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## WORLD EPIDEMIOLOGY REVIEW

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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

### ALBANIA

#### DEVELOPMENT OF HEALTH CARE IN FIVE-YEAR PLAN DISCUSSED

Tirana SHENDETESIA POPULLORE in Albanian No 1 (Jan-Feb-Mar) 77 pp 3-6

[Unsigned article: "Let Us Mobilize All Our Energies to Achieve the Objectives of the Sixth Five-Year Plan in the Matter of Protection of the People's Health"]

[Text] The Seventh Congress of the Albanian Workers Party opened up broad prospects for further all-round progress for the sector devoted to the protection and strengthening of the people's health, as for the whole life of our country. Having studied and gone deeply into the materials of the Congress and especially the historic speech delivered to it by Comrade Enver Hoxha, the health organs in the center and the districts have analyzed the principal tasks set for them in achieving still better results in their future work.

Our health has made great progress from one five-year plan to the other. The Fifth Five-Year Plan period has been chiefly a period of further strengthening of preventive medicine, of stabilization and expansion of the health institutions both in town and in country, the establishment of a whole army of physicians and midwife-nurses in the rural areas, particularly to strengthen health service to mother and child; in the Fifth Five-Year Plan the groundwork was laid for a more systematic protection of the environment against pollution; there was a general decline in nearly all nosologies and the number of cases of contagious diseases; there was a rise in the level of work of a scientific research character in many fields of health.

The health workers, like all other workers in our country, have set to work to perform to the best of their ability the great tasks facing them in the Sixth Five-Year Plan. The directives of the Seventh Party Congress on the Sixth Five-Year Plan for the development of the economy and culture of the

People's Socialist Republic of Albania for 1976-1980 state: "Developing and expanding health service still more, especially in the countryside, we must strive to enforce preventive measures and popular hygiene, improve the service for the preservation of the health of mother and child in order to avoid infectious diseases, as well as to elevate sanitary education. The health institutions must achieve a further improvement in service to the sick and increase the efficacy of medical measures."

The development and expansion of health service, especially in the countryside, during the Sixth Five-Year Plan will be watched over in both its aspects: prophylactic-hygienic and curative.

With regard to the first aspect, the hygienic-sanitary measures will be expanded and strengthened by giving a greater impetus to the further hygienization of the country. The experience accumulated in this field, especially since the Plenum of June 1963 and the 11th Plenum of the Party Central Committee, is a sound basis for vitalizing still further the movement for hygienization in all directions, especially in the countryside. The initiatives that have been and are being taken by the health workers of Mirdite, Tirana, and so forth are aimed at improving hygiene, making more efficient use of the help and support of the mass organizations, the rural intelligentsia, and especially the educators. The objectives are clear: clean dwellings; well-ordered kitchens; hygienic cesspools; the final removal of livestock, of personal farmyards, to collective stables; provision of drinking water; good functioning of socio-cultural projects, especially baths and laundries, ovens, nurseries, pavement of streets, and establishment of small parks within the village; further improvement of personal hygiene, mass and family nutrition, and so forth.

As regards the second aspect: the existing institutions will be utilized with due intensity, the itinerant service in the health centers will be strengthened and expanded, and the stomatological and pharmaceutical services will be expanded. The majority of cadres graduating from the medical faculty and the secondary medical schools in this five-year plan will be located in the countryside.

In enforcing the preventive and mass hygiene measures, efforts will be made to cause the idea of prophylaxis to penetrate still deeper into all branches of medicine. A further impetus, on the basis of the experience gained in the last 2 or 3 years, will be given to the protection of the environment against pollution; studies will be made regarding the discharge of the products of the chemical, petroleum, metallurgical, textile and other industries into the air, the ground and the water, and the activity of the sanitary organs will be better coordinated with the government departments concerned. Scientific sessions are planned in various areas of the country, which will set the pace for an aktiv of a national character for problems of environmental protection.

Medical service in the work centers will also undergo a good development. The work of the physicians will be expanded and deepened with regard to the prevention of occupational diseases, with emphasis on the systematic

dispensarization of certain diseases which most concern our physicians in these fields. In particular, a study will be made of pneumoconiosis and occupational skin diseases. Special importance will be attached to the post-university qualification of physicians working in the work hygiene and occupational disease sector.

