated foodstuffs fatal only to pigs, which was obtained at the Galeao international airport, but which can be transmitted by any animal through a very powerful virus. The latter can also be spread through the air, water, and even people wearing poorly disinfected clothing.

Appeal

The under secretary said that the minister of agriculture, Alysso Paulinelli, made an appeal yesterday, through the Animal Health Department, to all cattle breeders and in particular to those in the Fluminense lowlands, urging them to obey the precautions declared by the health authorities to be indispensable.

To insure better supervision and isolation of the contaminated area (the Floresta farm on the President Dutra highway at Km 53), the health authorities last night again had recourse to all the ministries as well as to the security agencies. The order given is that no animal of any kind whatsoever, dead or alive, either enter or leave the Paracambi region. The prohibition will also apply to the marketing of pork and beef in the region. However, according to Under Secretary Ubiratan Serrao, no new restrictions or safety measures are under consideration. Present plans are geared to intensifying the precautions taken up to the present. Today, the Department of Animal-Health Protection will

know how many pigs are to be removed from the lowlands and have their owners reimbursed.

Cause

The under secretary explained that the African swine pest, in both Africa and in Spain, is transmitted by two kinds of ticks not found, however, in Brazil. Therefore, the American specialists, after studying the phenomenon, came to the conclusion that contamination must have been brought about by scraps of foodstuffs which the breeders obtained at the Galeao airport.

The studies at the Tlumm Island Animal Disease Center were made on tissue taken from the same animals that died of the disease or were slaughtered. These samples went to the United States in containers packed in dry ice and disinfectants, to prevent the virus from escaping. The under secretary said that the studies were not assigned to Brazilian specialists because this disease has never threatened Brazil before as at present and therefore the Pasteur Institute and Butanta had never promoted any research in this area.

Ubiratan Serrao also said that the danger of the disease spreading throughout the whole herd "is enormous," but that this can be avoided by requesting help from the different ministries inasmuch as the problem has ceased to be one of a purely health-related nature without any economic or social far-reaching effects. He went on to say that every animal suspected of having the disease or of being a carrier of the virus causing the disease will be removed and slaughtered in the Fluminense lowlands.

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 1 Jun 78 p 31

[Text] There is danger that the African swine pest, which began in the Paracambi municipio, former state of Rio, has already spread as far as the Nova Brasilia slum in Bonsucesso, a district in the northern section of Rio, through the pigs sold to breeders in the area by the owner of the Floresta farm--yesterday identified as the disease center.

The secretary of animal health protection, Jose Alberto da Silva Lira, made this known immediately after announcing the diagnosis given by the specialists at the Tlumm Island Center for Animal Diseases of the U.S. Department of Agriculture. Lira explained that there is considerable danger that the disease will spread because, of the 10 pigs sold to Bonsucesso slum dwellers, the Department of Health had succeeded in retrieving only one. This specimen is under examination in order to confirm or dispel the suspected spread of the African swine pest.

Right now, throughout the entire Nova Brasilia slum, about 4,000 pigs are being raised. It is estimated that in the state of Rio the number

of animals exceeds 142,000. On the Floresta farm, 947 animals were slaughtered or died as a result of the disease and from today on, another 3,000 are expected to be slaughtered in and around the vicinity in which the pest first appeared.

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 2 Jun 78 p 24

[Text] The African swine pest first detected on a small piece of property in Paracambi, has already spread. This was confirmed yesterday by the appearance of a new disease center in the Nova Brasilia slum in Bonsucesso, a Rio de Janeiro municipio. On making the spread of the disease public, the national secretary of agricultural livestock protection, Jose Alberto Lira, yesterday acknowledged that "it is much more difficult to combat the disease" in a densely populated urban area.

According to Lira, in Nova Brasilia there must be between 3,000 and 4,000 pigs which will be slaughtered by today. The other measures suggested for combating the pest such as the slaughter of the other animals living in the infected area--which was done on the Floresta farm in Paracambi--will not be carried out in the slum because it would give rise to insoluble problems with the 60,000 inhabitants. Lira did not conceal the possibility of the Ministry of Agriculture's losing control of the pest, at least in the state of Rio.

In view of this fact, more stringent measures were adopted to prevent any animal, dead or alive, from leaving the state by land or by sea. Even day-old chicks, fish and frozen fowl--a class of foodstuff that was outside the ban--will now be included in the list of forbidden products.

Vigilance

With the appearance of the new center of infection, practically half the state of Rio falls within what the Ministry of Agriculture health officers call the "perifocal" area or that which comes within a circle with a 50-kilometer radius, counting from the premises where the disease was first discovered. This area includes the entire Rio de Janeiro municipio and part of the state which borders on Sao Paulo from the Parati seaboard to the Pico das Agulhas Negras.

Throughout this entire area, the Ministry of Agriculture, in keeping with standard regulations for combating the African pest, has assumed responsibility for keeping a strict watch over all swine. The spread of the disease, for which there is no vaccination and is 100 percent fatal, can be avoided only by the immediate slaughter of the infected pigs. It so happens that any person or animal can transmit the "virus," which can survive in these carriers even for a year without doing them any harm whatsoever, for it attacks and kills only swine and a certain type of tick that is not found in Brazil.

It is consequently difficult to confine the African pest to the slum area where just one person living there raises more than 1,000 pigs and many others have smaller stocks which average between 3,000 to 4,000 pigs, according to an early survey made by the Ministry of Agriculture technicians.

Contamination

The pigs are raised among other animals. They go in and out the houses and their droppings are found practically all over the slum. As a result, the chances are enormous that the first infected pig that arrived in the area has already contaminated all the rest. So true is this that the minister of agriculture, Alysson Paulinelli, in order to make the immediate slaughter of the pigs possible, designated an appropriation of 11 million cruzeiros to reimburse the animals' owners.

The fact is that the Ministry of Agriculture technicians and veterinarians have discovered only one way to have their mission accepted in the slum: the immediate payment for each pig removed. Otherwise they would be driven off the premises or, at least, be duped by the slum dwellers themselves who would try every possible way to hide their pigs, even going so far as to transfer them to other slums. The discovery of an infection center in Nova Brasilia was the result of the work carried out by men from the ministry--as Jose Alberto Lira highlighted and recalled that they had arrived at that point only after a prolonged examination of the premises with Severino Jose da Silva, the owner of the Floresta farm in Paracambi where the first center of infection was discovered.

Severino told the veterinarians that he had sold some pigs to Dona Georgina, who lived in the slum. As a result, the pigs there were kept under close observation together with one which already showed signs of the disease and was taken away to be examined. It was then discovered, as the autopsy made clear, that the symptoms of the disease were the same as those of the pigs sent to be examined in the United States where the presence of the virus was verified.

Foreign Help

The agriculture attache at the U.S. Embassy offered assistance which the Brazilian Government immediately accepted. Within 48 hours, American technicians arrived in Brazil in order to help their Brazilian colleagues confine the disease to the smallest possible area.

Yesterday morning news of the foreign specialists' arrival was sent to the national secretary of agricultural livestock protection by Minister Alysson Paulinelli in person, who telephoned from Brasilia. According to Jose Alberto Lira, other countries also offered their assistance but it was not yet clear whether any help other than the North American would be necessary.

Today's DIARIO OFFICIAL, according to Lira, will publish a new ministerial animal-health emergency directive to reinforce the substructure of the battle against the disease.

Florianopolis Radio Diario de Manha in Portuguese 1515 GMT 2 Jun 78 PY

[Text] The African swine virus has spread. A new focus was detected at the Nova Brasilia shantytown of Bom Suceso in Rio de Janeiro State. Beginning today 3,000 to 4,000 pigs will have to be sacrificed. Close to 60,000 persons are living in the shantytown but they are not in danger because the virus only attacks the pigs.

Jose Alberto Lira, national secretary for livestock and agriculture protection, is concerned over the possibility that the virus may spread, at least within the State of Rio de Janeiro, and for this reason any type of animal, dead or alive, are not authorized to be taken from the State of Rio de Janeiro.

U.S. technicians will arrive within the next 48 hours to help isolate the virus.

Porto Alegre Radio Guaiba in Portuguese 0200 GMT 10 Jun 78 PY

[Text] Although the Agriculture Ministry has asserted that African swine virus is restricted to the districts of Paracambi, Bonsucesso and Teresopolis in the state of Rio de Janeiro, concern grows over the possibility that the virus may spread to other regions.

The Minas Gerais Swine Producers Association has said that the only solution is to find a vaccine against the virus. Tests are presently being carried out at the Minas Gerais Federal University.

The Parana state government is taking strict measures beginning tomorrow to prevent the appearance of the virus in the state. A full-power commission has been created to work with other public and private organizations to combat the virus.

Similar measures will be taken in the states of Roraima, Pernambuco, Amazonas, Sao Paulo and Minas Gerais.

In Rio Grande so Sul, swine raisers have been warned to take measures against the virus and to report to the authorities any anomalies in herd behavior.

The Brazilian Association of Swine Raisers has recommended that swine producers not transport animals, purchase new breeding stock, use leftovers or purchase slaughterhouse byproducts, and disinfect areas with caustic soda to prevent transmission of the virus.

The main symptom of the African virus, besides a high temperature, is that the animal has difficulty moving around, since the back legs are affected.

The agriculture secretary is also fighting tick disease in Rio Grande do Sul. To carry out this program the secretary will receive British assistance. British veterinarians will arrive in the state to carry out research on the disease with the (Desiderio Finamor) Veterinary Research Institute.

The sale of pork has dropped a lot in Rio de Janeiro because of the African swine virus.

Rio de Janeiro officials have authorized meat markets and supermarkets to sell the product, but not open-air markets, since it is sometimes difficult to determine the origin of products sold there. [words indistinct]

Porto Alegre Radio Guaiba in Portuguese 0200 GMT 13 Jun 78 PY

[Text] The president of the Rio Grande do Sul Pork Product Industries Union announced that the price of pork may go up in the next few days. However, he could not say how much it might increase or when the increase would become effective. (Alfonso Martinelli) said that the increase was forced by the drought which caused the price of corn to rise, and consequently the price of feed.