The fight against contagious diseases will occupy an important place in the work of all types of health institutions. Among these diseases, special attention will be devoted to viral hepatitis. By the end of the Sixth Five-Year Plan extensive work will have been done to eradicate dermatomycosis. With the organizational-technical strengthening of the laboratories for contagious gastro-intestinal diseases, cases of these diseases will be followed more closely, with special consideration for the detection and treatment of bacillus carriers.

The Institute of Hygiene and Epidemiology will improve in all respects the indices of the production of vaccines and other immunobiological preparations, deepening and expanding the process of lyophilization or freeze-drying for those preparations with which it is possible. The Institute, together with the directorates of hygiene and epidemiology in the districts, will expand its study activity in the sphere of labor hygiene, nutrition, communal and school hygiene, by organizing scientific sessions and symposiums and by publishing studies for the various hygiene and epidemiology sectors.

The improvement and expansion of mother and child health service will be the chief concern for the health workers of the country. With the very favorable indicators that we have achieved thus far in the great expansion of health institutions and the increase in the sector's health cadres, all the possibilities have been created for us to achieve, by the end of the five-year plan, a great improvement in all the indicators, especially the demographic ones, and particularly the index of infant mortality. More intensive work will be done especially in those districts where this mortality is highest, by taking appropriate organizational and technical measures, further strengthening the medical service and requiring and obtaining cooperation with the rural mass organizations.

Scientific research will be further deepened in various areas of the country on dystrophy and rickets; generalizations will be made on the physical development of children of different ages, beginning with the first year; and so forth. Special attention will be paid to the problems of perinatal mortality, premature birth, resuscitation service, and so on.

In view of the admonition of Comrade Enver to the Seventh Party Congress to bring about a greater development in such sciences as mathematics, physics, genetics, physiology, in the framework of general genetics and in cooperation with other sectors as well, the first studies will be made in the field of human genetics as well.

In the curative medicine sector during the current five-year plan more thorough studies will be made on general morbidity in both town and country and, on the basis of those studies, conclusions will be drawn about the further development of this branch of medicine.

During this five-year plan too, there will be a further deepening of itinerant work, home medical assistance, urgent aid, and so forth. There will be more intensified treatment of patients with gastrointestinal, cardiovascular, nervous, endocrinal and psychic disorders, with contagious diseases, and so forth. Studies will be organized on a broad scale regarding hypertension and myocardial infarcts and concerning renal calculosis (kidney stones); these studies will be reported in scientific sessions and special symposiums. Scientific studies will also be made in other branches of medicine such as surgery, neuropsychiatry, otorhinolaryngology, obstetrics, subjects of a theoretical nature, and so forth.

During the five-year plan a continual effort will be made to further raise the quality of work and the services on the basis of more intensive and systematic work by the higher, medium and lower level medical cadres for their ideological education and their technical-professional qualifications, and a persistent fight will be waged against petty-bourgeois manifestations, intellectualism and bureaucratism.

Steps will also be taken in our pharmaceutical industry. The range of the products of this industry will be increased as a result of the more thorough knowledge of our medicinal plants and their processing on a more scientific and advanced technical basis. During the five-year plan the first antibiotics with an Albanian trademark will be put into use. Consideration will be given to the possibility of exporting medicinal plants in the form of processed drugs, not just in their natural state. In cooperation with the ministries of light industry and commerce, consideration will be given to the possibility of producing domestically leucoplast, bottle stoppers for various purposes, medicine droppers, and so forth.

During this five-year plan efforts will be made to learn, collect, select and test in laboratory and clinic many methods of popular medicine both by the Institute of Popular Medicine itself and by the groups working on this problem in the districts.

The plant for the production of electromedical apparatus will also make efforts to produce new apparatuses and spare parts that have hitherto been imported.

Health propaganda in all its aspects will also undergo a greater expansion. It will be organized better in all its links, will have more small, illustrated publications, more radio and television health propaganda, more brochures for the people. There will also be further development of the publication of books for the medical cadres, such as special studies, monographs, magazines and medical bulletins, and so forth.

From what has been said above it may be seen that the objectives to be attained by our health service by the end of the current five-year plan are not easy, but they will be attained and will become a reality because the health workers, under the guidance of the party headed by Comrade Enver, will mobilize all their energies to place them in the service of the people's health.