(Martinelli) said that there has been no reduction in pork consumption in Rio Grande do Sul because of the African swine fever affecting herds in the state of Rio de Janeiro. He added that authorities are concerned about the spread of this disease from the affected herd, which represents a very small fraction of the nation's herd of 33 million.

(Martinelli) then said that hog breeding associations are suggesting that the whole Rio de Janeiro herd, calculated at 150,000, be killed. This suggestion has been made by the Brazilian Hog Raisers Association itself. Its president, (Helio Miguel de Rose), said that while the disease is still isolated within areas of Rio de Janeiro state, if new focuses appear, there will be no other solution but to eliminate the state's herd, which is less than 1 percent of the national herd.

Authorities are taking all precautions to prevent the spreading of African fever into other states. An incinerator will be installed at Rio Grande do Sul port to burn food leftovers from ships. Up until now, control is being enforced by the use of [word indistinct] inside the ships, and the disposal of garbage in the Rio Grande Canal is punished with heavy fines.

[Excerpts] While the health authorities of Minas Gerais, Espirito Santo and Sao Paulo--areas which Minister Alysson Paulinelli has placed under suspicion of the spread of African swine fever that is raging in the state of Rio de Janeiro--took measures to protect the borders, the Animal Protection Service yesterday destroyed 508 pigs in the Sao Roberto farm in Barra do Pirai. In the Nova Brasilia slum in Bonsucesso, 170 pigs have already been rounded up and all were destroyed at Kilometer 47 of the old Rio-Sao Paulo highway.

In Belo Horizonte, the regional agency office of the Ministry of Agriculture has announced that it has already taken all measures to prevent the spread of the epizooty. In Vitoria, the ministry agent announced that the "situation is pure and clean" and guaranteed that there is strict control at the border.

Slaughtering Stopped

The only slaughterhouse in the state of Rio that received authorization to slaughter hogs, the Industrial Slaughterhouse of Santa Cruz--which is also the only one in the area affected by African swine fever to have a federal inspection--has not resumed slaughtering, which was suspended on 26 May. The management of the establishment has not yet received the official communique of the Ministry of Agriculture issued 4 days ago, permitting the resumption of slaughtering.

In normal times, the slaughterhouse slaughters an average of 600 head per week from the Rio Hog Suppliers Ltd, which operates inside the establishment. The pigs are bought in Parana. Slaughtering generally takes place on Tuesdays and Thursdays, beginning at 0500 hours. Yesterday, the manager of the slaughterhouse, Edson Rocha Koenig, spent the afternoon in Niteroi meeting with experts of the Ministry of Agriculture and today he will reveal when the establishment will resume slaughtering.

Nova Brasilia

As of yesterday, the Ministry of Agriculture has paid 117,900 cruzeiros for 170 pigs rounded up in the Nova Brasilia slum, 20 of which had symptoms of African swine fever and some were almost dead. The team of veterinarian Diocleciano Peixoto records more than 100 pigs a day and does not know when the service will end: "Here, the more you look, the more pigs you find."

The Ministry of Health team has been working for 3 days in the Nova Brasilia slum, encountering a lack of material resources and difficulty of access to the pigsties. Yesterday, the jeep used to transport the pigs outside of the slum was driven by a veterinarian, and since most of the pigs are large, it is only possible to transport two at a time.

The pigs are taken to a truck that transports them to the Rural University at Kilometer 47 on Dutra highway. Since time is of the essence, yesterday a veterinarian borrowed a small handcart from a local resident: "We have to end the cleanup as soon as possible and that is why we are improvising various things," explained Diocleciano Peixoto.

The team is headquartered in the small warehouse of the chairman of the neighborhood association, Amaro Jose Antana, who is helping to take a census of the pigs.

It Was Anticipated

Veterinarian Jose Mauro de Carvalho of the Secretariat of Agriculture, who is also working in Nova Brasilia, declared that the epidemiologists had predicted "a long time ago that African swine fever would end up affecting our herd, and nothing was even done to prevent that from happening."

In his view, the airports should be subject to "a stricter control to prevent things such as this disease, which can exterminate our swine herd. Our epidemiological barrier is practically nonexistent and it is deficient in all respects." He commented that the authorities do not concern themselves with the bacteriological war, the "organic war."

Mr Jose Mauro de Carvalho observed that the Brazilian Government could not have permitted planes to enter the country "with that garbage they call food that the ranch hands feed to the livestock, which ends up dying and nobody knows why. Does anybody leave or enter here without having been vaccinated?"

In Minas

Close to 100,000 pigs will be vaccinated beginning next weekend in a stretch 50 kilometers wide along the border between Minas Gerais and Rio de Janeiro, the Ministry of Agriculture agent, Auricedes Alves Moreira, announced.

The authorities say that there is no danger of contamination of the Minas herd by the African swine fever that is affecting the pigs in the state of Rio. Free and compulsory vaccination is only a preventive measure. "There has not yet been a case of a pig affected in Minas but if that should happen, it could cause a serious economic collapse since 4.5 million head are slaughtered in the state annually," said Auricedes Alves Moreira.

Alarm

The president of the Southern Rio Rural Agro-Livestock Association, Heitor Alves Barreiros, said in Barra do Pirai yesterday that the

African swine fever, located in Ponte Coberta represents not only the danger of the extermination of the Brazilian swine herd but also great damage to dairy cattle.

According to him, the Ministry of Agriculture made a mistake in delineating the focal area and peripheral areas. All the swine herds in the region must be destroyed, not only the closest ones. The disease may very well be transmitted by a fly, a vulture, a tick, a cavy, agouti, and even the wind; and if it spreads, the national herd will be completely destroyed.

Replacement

The national secretary of the Agro-Livestock Protection Service, Jose Alberto Lira, who was in Rio since a suspected locus of African swine fever in Paracambi was reported, returned to Brasilia leaving Ubiratan Mendes Serra, the deputy national secretary of the Agro-Livestock Protection Service, to coordinate the work of the emergency groups.

Jose Alberto Lira always sought to publicize the activity of the technicians and veterinarians of the Ministry of Agriculture and the Secretariat of Agriculture as much as possible. He believes that "only with accurate information, the help of the press and the pig breeders, can the population have an accurate idea of the extent of the problem, thus helping to contain the spread of the disease."

Good News

The president of the Agro-Livestock Cooperative of Itaperuna, Carlito Crespo, said that up to now there have not been any cases of African swine fever in that area and that strict measures are being taken to prevent the disease from reaching the herds of the region.

Mr Crespo declared that in the event that the veterinarians of the municipalities of that region, one of the largest pig-breeding areas, should detect any case of the disease, he himself would take care of reporting the fact to Ministry of Agriculture authorities in order that measures identical to those that are being taken in the Baixada Fluminense Lowland area in the state of Rio--the destruction of infected animals--may also be taken in that part of the state.

Satisfaction in the South

The president of the Brazilian Hog Breeders Association, Helio Miguel de Rose, expressed satisfaction with the performance of federal health authorities in controlling the focal area of swine fever that broke out in Rio de Janeiro.

Since swine fever is incurable and spreads rapidly, he said, it threatened to have serious consequences for the national herd but "thanks to the efficient work of the Ministry of Agriculture, it has only been affected by the destruction of 1,000 head, which is small in relation to a herd of 35 million head in Brazil."

Inspection in the South

The animal production executive group of the state directorate of the Ministry of Agriculture is tightening up inspections at airports of flights from Africa and Europe (especially Spain and Portugal) and in the ports of Rio Grande and Porto Alegre. All food leftovers are gathered and burned.

In the municipios of Torres (BR-101) and Vacaria (BR-116), Ministry of Agriculture stations have been set up which require that private automobiles from Rio de Janeiro have disinfection certificates, which they receive when they leave that state. By Friday a team will be assigned to the stations to disinfect trucks that do not carry the certificate. At the present time, when that occurs, the trucks have to return.

The secretary of agriculture of Parana said yesterday that he is not aware of any report that the African fever has entered Parana. He said that the purpose of his contacts with the Rio secretary of agriculture was to take preventive measures.

After confirming that he had talked to the secretary of agriculture in Rio, Paulo Carneiro revealed that he had sent two experts from his secretariat to that state "to assimilate the techniques of combating the disease." He said also that he has already taken all measures to prevent the entry of the disease into Parana.

Rio de Janeiro O GLOBO in Portuguese 6 Jun 78 p 13

[Excerpts] Minister of Agriculture Alysson Paulinelli said in Rio yesterday after a 2-hour meeting with experts of the Emergency Animal Health Team to fight swine fever and with pig businessmen and breeders that the appearance of the African virus in the state "caught the ministry by surprise and shows up deficiencies in the country's health protection system," especially with regard to epidemiological vigilance of ports and airports. Paulinelli said also that "perhaps all Brazilian health legislation will have to be reviewed and updated, adopting the techniques of other countries."

Alysson Paulinelli emphasized that "it cannot be said that the swine fever is under control," which requires "more drastic measures than those adopted up to the moment." The minister of agriculture revealed also that the outbreak of the swine fever in Rio was reported to the World

Health Organization, which has already mobilized to provide technical assistance, and it is affecting the export of Brazilian meat, including beef. Minister Alysson Paulinelli explained that Holland has already refused a shipment of meat "and other countries may follow its example." However, he sees this as merely a preventive measure "viewed calmly by the government, which does not want to upset other countries."

According to what the minister--who was in Rio for only 4 hours--said yesterday, "the outbreak of the disease appears to be restricted to the state but Espirito Santo, Minas Gerais and Sao Paulo went on a condition of permanent alert against the disease." New measures aimed at preventing the spread of the African virus across the country will be announced within the next few days, such as a ban on the export of canned goods derived from pork and jerked beef. In addition to that the indetermination ban on the processing of pigs remains in effect throughout the state of Rio. Yesterday the national secretary of Agro-Livestock Protection Service, Jose Alberto Lira, who was present during the meeting granted by the minister of agriculture, explained that "the only scientific recourse known to combat the disease is the destruction of the contaminated animals or those suspected of carrying the disease."

Emergency

During the meeting, Alysson Paulinelli declared that the Ministry of Agriculture was caught by surprise by the disease but reacted "on an emergency basis, adopting all the measures necessary to control the disease without weighing the technical and financial resources enlisted to control the disease."

"Since the identification of the focal area of the disease in Paracambi, the whole area of the state is suspected and it must remain under suspicion until it is positively determined with precision that the problem has been controlled, which has not yet happened. With the emergency measures adopted by the ministry and the state Secretariat of Agriculture, it will be possible rapidly to locate any new focal area of the disease and we depend on that speed to attempt to find the solutions to the problem. In addition to Rio, all the neighboring states are under suspicion despite the fact that the outbreak appears to be restricted to that region. Espirito Santo, Minas Gerais and Sao Paulo were also placed on permanent alert in order to take the appropriate measures called for by the course of the hog disease."

Rio de Janeiro O GLOBO in Portuguese 7 Jun 78 p 15

[Text] Another 508 full-grown pigs in addition to tens of newborn piglets were destroyed yesterday by employees of the Animal Health Protection Service of the Ministry of Agriculture in the area where cases of African swine fever have been occurring near Paracambi, regarded by the

experts to be the focal area. Yesterday's slaughter, done with small sledge hammers, was carried out in the Sao Roberto farm, owned by Otavio Marques Lisboa, in the municipality of Barra do Pirai.

Fearing that the disease might spread to other regions of the state and even endanger the national breeding herd, the South Rio Rural Association yesterday sent a memorandum to the president of the republic and the minister of agriculture asking that the slaughter area be expanded and suggesting other measures. With the drop in the consumption of pork and its byproducts by the population--a drop which, according to the president of the association, has already hit about 90 percent in Rio--the breeders are facing a new problem: finding market in the region for marketing the pigs, because they cannot sell them to other states.

The president of the South Rio Rural Association, which includes 18 cooperatives and about 5,000 members, Heitor Alves Barreira, believes that there is a real danger of the disease spreading. "I say this as a professor of animal husbandry and not as president of the association," he said. "And I say that because it is impossible to completely isolate a contaminated area. We are dealing with a virus that can be transmitted by the sole of a man's shoe, a bird, a mouse, etc.; thus, complete isolation is impossible."

Rio de Janeiro O GLOBO in Portuguese 8 Jun 78 p 17

[Text] A soldier belonging to the 15th Military Police Battalion (Caxias), who was standing guard at the entrance to the Floresta farm near Kilometer 56 on Dutra highway died the day before yesterday from a sudden illness after drinking water from a nearby spring. The soldier, whose name has been withheld, ate some bananas given him by a neighbor near the improvised police station at the entrance to the farm and then went to drink some water from a spring near the opposite side of the small river into which the drainage from Severino's pig raising area runs. When he crouched over to drink the water, he dropped his revolver. When he tried to catch it, he felt a strong pain in the back and began to feel ill. A passing car took the soldier to the Paracambi hospital but he was already dead on arrival. The circumstances surrounding the death of the soldier are shrouded in secrecy, like the news about the African fever.

Neighbors of the Floresta farm said that the 20 head of cattle and two donkeys belonging to Severino, already slaughtered and burned, walked through the sties containing sick pigs and then drank water from the same spring where the soldier dropped his gun. Some pigs living outside the sty also walked through the place. According to the neighbors, when it rained a lot, the large quantity of pig excrement even covered the road.

[Text] The movement of any and all products of an animal nature, including milk, out of the state of Rio is banned until 15 July. The production and processing of any and all products that contain pork raw material is likewise suspended for the same period. Any industry can be closed down if it is ascertained that it has received pork products originating in the area where the outbreak of the disease was confirmed last 15 April. Until that date, processed products will be released for sale only within the state of Rio.

Those and other measures were announced yesterday by Minister of Agriculture Alysson Paulinelli to 40 industrialists from the meats sector and representatives of the dairy industry of the state of Rio. They went to the headquarters of the regional agent's office of the Ministry of Agriculture at the invitation of the minister, who met with them for almost an hour.

Those decisions are part of a document prepared on the 3d of this month and its rules "will be in effect as long as only the two foci of the African swine fever in Paracambi and the Nova Brasilia slum in Rio de Janeiro exist." The measures were also announced to all the managers of health inspection stations of the state of Rio de Janeiro.

The rules were issued by the Secretariat of Inspection of Animal Products (SIPA), which considered the "focal area, the area located within a radius of 16 kilometers from the focal areas (Paracambi and Nova Brasilia slum)." The "peripheral area encompasses all of the state of Rio de Janeiro except the 16 kilometers of the radius from Paracambi and Rio."

Following are the decisions of the SIPA, effective until 15 July, completion of 60 days from the date of the confirmation of the outset of the outbreak of African swine fever in the state of Rio:

Focal area:

1. To ban the departure of any and all products of animal origin, including milk;
2. Suspend slaughter and processing in all federal, state and municipal establishments;
3. Seize and cremate all products found in transit or in the industries located in the focal area;
4. Detour from the Dutra highway the traffic of vehicles transporting products of an animal nature, including fodder, live animals, milk, etc., as well as the traffic of municipal roads located in the focal area;

5. Supplying of the focal area can only be carried out by firms located in the state of Rio de Janeiro with an establishment in the peripheral area, and shipments of the products can only be made with properly equipped trucks belonging to those firms, consequently undergoing complete disinfection before and after their departure. The use of sodium carbonate diluted to 4 percent in lukewarm water, that is, 40 degrees, is recommended for disinfecting with Pediluvio and Roduluvio all areas especially freezer compartments and processing rooms that may have contained pork.

Peripheral areas:

1. To identify and suspend the slaughter, processing and storage of pork products for 60 days;
2. Take a survey of pork products according to quantity and origin through presentation of the inspection stamp and certificate;
3. Any and all industries will be closed down if it is ascertained that they have received pork products originating in the focal area, after 15 April 1978;
4. Possible existing stocks of pork raw material will be locked away in a freezer compartment used exclusively for that purpose and sealed by the local federal inspector's office;
5. Products processed up to that date will be released for sale within the state;
6. Suspend production and processing for 60 days any and all products which contain pork raw material;
7. The processing of products manufactured exclusively with beef will be authorized;
8. The slaughter of hogs in the state of Rio de Janeiro will be authorized only in the Santa Cruz slaughterhouse;
9. It is recommended that the industry control the stock of meats, including beef, considering that the stock is subject to seizure and cremation and taking into account the possible outbreaks of other foci of the African hog cholera;
10. The entry of industrial beef is authorized. Therefore, the packing houses of other states will be authorized to issue certificates.

Transit of Products

According to the directive issued by the SIPA, the following products are authorized to leave the state of Rio: 1) canned beef; 2) canned fish; 3) pasteurized or processed powdered milk.

The same directive establishes that "ports and airports in the state of Rio will be closed for 60 days for any export of products of animal origin. Jerked beef, bologna, sausages, raw milk, meat meal, leather and all other products of animal origin will not be able to leave the state."

Rio de Janeiro O GLOBO in Portuguese 8 Jun 78 p 17

[Text] The team of health inspectors of the Ministry of Agriculture arrived in Teresopolis yesterday and is covering the whole municipality. Yesterday about 270 pigs found in the garbage dump on the property of the National Social Security Institute (INPS) were destroyed. They belonged to a very popular citizen in the city, Jonas Itaborai, known as Jonas Batateiro. All the animals destroyed will be cremated today.

The danger of the so-called Angolan or African fever is lurking around Teresopolis also, thus the extreme measure taken yesterday. Today the Ministry of Agriculture team will continue its service visiting other pig farms and breeding areas in Teresopolis. Admiral Heleno Nunes raises pigs in a farm in Bairro da Prata which has not yet been threatened by the disease.

Rio de Janeiro O GLOBO in Portuguese 8 Jun 78 p 17

[Text] As of today, the sale of pork is banned in the 170 open markets in the city; the consumers can only buy the product at the slaughterhouses, which can sell them normally. The measure was adopted as a temporary expedient, by Resolution 156 issued by the municipal secretary of the treasury, Ronaldo Mesquita, in conformity with Directive No 970 of 2 June issued by the alternate federal agent for the state of Rio of the Ministry of Agriculture, Romulo de Paula Costa.

According to the directive published in the Official Journal that is circulating today, the suspension of activities is caused by confirmation of the existence of a foreign swine disease in the state. On the basis of that fact, the federal agent requested that the Secretariat of the Treasury repeal Resolution No 57 of 14 April 1976 pertaining to the marketing of pigs.

Secretary Ronaldo Mesquita explained yesterday that the measure will affect more than 20 stalls installed on minibuses belonging to

specialized firms. The ban will also affect unlicensed street vendors who sell pork and its byproducts; they will now be inspected more strictly by the teams popularly known as "earwigs."

Rio de Janeiro O GLOBO in Portuguese 7 Jun 78 p 15

[Excerpts] The leftovers of food contaminated with the virus of the African swine fever given to the pigs of the Floresta farm in Paracambi were sold to Severino Pereira da Silva by the Marriot On-Board and Hotel Services Corporation, responsible for supplying food to the majority of the planes using Galeao airport.

People who have been to the Floresta farm said yesterday that the herd of 975 pigs was also affected by foot-and-mouth disease. The sick pigs, whose hooves were lacerated, were slaughtered on the farm and then parts removed. The meat was sold in Severino's slaughterhouse located at the entrance to the Nova Brasilia slum and licensed in his wife's name.