#### ARGENTINA

##### CASES OF HEMORRHAGIC FEVER IN SANTA FE PROVINCE AND CORDOBA

Buenos Aires LA RAZON in Spanish 8 Apr 77 p 4

[Text] Rosario--The Argentine Agrarian Federation expressed its concern about the proliferation of the cases of hemorrhagic fever registered in the past few days in some agricultural areas, especially in Ramallo, where nine persons, two of whom died, have been afflicted to date. The affiliate of the mentioned entity in Villa Ramallo, jointly with the municipal Public Health Secretariat, has undertaken a series of meetings to divulge preventive measures against the disease, under the direction of professionals in that field. There will be meetings at the El Paraiso station and Villa Ramallo on the 11th of the current month, and at the place named El Cruce and Perez Millan on the 15th. There will be also talks for the students in the schools of the area, in which advice will be given to avoid contagion, as well as measures to take as soon as the first symptoms of the disease begin appearing.

Buenos Aires LA RAZON in Spanish 13 May 77 p 12

[Text] Rosario--Four cases of hemorrhagic fever, or stubble sickness, were registered in the area of Bigand, 103 kilometers from Rosario. According to information furnished by the police headquarters of Casilda, the patients are Juan Carlos Ramos, age 31; Luis Galvan, age 35; Humberto Palmieri, age 37; and Jose Marci, age 30, all of whom were taken to the specialized center operating in Pergamino for immediate medical treatment. The public assistance director of Bigand requested the Ministry of Social Welfare of Santa Fe Province to spray the rural areas to prevent the outbreak from spreading. In like manner, hunting has been banned in Caseros Department as an emergency measure, in order to prevent elimination of species which prey on rodents which are carriers of the disease. Another case of hemorrhagic fever was detected in the rural area of Bombal, Villa Constitucion Department, 118 kilometers from Rosario, and several cases, two of whom died, were recorded some time ago in the area of Ramallo, also close to Rosario. These cases of hemorrhagic fever show that the disease is spreading with every passing year to other areas of the south of the province of Santa Fe and, in the cases mentioned before, to the very doorstep of Rosario, something which seriously concerns the authorities and the professionals devoted to the study of this

sickness which appeared for the first time in the area of Junin in 1953, for which reason it is also known as the "Junin virus." A research center operates precisely in that city of Buenos Aires Province, and another in the city of Pergamino. Investigations have increased to find a vaccine to counteract the disease which has produced many victims and makes its appearance at this time of the year.

Buenos Aires LA PRENSA in Spanish 1 Jun 77 p 9

[Text] Santa Fe--Dr Nestor A Lammertyn, the provincial undersecretary of public health, referred to the problems concerning persons suffering from hemorrhagic fever in Constitucion Department during a press conference. He said that cases of the disease in question were confirmed during a recent visit made with other functionaries of the area to the town of Alcorta, in the mentioned department. He noted, however, that those figures are the ones commonly registered in the area at this time of the year, which does not mean, he said, that proper sanitary measures have not been adopted. After warning "about the danger of stirring up a real psychosis by exaggerated reports of the number of patients," he ended his exposition by asserting that the number of suspected cases totals 86, of which, he anticipated, at least 40 percent can be discounted.

In Rosario

Rosario (Santa Fe)--A second fatal case caused by the so-called stubble sickness reportedly occurred in the town of Alcorta, south of Rosario. According to the information obtained, it is Oscar Scramona, a 27 year old Argentine residing at the Rivadavia y Espana St of that town, who died this weekend while being treated for his illness. The victim was taken to the town of Chabas, where his remains were interred.

With the demise of Scramona, the deaths caused by that disease in the southern area of the province of Santa Fe number four.

In Cordoba

Cordoba--While there has been no official report to date, it was found out that there are several persons afflicted with the stubble illness. The disease had been detected within a radius of 100 kilometers of Villa Maria, the town of Etruria being the most affected with 21 cases, and the town of Santa Eufemia reportedly having three deaths from the same disease.

Other cases were supposedly registered in Laborde, Pascanas, Los Ciens, La Carlota and Alejandro. The patients were treated at the medical aid centers of La Carlota, Laboulaye and this capital, while the more serious cases were transferred to the specialized institutions of Junin.