Reporters Arrested

The same people said also that the African fever was discovered in April by a veterinarian of Pirai or Barra de Pirai who was taking care of Severino's pigs. Later the veterinarians of the Ministry of Agriculture showed up there, killed a few pigs and extracted the livers and kidneys to be analyzed in laboratories in the United States, Switzerland and Japan. The process of investigating the cause of the disease had already begun but nobody told Severino anything. He scheduled a barbecue for 200 guests that was to be held on Mother's Day, on 14 May. On the eve, the farm was occupied by a large number of army soldiers armed with machine-guns, who forced all the residents to leave. On Mother's Day one of Severino's friends stood at the side of Dutra highway to advise all the cars that entered the Floresta road that the barbecue had been transferred to Andrea d'Amico's barbecue establishment of Kilometer 52 of the highway.

After the farm had been occupied by the army, two JORNAL DO BRASIL reporters tried to enter the closed area through a donkey trail that lay behind the hill. They were discovered, arrested and given a chemical spray bath when they left the farm. The same thing was done to the car and driver. Then they were taken to the Munitions Depot Battalion on Cabral highway in Paracambi where they were kept under arrest; the neighbors of the Floresta farm do not know for how long.

Maggots and Caviar

According to the same sources, the Floresta farm was occupied by the army because Severino Pereira da Silva who is an agent of the Department of Political and Social Police (DOPS) refused to obey the orders of Ministry

of Agriculture veterinarians. "After the occupation, carried out on 13 May, the anniversary of the abolition of slavery, more than 60 agents of the National Intelligence Service (SNI) were prying into every detail of Severino's life," a neighboring farmer declared.

They said also that all the food leftovers that Severino bought from Marriot were packed in plastic bags.

"Sometimes we saw maggots the size of a finger inside the bags but other times the food would be very clean and included salmon, caviar and choice canned goods. He received that because when a plane coming from another country has to remain at the airport overnight, it is obliged to replace all the food even if it is good for other food prepared in the country where the airport is located. That became mandatory under an international convention."

They reported that Marriot turned over to Severino, with whom it had a supply contract, a large quantity of food and leftovers originating in Kenya. The veterinarians told Severino's neighbors that in that African country, the virus of the disease lives in symbiosis with wild pigs without affecting their health.

Rio de Janeiro O GLOBO in Portuguese 7 Jun 78 p 15

[Text] The food leftovers brought in planes and ships from abroad, especially from African and some European countries, should be immediately burned after landing operations. Those leftovers cannot leave the ports and airports under any circumstances because their use as animal feed would involve risks of the spread of African swine fever to other Brazilian states as happened in Rio.

That warning was given yesterday by the director of the Pan-American Foot-and-Mouth Disease Center, the regional office of the Pan-American Health Organization in Rio, veterinarian Raul Casas Olascoaga. He participated in a meeting of ministry experts and the teams of four U.S. specialists who came to Brazil to help in the work of eradicating the disease from the state of Rio, held yesterday in the Ministry of Agriculture regional agent's office.

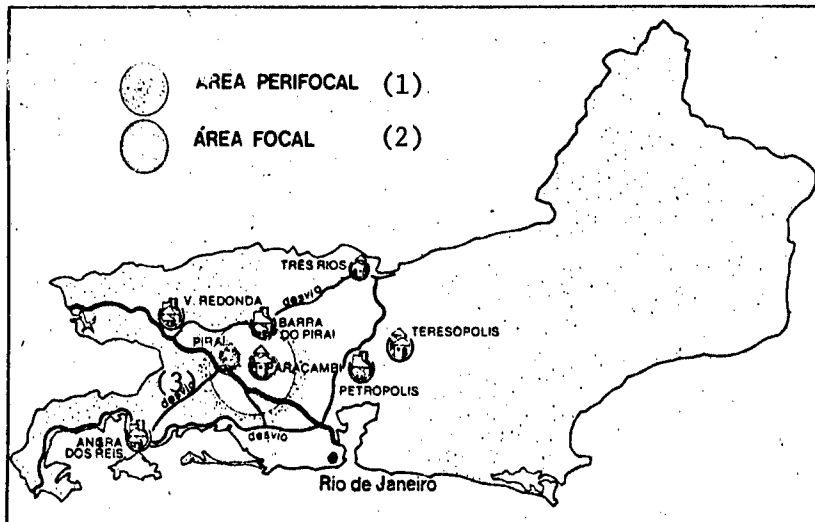
He reported that during the meeting the whole situation of the focus of the African swine fever was analyzed and it was determined that the containment measures taken up to this time had been quite effective. The chief of the Pan-American Foot-and-Mouth Disease Center laboratory, veterinarian Paul Sutmoller, said that the U.S. specialists consider the "epidemiological work carried out up to now to be excellent."

Veterinarian Paul Sutmoller was a colleague of two of the Americans, William Hess and Katte Scherman, having worked with them in Plum Island

in the foreign disease laboratory of the U.S. Department of Agriculture. Despite valuing the quality of the Brazilian technicians and researchers, the veterinarian believes that the four Americans represent an important technical reinforcement because they are specialists in that disease.

"That disease does not permit any alternative other than its eradication. You either eliminate it or it decimates the whole swine herd of an area, which is catastrophic," declared Paul Sutmoller.

The director of the Pan-American Foot-and-Mouth Disease Center terms the presence of the Americans as "very valuable advisory support because these people are especially trained for working with this type of disease." He recalls their experience during outbreaks of African swine fever in Africa, Portugal and Spain and says that they are qualified to collaborate in eradicating the disease in the state of Rio.



The peripheral area to which the disease is now restricted is the entire state.

Key:

- | | |
|--------------------|-----------|
| 1. Peripheral area | 3. Detour |
| 2. Focal area | |

Porto Alegre Radio Guaiba in Portuguese 2150 GMT 21 Jun 78 PY

[Text] The federal delegate of the Agriculture Ministry has reported here the eradication of a focus of African swine fever which was confirmed last week in Volta Grande, Minas Gerais State. Despite this fact, it was reported that tight control is still being maintained at the border with the states of Sao Paulo and Rio de Janeiro.

The Technical Orientation Center of the Office for Technical Assistance Coordination has released in Campinas preliminary official figures on the casualties caused by African swine fever in herds of Sao Paulo State. It is suspected that hogs were killed by African swine fever in the cities of Serra Negra, Altinopolis and Ribeirao Preto, since 18 hogs died of an unknown disease in three herds totaling approximately 500 hogs. The symptoms were, however, quite similar to those of the African swine fever.

Some 223 hogs died in Leme, and 374 more died--either of the disease or slaughtered--in Ourinhos, Socorro, Araras and Roseira.

Tests of intestines of dead hogs conducted by the (Desiderio Finamor) Veterinary Research Institute indicate that it was hog cholera, not African swine fever, that killed nearly 100 hogs in Sao Valentim [Rio Grande do Sul State].

Based on this report, the state agriculture secretary has stated in Porto Alegre that there is no outbreak of African swine fever in Rio Grande do Sul State. He added that to prevent the spread of this disease in the state, there are eight permanent checkpoints at the border with Santa Catarina State.

BURMA

CATTLE DISEASE OUTBREAK

Rangoon BOTATAUNG in Burmese 18 Jun 78 p 6 BK

[Text] In spite of necessary precautionary measures taken, many cattle are dying in Ywathi, Shwedaung, Thayettaw, Sanpya, Taungyazeik, Konzi villages of Kyunhla Township, Sagaing Division. A total of 20 head of cattle have died to date and the disease is still spreading. Urgent assistance has been sought from the veterinary department by regional organs of power concerned.

BURUNDI

CONTAGIOUS ECTHYMA DISCUSSED

Bujumbura LE RENOUVEAU in French 15 Apr 78 p 3

[Article by Z. Sindayigaya, veterinary technician]

[Text] Simple Ecthyma is a vesicular Pyodermatitis which soon reaches a pustulous stage and finally a scabby stage (formation of scabs).

As such, it can afflict dogs, horses and even humans; in this last case, it is caused by Streptococci affecting untidy people. More generally, contagious ecthyma is considered to be a disease caused by a filter passer virus very similar to that of smallpox and above all that of "chevelee" which, after all, is also a type of smallpox, but specific to sheep, a species which, as well as goats, is frequently afflicted with said contagious ecthyma. A specific diagnosis is easy, given the distinct characteristics of the latter's source.

Very little written documentation is available on contagious ecthyma in our country, because, as a rule, it is only mentioned in differential diagnosis in diseases with pustulous sores and buccal locations and contagious tendencies, such as foot-and-mouth disease and smallpox.

The low level of interest shown so far for this affliction is linked with its mild characteristics in a species whose economic worth is generally overlooked, particularly in our country. As a matter of fact, the disease occurs in sheep and goats, and it remains mild with them, when no pulmonary and intestinal complications appear.

However, it should be pointed out that this disease is very contagious and frequent with young animals for which it can be lethal. In fact, because of impediment of prehensile ability and chewing of feed, since the muzzle is its prevalent location, milk output is curtailed.

We expect to acquire more data about this disease, since a four-goat herd is placed in observation at the Bulumbura veterinary laboratory.

This small size cattle which arrived on 11 April 1978 all belong to the same owner and originates from the same strain, coming from Rubirizi Hill in the Mutimbuzi township, of the Bujumbura district and province. Needless to say, this is located right on the cattle road leading out of the central Muzinda market (hence risks of eventual spreading).

CYPRUS

HYDATID DISEASE REPORTEDLY ERADICATED

Nicosia CYPRUS BULLETIN in English 27 May 78 p 3

[Text] A campaign launched by the Cyprus veterinary services to eradicate hydatids has been most successful and Cyprus can now be considered as being free from this disease, the Director of the Veterinary Department Mr K. Polydorou told a press conference on May 17. He said the first target of the campaign, began in 1971, was to control stray dogs. The rate of infection among dogs and domestic animals was then very high.

He said the successful Cyprus anti-echinococcus campaign is being carefully studied by other countries facing a similar problem. Mr Polydorou, who has been appointed consultant by the Office International Epizootics, the organisation fighting animal diseases. [as published]

The rate of infection among dogs dropped from about 45 per cent to 6.8 in 1972 and to 0.14 in 1977.

Mr Polydorou said the campaign against echinococcus was to last 15 years. "The campaign has achieved its purpose long before the date set," he told the press conference. And out of the 1.2 million pounds earmarked for the campaign only 213,000 pounds have been needed so far.

He stressed that the campaign has had favourable effects on animal husbandry. The eradication of the disease has also meant a considerable drop in the number of people suffering from hydatids. It has completely disappeared in the case of young people.

INDIA

NEW VACCINE FOR SHEEP POX

Madras THE HINDU in English 1 Jun 78 p 13

[Text] Madras, May 31--A new type of sheep pox vaccine has been evolved by the Tamil Nadu Animal Husbandry Department at the Institute of Veterinary Preventive Medicine, Ranipet.

The vaccine, which will provide immunity for two years, can be used for sheep above three months of age.

The Minister for Animal Husbandry, Miss P. T. Saraswathi, told newsmen today that it had manifold advantages over the previous ones and had been tested under laboratory and field conditions. It would be released for public use soon.

The Minister said sheep pox was a widely prevalent disease in Tamil Nadu with high mortality rate. The vaccine would meet a long felt need of sheep breeders for a safer and potent vaccination against sheep pox.

KENYA

UNKNOWN CATTLE DISEASE SPOTTED

Nairobi Domestic Service in English 1500 GMT 4 Jun 78 LD/EA

[Text] The Coast Provincial Veterinary Officer, Dr Fazil, has disclosed that an unknown disease affecting cattle ears has been spotted in various ranches in the Taita-Taveta District. Dr Fazil said very little was known about this mysterious disease. A team of veterinary scientists, headed by Dr (Wagelo) of the Veterinary Research Laboratory, Kabete, were now working on the affected ranches. The full report will be made available soon.

MADAGASCAR

RABIES AREA

Antananarivo JOURNAL OFFICIEL DE LA REPUBLIQUE DEMOCRATIQUE DE MADAGASCAR in French 27 May 78 p 878

[Text] On 17 May 1978, the entire area of the Fivondronana of Manakara in the Fianarantsoa Faritany was declared contaminated by rabies.

MOZAMBIQUE

CATTLE VACCINATION CAMPAIGN

Maputo NOTICIAS in Portuguese 19 Mar 78 p 1

[Text] Nampula--In response to the pressing needs of the livestock farmers in the province, a vaccination campaign will be initiated tomorrow, pursuant to the National Livestock Directorate's guidelines for combating the diseases that threaten the health and the productive capacity of the livestock herd, which for about the last 3 years has been lacking the necessary veterinary assistance.

This lack of assistance has mainly been responsible for the large decline in both quantity and quality observed in the provincial herds.

The situation was inherited from the colonial livestock farming sector. At the time of independence the sector was completely disorganized and lacking the resources--including medicines--to guarantee minimum assistance to the herd.

Nor were there ever any results from the so-called livestock support stations existing in various provinces, aimed at the improvement of livestock strains for better adaptation to Mozambique's climate and pastures, and also to secure higher rates of beef and milk production. And what little was done was in support of the capitalist ranchers.

On analysis of the situation, it was decided that regional geotechnical stations should be created throughout national territory. Their primary task would be to select and prepare quality breeding stock for distribution to the state livestock farming units.

In this context, the Nampula Geotechnical Station is to handle the selection of dairy cattle. Arrangements are being made this year for a similar station in Chalaua, Moma district, this one for the selection of beef cattle.

Meanwhile, the former support station in Angoche will become a station for the training of livestock for agricultural work, such as plowing and grading land. The trained animals will be distributed to agricultural cooperatives and communal villages.

Maputo NOTICIAS in Portuguese 1 Apr 78 p 5

[Excerpt] Nampula, 31 Mar--A cattle vaccination campaign has been underway in Nampula province since 20 March. Aimed at the vaccination of over 500,000 head against hematic anthrax and 17,600 head against symptomatic anthrax, the campaign should be concluded in May.

To insure a health livestock herd, the director of these services in Nampula has created delegate offices in the districts of Angoche, Nampula and Malema.

PARAGUAY

SWINE FEVER PREVENTION MEASURES

Asuncion HOY in Spanish 22 Jun 78 p 10 PY

[Excerpt] Agriculture and Livestock Minister Hernando Bertoni, accompanied by Director General Luis Pampliega and the president of the Animal Health Service, Juan Pablo Romero, stated yesterday to newsmen accredited to his ministry that a massive vaccination campaign against hog cholera will begin immediately in order to determine the exact moment in which the African swine fever which is spreading in large Brazilian areas appears here.

This measure will be adopted taking into consideration that the symptoms of the African swine fever are similar to those of hog cholera. This is why the two diseases may sometimes be confused, making it more difficult to detect any dangerous outbreak. Veterinarians throughout the country will begin working on this in order to cover the largest production centers as soon as possible.

The agriculture and livestock minister stated at this time the need for the people's cooperation in the fulfillment of the measures taken by the technicians, since it is for the good of the national swine production which is very highly developed by peasant families in our country. Bertoni indicated: "The problem is quite serious considering that so far no appropriate vaccine has been discovered to counteract the disease. All animals affected die, in general, and there is only a 5 percent possibility to cure them."

Asuncion PATRIA in Spanish 25 Jun 78 p 7 PY

[Excerpt] The Agriculture and Livestock Ministry in view of the appearance of the African swine virus in Brazil, which may affect the swine herds in our country, specially in the bordering regions, has ordered the massive vaccination of the animals and has forbidden the entrance into the country of living swine, semen, and swine products and byproducts.

RHODESIA

WAR CAUSES SPREAD OF RABIES

Salisbury THE RHODESIA HERALD in English 6 May 78 p 3

[Text] Que Que--A tribesman, aged 30, from the Chibi Tribal Trust Land who was visiting the heavily populated Mbizo township here was admitted to the Que Que Hospital on April 11 and quickly became raving mad.

He died four days later from rabies.

This was told to the Que Que Farmers' Association meeting yesterday by Mr E. Marillier, the senior animal health inspector in the district.

"With the security situation as it is we are not able to do much in the way of rabies vaccinations in the tribal trust lands where the dog population is high. This has resulted in quite a number of human cases," he said.

"Because we cannot give this coverage we can expect more cases of rabies for it is definitely spreading."

ZAIRE

ANTIRABIES VACCINATION CAMPAIGN DESCRIBED

Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 8-9 Apr 78 pp 2, 5

[Interview with Dr Kapend Kanund Difand, subdistrict provisional deputy veterinarian, by Tchomba Kabondo Songwa Bilenge]

[Text] The antirabies vaccination, initiated in August of last year, was brought to an end in the month of October of the same year throughout all of the Tanganika subdistrict. Citizen Kapend Kanund Difand, subdistrict provisional deputy veterinarian, who confirmed this news item, added moreover that although the campaign is over, belated applicants keep on coming with their animals, not because these animals are sick, but simply in order to prevent the disease. The veterinarian clarified this in an interview granted to us.

MJUMBE: Citizen veterinarian, the antirabies vaccination campaign was launched as of last year; how and where did you give it its start?

Kapend: We began publishing announcements in order to alert, sensitize and warn people about the campaign. These announcements were followed by the actual triggering of the campaign through vaccination of involved domestic animals. As to the subdistrict territory, each township veterinarian received an adequate supply of antirabies vaccine, as well as needed directions. Right here, in Kalemie, we organized ourselves into four teams: one was to be on permanent duty in the office, while the three other ones were to perform the same functions at the Filtisaf [expansion unknown], the remainder of the other bank of the Lukuga River, in the city and at the State hill and the SNCZ [Zairian National Railroads].

MJUMBE: Why had you terminated the campaign?

Kapend: We did not terminate the campaign before its scheduled end. We had extended it up to the time when the animals' owners were no longer taking them to the places designated for this purpose. Further inland, the success of the campaign comes under the responsibility of the veterinarians.

MJUMBE: Then, what does the situation look like in Kalemie and in the other areas after the campaign?

Kapend: Rabies cases are no longer being recorded. Which means that the disease is completely arrested. However, we are still being notified about biting occurrences, i.e., about people bitten by dogs not yet vaccinated. These are dogs owned by individuals from localities the

furthest removed from the area's administrative center. We are dealing with these cases in the field by having the animals under observation. In the central areas, we are no longer receiving complaints about this issue.

MJUMBE: If we understood you well, there are still in this area localities which this campaign did not reach? In the affirmative, could we know why?

Kapend: First of all, the campaign itself came at the same time as the legislative elections and those for political commissars and for the president of the republic.

You know, just as well as I do, that everyone was drafted for the success of this election. And then, the lack of transportation prevented us from reaching certain of the more remote localities in our area.

MJUMBE: Tell us first about rabies and about first aid precautions to take when someone is bitten.

Kapend: Rabies is a contagious disease caused by a rabic virus. One can be afflicted with this disease through bites, clawing, licking and so on. When a diseased animal bites, licks or claws an individual, it transmits the disease directly to him. It takes 60 days for symptoms to appear.

When an individual is bitten by a dog likely to have rabies for instance, the animal must be immediately taken to the veterinary services in order to have it in the animal shelter (under observation) for 15 to 25 days. In the meanwhile, the victim must have his wound attended to. If it can be concluded that the animal suffers from rabies, the victim has to undergo the antirabies treatment.

MJUMBE: How do you deal with individuals bitten by stray dogs difficult to catch?

Kapend: In such cases, the victim must undergo the antirabies treatment without delay.

At the same time, searches must be intensified to find the animal in order to destroy it and to bury it after taking the necessary samples for analysis. When conclusion is reached about the animal being afflicted with rabies, the local authorities issue, upon our recommendation, a decree forbidding domestic animals vagrancy and urging at the same time a general vaccination of all domestic animals in the entirety of their jurisdiction.

MJUMBE: Do you have at your disposal, right here, facilities for analysis, as well as medication for the care of bitten individuals?

Kapend: We do not have any facilities for analysis at our disposal. Our samples are often sent to the Lubumbashi or Kinshasa laboratories.