#### PEDICULOSIS OUTBREAK IN BAHIA BLANCA

Buenos Aires LA RAZON in Spanish 18 Apr 77 p 4

[Text] Bahia Blanca--Some 1,500 school-age children of both sexes are being afflicted in this city by a persistent outbreak of pediculosis. Pediculosis, after the parasite commonly known as louse, is an infestation which is easily spread through human contact, above all in school assemblies. The principals of several institutions individually notified the parents or guardians of students to adopt preventive measures in this emergency, keeping in mind that the school buildings are disinfected. The sanitary authorities began an operation in the institutions of the environs equipped with 1,000 bottles containing 100 cubic centimeters each of a substance prepared on the basis of gamexane or DDT, to be applied to the scalp of the victims and, coupled with a repeated hygienic campaign in the sector, to eliminate the bothersome vermin which produce intense itching which can result in "scratch sores" and even infections. Never before has this infestation been this bad in Bahia Blanca and its environs.

#### PREVENTIVE MEASURES TAKEN AGAINST CHAGAS DISEASE

Buenos Aires LA NACION in Spanish 30 Mar 77 p 5

[Text] In order to prevent the Chagas disease infection produced by the transmission of the parasite in blood transfusions, the Public Health Secretariat has acquired 3,392 "apirotransfusors" with crystal violet additive. This preventive plan contemplates the purchase of another 10,000 to be distributed among the hemotherapy services of the areas most affected by Chagas disease, which will make it possible to break the transmission chain of the parasite in this type of situation.

The communique indicates that the possibility of contracting the infection through blood transfusion exists throughout the country, but in areas where the endemia is low or nonexistent, the blood of donors whose preliminary analysis reveals the Chagas disease infection can be eliminated. On the other hand, in those areas where the percentage of donors with Chagas disease infection is high, the blood can be treated with drug additives which, as in the case of crystal violet, have proved fully effective in the destruction of the parasite. It is added that the studies which were conducted proved that the addition of the drug does not affect the viability of the transfused red corpuscles.

Buenos Aires LA NACION in Spanish 11 Apr 77 p 6

[Text] Cordoba--With funds provided by the provincial Ministry of Social Welfare and with the cooperation of the Air Force, supplies of mercaptothion, a product intended to combat the vinchuca bug, were distributed in different places of the province under a program of preventive action against Chagas disease.

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More than 15,000 tons of the mentioned product costing 16,927,000 pesos were distributed. The Argentine Air Force provided the vehicles which transported the insecticide to locations in the province designated by the Ministry of Social Welfare.

It is well to point out that mercaptothion is the most commonly used product in the fight against the vinchuca bug at the present time.

Buenos Aires CLARIN in Spanish 16 May 77 p 18

[Text] Catamarca--The acute problem posed by Chagas disease in the Argentine environment has prompted a special concern in the state sanitary area, although it has not always been concretely translated into a permanent and fundamentally generalized action.

An outstanding fact within that scene is represented by the investigations undertaken by the professionals of the Institute of Scientific and Technical Research of the Armed Forces (CITEFA) to eradicate the vinchuca bug. The outline of this new attempt is being experimentally implemented in the villages of Concepcion, San Pedro, Capayan, Hullapima, Chumbicha, Poman and La Merced, in the province of Catamarca, as part of the plan entitled Residential Triatomic Disinfection.

The program conforms to the scientific concepts formulated by the CITEFA and counts on the operational support of the Fumigation Brigade of the Chagas National Service of Catamarca, financed by the National Council of Scientific and Technological Research and the State Secretariat for Science and Technology.

Chagas disease displays a persistent index in the Catamarca area, and Dr Carlos Bravo, the provincial chief of the national service to combat that disease, explained without reservations: "In Catamarca, epidemiology discloses the significance of the Chagas endemia in extent as well as in depth. It could be established that the dispersion of the vector in our environment is 100 percent, and there are several propagation factors."

This correspondent was able to observe "in situ" the campaign which is being waged in Catamarca. The fight against the insect is usually conducted by residential fumigation with gamexane, a product which does not possess all the insecticidal requisites despite its high residual value. Consequently, the brand-new experience of disinfection seeks to alleviate those deficiencies and attempts to repeat the successful laboratory tests performed with methyl bromide, a gas which has proved 100 percent lethal against the vinchuca bug and its eggs, when exposed for 2 hours to a concentration of the poison in the air of 1 percent by volume.

Airtightness of the dwellings is necessary to attain those values, and in the case of the insecure homes of the Northwest, they are covered with plastic tarpaulins which create that truly toxic mini-environment at the site and the surrounding area. The concentration attains the established values for 2

hours, and the methyl bromide proceeds with its high ovicidal power, the job of killing the insect and the extreme penetration which makes it possible to act in the most difficult places.

This most recent method also attempts to control the internal migration of the transmitting agent by checking the means of transportation at strategic locations on motor, rail and air routes. In sum, a definitive and real hope to make it possible to control a veritable scourge.

Buenos Aires LA NACION in Spanish 27 May 77 p 5

[Text] Dr Diego J Carpintero, who is in charge of the sanitary entomology section of the Bernardino Rivadavia Argentine Museum of Natural Science, referred to the inconsistent attention paid to the problem of the Chagas-Mazza disease. He maintained that "the best that can be done is prevention by means of popular education, census of patients, follow-ups on patients and other similar measures."

He said that "never like at the present time has there been a number of so favorable and encouraging circumstances which enable us to foresee over the near term the concretion of a national program which will constitute the beginning of the end of the Chagas-Mazza disease in Argentina." He urged that use be made of the experience of the WHO in preventive medicine, above all in the campaigns conducted in regions similar to ours. He specifically proposed to use a mobile medical unit as the basic element of the struggle, given the geographic and demographic conditions of our country and the particular characteristics of the endemic Chagas disease.

Continuing with that subject, he maintained that each center or subcenter should operate with a minimum of one medical vehicle, which in turn will have to be equipped with a laboratory under the supervision of a biochemist, a clinical doctor's office run by a cardiologist, and abreuography equipment operated by a radiology technician. He asserted that with a single provincial combat center and two properly equipped mobile units, the greater part of the rural settlements, which represent 90 percent of the inhabitants of the area, can be controlled within 8 months at the most. "No other control strategy," he concluded, "can surpass the one that I have described in capability to reach each inhabitant, efficiency, low cost and excellent results for the purpose of eradicating the Chagas-Mazza disease."

#### AUSTRALIA

##### VICTORIA'S TYPHOID OUTBREAK INCREASES

Brisbane THE COURIER-MAIL in English 18 May 77 p 2

[Text] Melbourne--Victoria's typhoid outbreak has put 104 people in hospital and 34 patients have now been confirmed as typhoid cases.

Victoria's Assistant Chief Health Officer (Dr Graham Rouch) said all patients were in a satisfactory condition and his department's main task now was to determine the 3 percent of cases who become dormant carriers of the disease.

It was also announced yesterday that the Eastland shopping center sandwich bar, which was the source of the outbreak, had been cleared to re-open after tests on the premises and staff had proved negative.

A woman, 60, who worked in the bar and had been a typhoid victim in England in 1949 was traced as the cause of the outbreak.

## BRAZIL

### LEPTOSPIROSIS, HEPATITIS OUTBREAKS ANTICIPATED IN RECIFE

Rio de Janeiro O GLOBO in Portuguese 4 May 77 p 8

[Text] Recife--"The outbreak of leptospirosis is inevitable, above all because the people not always follow the advice of the Health Secretariat to avoid coming in contact with flood waters as much as possible," said yesterday Secretary Pedro Veloso Costa, who is also expecting an outbreak of hepatitis and the appearance of diseases "such as intestinal disorders" among the victims of the floods of the Capibaribe River.

Veloso Costa emphasized that leptospirosis always crops up in a proportion of an epidemic outbreak after inundations, "and that has been happening with the floods subsequent to that of 1964." But he affirmed that the Health Secretariat has the medicines to treat the patients "who undoubtedly will turn up within the next few days."

### Vaccination

The Health Secretariat received yesterday the 100,000 doses of anti-typhoid vaccine sent by the Drug Center (CEME), and it started immunizing the victims in all the shelters. Flood victims with infectious-contagious diseases who were lodged in the Pernambuco Civil Defense Commission (CODECIPE) shelter, possibly subjecting other persons to contagion, were also isolated yesterday.

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 20 May 77 p 12

[Text] Recife--Another five persons suffering from leptospirosis, the transmissible disease which attains a high index in Recife following the floods of the Capibaribe and Beberibe rivers, were admitted to the Getulio Vargas Hospital in the past 24 hours, raising the number of victims throughout the state from 76 to 85.