As to the drugs for medical care, persons bitten are not the responsibility of veterinary services. This remains with the medical services, upon our recommendation, of course.

III. PLANT DISEASES AND INSECT PESTS

INTER-AFRICAN AFFAIRS

EAST AFRICA LOCUST CONTROL

Dar es Salaam in English to East Africa 1000 GMT 30 Apr 78 LD/EA

[Text] Arusha--The Ministerial Council of Locust Control has endorsed the budget of 60 million shillings to be used in the control of locusts in Eastern Africa. The ministerial council, which ended its meeting in Arusha today, has pledged to increase its efforts in controlling desert locusts at their breeding grounds. The chairman of the meeting, Ndugu John Malecela, told newsmen that this year's heavy rains have intensified breeding grounds for locusts. He said desert locusts have been reported and confirmed in the Red Sea coastal areas of Arabia, Sudan and Ethiopia and some parts of Somalia, but they were under control. Ndugu Malecela, who is the Tanzanian agriculture minister, said due to the threat of desert locusts (?infestation), the council has recommended the establishment of a subbase in Djibouti to be used for control operations.

INTER-AMERICAN AFFAIRS

MIGRATORY BIRDS SPREAD COFFEE RUST

Bogota EL ESPECTADOR in Spanish 5 May 78 pp A-1, A-8

[Article by Hector Munoz]

[Text] Serious Threat to Coffee

The noted scientist, Marco Antonio Serna, of the Christian Schools Community in the Province of Medellin, a biologist of the University of

Antioch and director of the Museum of Science of the San Jose School in the capital of that department, warned that migratory birds might well bring the terrible coffee "rust" into Colombia.

The grebe, the bee-eater, the blackbird and the nightjar--names commonly ascribed to them--among other migratory birds could easily bring this frightening disease into the country, one which could quickly destroy the coffee plantations.

A number of health measures have been adopted to prevent the penetration of rust into Colombia. However, thus far, not a single one envisages the control of migratory birds.

The biologist and religious Serna is the first to have referred to the possibility of rust contamination from one country to another by means of migratory birds.

Anxiety has been stirred anew in the country in connection with coffee rust. Three weeks ago, as a preventive measure, Colombia forbade the entry into the country of small coffee bushes used for decorative purposes indoors and in courtyards. At a time when there is overproduction of coffee, when there has been noticeable expansion of the area under coffee cultivation, and its international price level is excellent, a rust blight in Colombia would be truly catastrophic.

The disasters caused by this terrifying disease in other countries are only too well known.

Small Fungus

Mr Enrique Arias passed on to us an article written by the scientist Serna, which had appeared in a student newspaper. The item deals with rust and refers to its first appearance in the Americas.

The biologist explains that rust is a small fungus, known technically as *Hemilea vastatrix* Berk & Br., of which 23 varieties have been classified, and 14 of these attack the coffee bushes.

Rust first was observed in Ceylon in 1869, and ultimately was responsible for the total destruction of the coffee plantations of Asia and Africa.

P. L. Wellman described the panic which struck the population when rust began attacking the coffee plants: "When rust first came into the country, it spread rapidly and unhampered, the scale of its damage causing widespread horror. Powerful companies and big banks were ruined. Magnificent plantations and vast processing units were abandoned, swallowed by the stubbly vegetation in which wild animals roamed freely. The once wealthy died of hunger and whole settlements emigrated. Rust was the cause of political revolutions, world economic losses and the destruction

of whole families. Men killed each other and some committed suicide. All this was caused by the spread of billions of invisible spores of one of the most severe pests ever to attack the tropical coffee plantations."

Rust did not make its appearance in America until 1976, when it was detected in Brazil, having come from Africa. In 1976, it was found in Nicaragua.

It Will Reach Colombia

Serna made a statement that was most alarming. He said, "Since the rust spores are so small and resistant, they will inevitably reach Colombia, certainly within a very short time."

Then he added, "The government and National Coffee Growers Federation are taking the necessary measures to prevent the arrival of the rust or at least to be prepared when it appears. The Customs authorities have adopted every possible plant-health measure to prevent its introduction by tourists; no plants may be brought from areas affected by rust. Control is exercised by sea, by land and by air...but are these measures enough? In addition, rust resistant varieties of coffee plants, such as the Timor variety, are being propagated and copper-based chemical fungicides are being prepared to combat the disease when it arrives. The leading product is Anivax which is effective and not too expensive.

"But the question is, by what means will the rust arrive? No publication nor article I know of has referred to the birds as possible transporters of rust."

200 Species Fly Into the Country

Marco Antonio Serna goes on to emphasize the following: "It has nevertheless been proven that many kinds of diseases are transmitted by birds. For example, certain types of *Blasmodium* were brought into Colombia by the *Chordeiles minor* breed, while equine encephalitis is transported by a type of heron known as *Bubulcus ibis*. Migratory birds likewise carry seeds and certain kinds of plant species from one country to another.

"At the present time, more than 200 types of migratory birds fly to Colombia, mainly from North America, largely on the way to the South American republics, and as far as Argentina. In some cases, they cover distances of as much as 18,000 kilometers on their two-way trips. If birds can carry fish eggs stuck to their feathers, from the high altitude lakes, why could they not be equally able to transport fungus spores which are much more resistant?

"Colombia is in a very dangerous position, that is, between two centers of rust infection. On their migration route, many birds fly over

Nicaragua, whence they could bring rust. On the return flight from South America, they cross Brazil, where rust is also found.

"Many types of migratory birds are frequently found in the coffee-growing areas, such as the Parulidae genus, the variegated Mniotilta, Dentreoica petichia, dark Dentreoica, brown Dentreoica, migratory Vermivora, Philadelphia Oporornis, Louisiana nightingale (Pheuticus Ludoviciana); some of the Tyranidae, including Empidonax trailli, Contpus virens, Tyrannus Tyrannus, Myiodynastes maculatus, Myiodynastes luteiventris. The Turdidade, generally known as a blackbird, the Vireonidae Vireo olivaceus, the cuculidae, also known as the grebe, the nightjar Chordeiles minor and the Traupidae, commonly called red bee eater Tiranga and Piranga olivaceus."

But how can control be exercised over migratory birds? Can they be prevented from entering the country? Is it necessary to destroy them when they appear in the coffee plantations? Let those who have expertise in this matter reply to these questions.

BRAZIL

SORGHUM MILDEW DISEASE

Brasilia CORREIO BRASILIENSE in Portuguese 24 May 78 p 7

[Excerpt] Plant-health inspection has uncovered a sorghum mildew disease in Santa Catarina. Yesterday, the minister of agriculture handed down an order prohibiting the production, marketing and planting of sorghum and Sudan grass in the Mafra, Armazem Lontras and Campo Ere municipios in that state.

DISEASE INFECTS WHEAT IN ASSIS

Sao Paulo FOLHA DE SAO PAULO in Portuguese 18 Apr 78 p 28

[Text] The "spiral and tent" caterpillars are attacking the wheat fields in the area, particularly in the Florinea, Cruzalia and Palmito municipios. Because of the intensity of the scourge and its tendency to spread rapidly, the caterpillars are beginning to endanger the growth of the plants and, consequently, their production.

Although word is going around in the rural areas that the effectiveness of the insecticides in use is not more than 40 percent, technical data guarantee that if the battle is systematically carried on at night, there is a possibility of stemming the scourge.

INDIA

LOCUST SWARMS

Madras THE HINDU in English 14 Jun 78 p 6

[Text] Gandhinagar, June 13--Thick swarms of locusts, one kilometre to five kilometres long sighted in several districts of Saurashtra region of Gujarat, have not caused any damage as there was no standing crop there at present, according to the Gujarat Agriculture Minister, Mr. Keshubhai Patel. The locusts which arrived from Jammagar district were moving from one place to another as they could not find anything to feed upon.--PTI.

INDONESIA

RICE PEST HAS BECOME FORMIDABLE THREAT IN LAST 5 YEARS

Jakarta KOMPAS in Indonesian 11 Apr 78 pp 1, 9

[Text] Reports about wereng [type of rice pest] infestation on an epidemic level are circulating again. This time in South Sulawesi. Fortunately the problem is solvable and is not thought to be something that will go on indefinitely. Even so, all parties must continue to be on guard, since not all of the problems caused by the wereng are known, much less solved.

There is no one who really knows why wereng infestation can spread so fast. However, most theories now connect wereng infestation with intensive rice planting. Modern varieties of rice are planted closer together and produce more stalks. In this way an ideal habitat is created for the wereng which lives on the lower part of the rice stalks.

Fertilizing and irrigation, which produce thick rice leaves, also help the wereng flourish. Because of expanded irrigation many farmers are now planting their rice paddies all year round. So there really is no "dry season" to break the life cycle of the wereng.

Also, insecticides sprayed to kill wereng also kill other insects like the walang sangit [a rice pest] which is a natural enemy of the wereng. Before insecticides were used, these wereng devourers helped keep the wereng population down.

For centuries now the wereng has been the basic agricultural pest of China, Japan and Korea. However, until recently, widespread infestation only occurred here and there and did not spread on an epidemic level.

For the past 5 years however, the small dark brown insect has been infesting and destroying rice fields in the plains of India, Indonesia, Malaysia, the Philippines, Sri Lanka, Solomon Islands, Thailand, Vietnam and other countries. Now the wereng has become the most dangerous pest to Asia's agricultural fields, both in temperate climate as well as in the tropics.

The wereng is also the source of the virus infestations which have struck rice fields in India, Indonesia and the Philippines. It also produced new diseases which, reports say, hit the Philippines and Indonesia in 1977.

Latest discoveries by researchers at the International Rice Research Institute [IRRI] at Los Banos, Philippines, indicate that there are four wereng biotypes. This has made solving the problem far more difficult than originally thought by the researchers.

Even though the outward appearances are the same, these different biotypes are capable of destroying a variety of superior rice types which are resistant to other types of wereng infestation.

The IRRI has been engaged in separating the main 1966 rice varieties which are wereng resistant. IRRI's first achievement was to produce a wereng resistant variety in 1968.