In the opinion of sanitarian Joao Lima, of the Epidemiology Coordination Office of the Health Secretariat of Pernambuco, that small increase in the number of cases of leptospirosis in a 24-hour period indicates that the trend is now toward a big drop in the number of hospitalizations, seeing that the incubation period of the disease (19 days at the most) ended yesterday.

Epidemiologist Luiz de Gonzaga Virgolino, of the Amaury de Medeiros Health Foundation, reminded that "starting today, the cases of leptospirosis which might occur in Pernambuco can no longer be attributed to the contamination of flood waters which took place on the first two days of this month."

#### FIRST PHASE OF POLIO IMMUNIZATION CAMPAIGN ENDS IN RIO

Rio de Janeiro O GLOBO in Portuguese 6 May 77 p 8

[Text] In the first phase of the intensive immunization campaign against poliomyelitis (infantile paralysis) concluded yesterday in Rio, 273,701 children were immunized. Today vaccination work is returning to normal in 23 municipal health centers, because 80 field clinics will no longer be operating.

The schedule for the health centers is from 8 to 12 a.m., except in Flamengo, Praca da Bandeira, Copacabana, Lagoa, Tijuca, Penha, Madureira, Jacarepagua, Bangu, and Campo Grande which are open in the afternoon.

The director of the General Department of Public Health, Eloadir Pereira da Rocha, said that the second phase of the campaign is being readied for 27 June to 8 July. He explained that it will take 10 days, because in addition to the second dose of polio vaccine, measles vaccine will be given.

The day before yesterday, in Caxias, 15,614 children were vaccinated. The vaccination program ends today in this municipality at 30 clinics, and an attempt is being made to reach 68,870 of the infant population. Next week, the Government Secretariat of Health is vaccinating on Monday and Tuesday, 22,510 children in Petropolis, 19,070 in Mage, and 9,990 in Teresopolis, totalling 51,570 children. The Secretariat's calculations, taking as a base 80 percent of the children from 2 months to 4 years, it is believed "it can then be assumed that 20 percent of the children will have been immunized."

In these three municipalities, 52 clinics will be operating--12 in Teresopolis; in Mage and Petropolis, 20 each. On coming Wednesdays, Thursdays, and Fridays, 60,880 children will be vaccinated at 40 clinics in Sao Goncalo and 10,460 in 11 clinics in Itaporai, totalling 21,340 children.

RUMOR OF BUBONIC PLAGUE OUTBREAK IN NOVA IGUACU DENIED

Rio de Janeiro O GLOBO in Portuguese 11 May 77 p 16

[Text] Four people hospitalized with two dead in the same family in less than one month gave rise to the rumor of an outbreak of Bubonic plague or Typhoid fever in Nova Iguacu.

Actually, Roberto de Almeida Rabello, 20 years of age, died last May 7 with symptoms of leptospirosis (a disease transmitted by bacteria found in rat urine). An unsigned note of the doctor who treated him in the Pedro Ernesto hospital, however, confirms only that the "hemocultures (blood examinations) collected were positive for salmonella." Salmonella is another type of bacteria and if it were of the typhoid genus it would produce typhoid fever. But the death certificate attributed Roberto's death to "postoperative shock and dehydration," in addition to "acute ulcerated enterocolitis."

One week before Roberto, his mother, Clerice de Almeida Rabello, was hospitalized in the Sao Miguel hospital, with symptoms resembling hepatitis that was never confirmed on examination. She was transferred from there, without a word to the family, to the Nossa Senhora de Conceicao hospital (Our Lady of the Conception) where she died less than 24 hours after her hospitalization. The death certificate, signed by Dr Paulo Cesar Barreto de Almeida, indicates only "acute respiratory insufficiency." Both hospitals are in Nova Iguacu and in Clerice's case they worked through an agreement with Ipase.

Roberto was hospitalized in Our Lady of Fatima hospital (25 April), and afterwards in the Iguacu hospital (27 April) where he was given treatment, according to his father, Sabino de Oliveira Rabello, "for influenza." On 29 April Roberto was transferred to the Pedro Ernesto hospital-through INPS-and later died following surgery.