In 1973 IRRI released the IR 26 variety, a rice resistant to wereng and other infestations. All varieties since released by IRRI have been wereng resistant.

At the end of 1973 a wereng epidemic struck rice fields in 30 provinces of the Philippines from Luzon to Mindanao. To break the life cycle of the wereng, the Philippine Government prohibited the planting of all dry season rice except IR 26. This succeeded. The wereng decreased and IR 26 eventually became the dominant Philippine rice variety and was distributed to other countries.

Then came a report from south India. In the wereng infestation in the state of Kerala, experts found the IR 26 was also being stripped. Other experimental stations in India, the Solomon Islands and Sri Lanka also reported that IR 26, with which they were carrying on experimental planting, was no longer resistant to wereng. Taxonomically however, the wereng stripping the IR 26 seemed to be the same kind as before. So experts began research concerning the possibility that they were up against a different biotype.

Later it became clear that there are four different biotypes. Rice varieties like IR 26, IR 28, IR 29, IR 30 and IR 34 which are resistant to wereng biotype I all carried inherited genes of the traditional Indian TKM 6 rice.

Biotype I has been recognized for a long time in the Philippines. Biotype II is also found widely in the Philippines and has spread to Indonesia. Several rice varieties which were resistant to wereng biotype I are not resistant to biotype II.

All rice varieties resistant to biotype II are produced from a pure Indian strain called Ptb 18 and a short grain rice called CR 94-13. Medium grain rices, resistant to biotype II like IR 32, IR 36, IR 38, IR 40 and IR 42 are now being planted widely in the Philippines and Indonesia.

Biotype III which until recently was not found in its normal national setting, is capable of infesting rice which is resistant to biotype II.

And the wereng which has been causing the epidemic in south India and which came originally from Sri Lanka, can infest all varieties of rice which are resistant to biotypes I, II and III.

At last IRRI is engaged at reclassifying some 6,262 kinds of original rice in its banks. It has found that there are 48 varieties of these which are resistant to the three wereng biotypes.

Still the resistance of all modern superior varieties of rice (the products of the agriculture laboratory) is basically unstable, because all these rice varieties are from the same gene source.

Experts are now busy investigating how the wereng population can change into another biotype and overcome the resistance of superior rices. Is the latest wereng a new breed which has come from some unknown area or is it just an old biotype which has been here all along in small numbers, but which has eventually reached epidemic proportions because conditions were favorable?

In any event, most experts feel that producing a wereng-resistant variety of rice is the best way to solve the wereng epidemic. However, injecting new genes into a variety to produce resistance will require from 3 to 5 years. And the variety which today still appears to be wereng resistant, can tomorrow suddenly fail. If so, the race clearly will not be won by creating new varieties.

So, in addition to its efforts to create new varieties, IRRI must also marshal its forces to overcome the wereng with pesticides and biological controls.

IRAN

PLANT PEST INVASION

Teheran TEHRAN JOURNAL in English 7 Jun 78 p 3

[Text] Tehran--A species of plant pest named "Italian" have invaded areas in the Qazvin desert and the Plant Protection Society is battling to eradicate the pest using among other methods sprinkling pesticides over large areas by plane.

Officials of the Plant Protection Society say the campaign to destroy the pests started about a week ago and believe that another 15 to 20 days will be required to have them wiped out completely.

KENYA

LOCUSTS SIGHTED

Nairobi Domestic Service in English 1500 GMT 4 Jun 78 LD/EA

[Text] The Northeastern Deputy Provincial Commissioner, Mr Kirui, has said that locusts have been sighted about a kilometer from Garissa town. Immediate steps are being taken to eradicate them. Accompanied by the Provincial Director of Agriculture, Mr Mwangi, Mr Jirui [sic] toured the area where the insects were sighted and said a team of experts from the Ministry of Agriculture's headquarters was being sent to spray the area.

PEOPLE'S REPUBLIC OF CHINA

BIOLOGY USED TO CONTROL PLANT PESTS, DISEASES

Peking NCNA in English 0700 GMT 21 May 78 OW

[Text] Peking, 21 May (HSINHUA)--China used biological control of plant pests and disease over 6.6 million hectares in 1977, double the preceding year. China began biological control on a considerable scale in 1972, applying it to 80,000 hectares. Since then, the area has increased from one to several fold each year.

China's policy on plant protection is "stress prevention first, and combine it with control." Cultivation measures, such as eliminating insect and disease harbouring weeds, filling the paddy fields to drown harmful

insects, are used alongside biological and chemical control. The method is varied for optimum results in specific local conditions.

Biological control offers many advantages: It is harmless, effective and low-costing and avoids environmental pollution from other methods.

One important means of biological control is insectivorous insects. Natural enemies of some harmful insects, they include parasite wasps such as trichogramma, chalcis and anastatus, and predators like the lady bird and lacewing. The tiny trichogramma wasp alone was used on 660,000 hectares in 1977.

Liuho County in Kirin Province, northeast China, got outstanding results by en masse breeding of trichogramma in the workshop, and using the wasp to control the maize borer by feeding on its eggs. The county's experimental station for biological control releases multitudes of trichogramma in the maize borer's egg-laying season, the peak of which lasts only a few days, effectively controlling the borer. The experimental station designed and built a workshop to turn out 400 million wasps a day, in a semi-automatic process, from breeding the intermediate host, tussah silkworm eggs, to producing the wasps. More than 100 insect monitoring and forecasting posts run by the county's people's communes and their brigades study the habits and life cycle of the maize borer and ascertain its egg-laying season each year. This means the communes can release their trichogramma at the crucial moment. In 1977, millions of the wasps were let out on a total of 16,000 hectares, eighty percent of the county's maize fields. Most maize borers were killed at the egg stage and chemical pesticides are no longer used for borer control in this county. The biological method has reduced the county's annual losses from the maize borer by several thousand tons of grain. Their achievements were commended earlier this year at the National Science Conference.

Shunyi County on the outskirts of Peking has also begun to propagate trichogramma by a workshop process. Last year, the parasitic wasps were spread over 3,300 hectares of maize fields, and eighty percent of the maize borers were killed at the egg stage.

In both northern and southern China, trichogramma is used widely to reduce crop damage caused by other pests including the sugarcane borer, soybean borer, rice leaf roller, pine caterpillar and peach borer. China also uses the chalcid wasp to control the pink cotton bollworm and uses the anastatus wasp to kill a bug that harms the lichee tree.

Costs for rearing these wasps are quite low, because in southern China people use castor silkworm eggs and in northern China, tussah silkworm eggs as the intermediate hosts, instead of the grain-consuming angoumois moth. Moreover, increased production of castor and tussah silkworms raises the output of marketable cocoons and hence the income of the commune members.

Many areas use insect predators as pest control agents. Honan Province, an important cotton growing area in central China, uses the lady bird to control cotton aphids on 280,000 hectares, or half the province's cotton acreage. Some areas use the lacewing, spiders, ants or ducks and frogs to prey on harmful insects.

Using bacteria, fungus and viruses is another form of biological control. Many areas use bacillus cereus and bacillus thuringiensis to kill the maize borer, pine caterpillar and rice skipper and apply farm antibiotics to control rice blast with satisfactory results.

China is steadily increasing the production of highly effective, low-toxic and low-residual chemical pesticides, but whenever possible reducing the use of chemical pesticides to reduce pollution.

VIETNAM

REPORTS ON RICE PESTS, DISEASES

Hanoi NONG NGHIEP in Vietnamese 20 Mar 78 p 2

[Article by Le Chu, engineer at Plants Conservation Department]

[Text] During the fifth month-spring rice season of this year, the temperature was higher than in 1976 and 1977 and that, added to rain and prolonged cloudiness, were extremely favorable conditions for rice blast to spread over the spring rice. The disease is presently scattered in the provinces of Hai Phong, Thai Binh, Hoang Lien Son and Son La. In the former Zone 4, the disease has broken out over a wide area: 10 to 17 percent of the spring seedlings and 5 to 10 percent of the young rice plants were affected. In Quang Nam-Da Nang and Nghia Binh provinces which had an earlier sowing and transplanting season, 17 to 20 percent of the rice contracted rice blast and in some places such as Duy An and Duy Xuyen in Quang Nam-Da Nang Province the rice area affected rose to 56.6 percent.

In coming days the sky will remain cloudy and there will be scattered rains and rice blast will spread strongly over the "Nong nghiep tam," "Nep Lai" and dwarf "Tran chau" which are the main rice varieties planted and transplanted during this fifth month-spring season. These varieties give high yield but are extremely susceptible to rice blast, therefore, the damages will be even greater.

The practical realities of production in recent seasons show that rice heavily damaged by rice blast is usually found in places where fields and the land are good and fertile; the fields are located near villages; the fields are placed under a high degree of intensive cultivation or

they receive nitrate fertilizers in large quantities exclusive of phosphate and potash. To identify rice blast from the very beginning of its outbreak, one must rely on the features of the diseased spots on the rice leaves. At the beginning, the spots are round or oval. Later, the typical diseased spot is diamond-shaped, ash-gray or whitish gray in the center and brown all around with light brown edges. During the period when the rice grows from a young plant to maturity the leaves have many diseased spots. In those fields where the disease is extensive, the spots link up and cause the leaves to become parched. For this reason, rice blast is also called disease of parched leaves. The diseased rice plant grows feebly and becomes dwarfed, the ears cannot grow out of the stem or grow undersized with black, dead husks. If the disease breaks out while the rice is growing ears, the collar of the rice ear is dark brown and contracted and the ratio of dead husks reaches 80 to 90 percent.

To limit rice blast damages to this year's fifth month-spring rice and keep them at the lowest level, the localities must immediately give attention to effectively performing the following tasks:

To inspect the fields regularly and timely discover diseased rice clumps and epidemic centers in order to make plans to control them.

To sanitize the fields thoroughly: to clear weeds from the edges of the fields and to cut, pull, burn or bury deep in the mud all diseased rice clumps to limit spreading of the disease.

To give attention to rational fertilizing and dispensing nitrate, phosphate and potash fertilizers in balanced proportions. When the rice has contracted the disease, one must absolutely not give it nitrate fertilizer. In those fields that are self-sufficient in water, one should drain all the water, apply lime, phosphate, potash or kitchen ash, then rake the grass and turn up the mud.

When the disease has broken out over a wide area and the rice is at the stage of a young plant or a mature one, one may sprinkle pha-li-zan [Vietnamese phonetics] mixed with lime powder in a proportion of 1/10 (1 kilogram of pha-li-zan mixed with 10 kilograms of lime powder). Each 0.1 mau can be sprinkled with 0.25 or 0.30 kilogram of the mix. One may use pha-li-zan wettable powder mixed with water in a proportion of 1/1000, spraying each hectare of rice with 20 to 25 liters of the liquid mix.

To eliminate the disease on the collars of rice ears, one should use 25 percent ki-ta-zin [Vietnamese phonetics] suspension mixed with water in a proportion of 1/1000, spraying each 0.1 mau with 20 to 25 liters of the liquid mix, or use 10 percent ki-ta-zin granules, sprinkling each hectare with 30 to 35 kilograms of the product 7 to 10 days before the rice grows ears.

After harvesting, the fields affected by rice blast must be absolutely sanitized, hay collected and burned on the spot and stalks immersed in water uprooted by plowing to limit the disease and prevent it from spreading to the coming tenth-month crop.

Hanoi NONG NGHIEP in Vietnamese 5 Apr 78 p 2

[Article by Vu Dinh Ninh, engineer at Plants Conservation Department]

[Text] A notable number of harmful insects and diseases such as rice blast, root choke, yellow rice stem borer, leaf folder, flies and brown beetles have sprung up in the fields at many locations.

Rice blast is spreading in the provinces, particularly in Binh Tri Thien and Nghe Tinh.

Most fields are affected by rice root choke. This disease causes the rice to grow abnormally, the leaves turning red and shriveling gradually from the tip inward and later drying up and withering, thus it is also named "withering brown spot." When pulling a rice cluster out, very few roots remain and they are black and smell like fish. The disease appears in fields where plowing was sloppily done, fertilizing was insufficient or fertilizers had not sufficiently rotted and weeding and care were poorly done.

The yellow rice stem borer is a type of insect that causes continuous destruction to the rice plants. These insects presently have a density of 1 to 2 per square meter and are in the age group of 1 to 2 years. As it becomes sunny and warm, they develop rapidly. Between now and the end of the season butterflies will mature in two phases in late March-early April and late April-early May. The butterflies lay eggs at the time the rice grows ears and the hatching larvae cause many ears to be discolored.

Leaf folders and flies are also present in the fields at a density of 1 to 2 per square meter. They will cause maximum destruction in April if it is dry and sunny. Flies chiefly destroy the spring rice transplanted late and the rice sown directly. The fields are heavily damaged by fly larvae and the rice withers gradually.

At present, the density of brown beetles is 5 to 6 per square meter in coastal areas such as Haiphong. Brown beetles cause heavy damages at the end of the rice season if it is hot and muggy and there are showers.

To protect the fifth month-spring rice and allow it to grow well, the cooperatives must regularly visit the fields (once every 5 days) to discover harmful insects and diseases and timely take preventive and control measures. Fields where the good green rice is overgrown and

lodged should not receive more nitrate fertilizers but should be fertilized with more lime powder or potash to make the rice plants firm and more resistant to diseases.

With fields affected by root choke, one should drain some of the water, pull weeds out, turn up the mud and fertilize with well-rotted stable manure. In acid-soil areas, one may fertilize with lime powder (200 to 300 kilograms per hectare) or kitchen ash. If the fields are such that water cannot be drained, one should increase the frequency of weeding and mud upturning.

As for yellow rice stem borers, leaf folders and flies, when hatching larvae are discovered one should immediately spray [Russian: Vofatoks] metaphos [mixed with water in a proportion of] 1/1000 or 30+9 de-te-gam [Vietnamese phonetics] suspension diluted [in proportion of] 1/300 or 1/400 or ba-su-din [Vietnamese phonetics] [mixed with water in proportion of] 1/600. Each hectare should be sprayed with 600 to 800 liters of the mix. One may use lanterns to trap butterflies as they mature.

In locations where brown beetles have just sprung up, one should use substances such as those used to prevent and control rice stem borers to prevent them from spreading broadly. One may apply drops of fuel oil or kerosene to wet rice fields; beetles falling in the water will be impregnated with oil and die.

Hanoi Domestic Service in Vietnamese 1100 GMT 13 May 78 BK

[Text] At present 19,000 hectares of 5th-month spring rice crop in Ha Nam Ninh Province have been affected by harmful insects. Agricultural cooperatives in the province have adopted many measures to control and prevent the blight from expanding to other areas.

Ho Chi Minh City Domestic Service in Vietnamese 0500 GMT 23 May 78 BK

[Text] In the past week, leafhoppers have appeared in many rice fields where the summer-fall rice had been newly transplanted. Thanks to the regular care for rice plants, the local peasants have promptly saved more than 3,000 hectares and prevented leafhoppers from spreading to other rice fields.

Ho Chi Minh City Domestic Service in Vietnamese 0500 GMT 23 May 78 BK

[Text] Large areas of late winter-spring and newly grown summer-fall rice crops in Dong Nai Province have been affected by brown bugs. The most heavily affected areas are in Long Thanh District and Bien Hoa City.

The local peasants have adopted many measures to control harmful insects to save rice plants because of the shortage of insecticide.

Ho Chi Minh City Domestic Service in Vietnamese 1200 GMT 28 May 78 BK

[Text] On 26 May the Ministry of Agriculture urged southern provinces to accelerate the prevention and eradication of insects, particularly brown bugs, harmful to rice, the Ministry of Agriculture pointed out.

According to a forecast by the First Vegetation Protection Station, there will be an outbreak of leafhoppers by late May.

This is the first outbreak which must be taken seriously by the peasants. The leafhopper problem will continue throughout the whole summer-fall and 10th-month rice crops.

Although the rice area affected by leafhoppers is now small, this outbreak is very grave. Therefore, we must concentrate on quickly eradicating leafhoppers right from their initial outbreak.

The Ministry of Agriculture urges all agricultural offices to pay constant attention to and plan necessary leadership and implementation for the prevention and eradication of harmful insects, especially brown bugs, in order to protect cultivated areas.

As an immediate goal, these offices must provide satisfactory guidance for the following activities:

1. Widely and fully applying the general program for prevention and eradication of insects harmful to rice, and properly applying all the brown bug prevention and control measures set forth by the Ministry of Agriculture in 1977 to the prevailing conditions of the localities concerned. We should not rely chiefly on chemical measures. Instead, we should mainly pay attention to measures applicable in the localities concerned. Such preventive measures as periodic inspection of rice fields and the use of pest-resistant rice varieties must be accelerated.
2. Actively eliminating harmful insects once and for all in the summer-fall season with the determination not to allow them to spread on from one growing season to another.
3. Continuing to establish and more satisfactorily manage and use vegetation protection networks, which are very important because they are responsible for quickly detecting insects' hiding places and forecasting (?the outbreak of harmful insects) to help provide guidance for their eradication, especially in the insect-ravaged areas. A strong vegetation protection network must know how to make economical use of insecticide and sprayers, create favorable conditions for its subordinate

stations to keep track of the situation concerning harmful insects, especially brown bugs, and quickly circulate information on this situation from hamlet to village, district and provincial levels.

4. Providing insecticide and sprayers in time for areas which need them so as to insure good economic and technical results. It is necessary to make full use of the various types of existing pumps of the peasants, and provide guidance for the collectives in the use of these pumps in a spirit of solidarity and mutual assistance in production. With regard to insecticide, sprayers and [words indistinct], it is necessary to combine closely their distribution with their use in order fully to exploit the efficient use of these materials. We must give top priority to distributing insecticide and sprayers to the areas where brown bugs are highly concentrated and where high-yield rice varieties are sown.

Oil, gasoline and kerosene can also be effectively used to eradicate moths and insect larvae. The agricultural services will have the responsibility of handling the quantity of petroleum that the premier's office and the Ministry of Materials have set aside for use by the agricultural sector and using it for no purposes other than preventing and eradicating brown bugs harmful to rice.

Hanoi NHAN DAN in Vietnamese 28 Mar 78 p 2

[Excerpts] The northern provinces have essentially completed the transplanting of the 5th month-spring rice. However, a small amount of the rice acreage has not developed normally. A field inspection showed rice blast and root suffocation disease on about 7 percent of the acreage in Binh Tri Thien and 11 percent of the acreage in Nghe Tinh. In the provinces of Ha Son Binh, Thanh Hoa, Ha Nam Ninh, Ha Bac, Thai Binh, Vinh Phu, Hai Hung, and Hanoi city the root suffocation disease is quite widespread on the rice acreage. Furthermore there have begun to appear yellow flies and small leaf curlers, which have damaged rice to a greater degree than the same period last year.

Ho Chi Minh City Domestic Service in Vietnamese 1200 GMT 29 May 78 BK

[Text] Many late winter-spring and summer-fall rice areas in Ben Cat, (Thuan An), (Tan Uyen) districts and in the cities of Song Be Province were affected by brown flies. All provincial party and administrative echelons and agricultural offices adopted many measures to eliminate the flies. Thanks to prompt action, they saved 4,000 hectares of rice in these localities and successfully controlled the spreading of the blight to other localities.

Hanoi Domestic Service in Vietnamese 0530 GMT 1 Jun 78 BK

[Text] The Vegetation Protection Department recently sent cables to various localities informing them of the appearance of brown flies in several localities, causing heavy damages to crop areas in Ha Bac and Ha Son Binh provinces and Haiphong suburbs. It urged localities to intensively inspect rice fields, quickly reap ripe rice and immediately neutralize any pockets of flies with chemicals.

CSO: 5400

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