During the time of his hospitalization, his two sons, Luis Roberto, two years of age and Roger, one year, presented symptoms of dehydration and were hospitalized by their mother, Rosangela da Silva, in the Prontonil (Children's hospital in Nova Iguacu). The children have now practically recovered but they will only leave the hospital when they can do without any medication, because of concern for their safety.

Last Sunday, two of Roberto's brothers felt feverish and complained of body aches. The father, now a widower, was alarmed and tried to enter them in the Pedro Ernesto hospital but the doctors assured him that there was no need to do so. Yesterday the two youths, aged 16 and 14 were brought to the Government Hospital dos Servidores for examination.

Complaints

The house in which the Rabello family lives, with the exception of Rosangela who went to the home of her parents, is near sewerage drains. There is also

no piped water in the region, and the inhabitants are complaining about the poor care in the Iguacu hospital.

As an autopsy was not performed on either Clerice nor Roberto, the same cause of death cannot be attributed to both of them. Neighbors feel that it can hardly be a coincidence, because no other house was afflicted, all of them being in similar precarious positions. The whole neighborhood is surrounded by dense forest and tall grass, which covers the sewers and shelters rats and mosquitoes. A doctor from the Public Health service visited the area yesterday and merely prohibited the Rabello family from using its well without first collecting water for examination. Sabino Rabello, with his other five children to care for, is counting on the good will of his neighbors to provide him with water from the city street pipes. The complaints of the Vila Nova quarter inhabitants raised the following sanitation problems:

--The people have nothing here. Only if they pay a tax. No one ever came to see them to talk about building a sewer or to start any work. But every year Cr\$900 in property taxes is imposed on this place which is falling down, said Sabino Rabello, pointing to his house.

--In Prontonil, Doctor Ely, who is taking care of Roberto's two sons, said that as far as the children are concerned there is no reason for alarm.

--They arrived with a below normal weight, in the same manner as 90 percent of the cases that come here. But they are recovering well and blood tests do not show any of these symptoms, he commented in referring to leptospirosis and thypoid fever. According to Doctor Ely, the incubation time for these bacteria is short--"under 24 hours" and mortality rates are actually high in the low-income population, because of malnutrition and the lowered resistance of the body to the disease.

#### PUBLIC HEALTH SERVICES TO BE EXPANDED IN NORTHEAST

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 22 May 77 p 39

[Text] Brasilia--Jose Carlos Seixas, the secretary general of the Ministry of Health, says that if the ministry had a much larger budget than it has now it would serve no purpose as long as there is no infrastructure in the country through which the funds could be applied in public health programs. For this reason, he says, the Ministry of Health has decided to create this infrastructure, by means of such projects as the Program to "Interiorize" Health and Sanitation Activities (PIASS).

Jose Carlos Seixas announced that the expansion of the network of basic public health services in the northeast will be initiated in September, through PIASS, which was established by the government last year, with a total allocation of 4 billion cruzeiros. The program is planned to end in 1979. Its major goal is to act to solve minor health problems--public or domestic--in locales with up to 20,000 inhabitants, contained in the belt from Minas Gerais to Maranhao.

The secretary explained that he does not yet know how many health posts will be set up by the PIASS, as each northeastern state is presently making a study of its needs. But it is foreseen that an increasingly complex network of mini-posts will be established. From now on, they will be known only as "posts," "because 'mini' calls to mind a small thing, a diminutive, as in 'mini-skirt' or 'mini-blouse,' etc, and as quite a large volume of work is performed in these posts, it is not mini-work," Minister Paulo de Almeida Machado said.

According to Seixas, the philosophy of the PIASS is within the framework of the many public health services throughout the world, carried out by the state network, because it also provides for the participation of the community, of small medical institutions and even private, profit oriented ones, as they answer the increasingly complex needs. The program will coordinate projects in specific areas and, until 1979, should take care of the 80 percent of the northeastern population that is without basic health services: water, sewers, medical and hospital care, etc.

After surveying the establishment of these projects in four states, Rio Grande do Norte, Paraiba, Piaui and Cearra, Sexias saw the situation as as reasonably good, because all of them have already appointed a permanent and exclusive technical corps to act with PIASS, a prerequisite for the allocation of funds.

The secretary general of the Ministry of Health says that the sporadic [nature of] public health care will end, to the extent that PIASS is installed. According to him, the present method begets distortions, because "not just the doctor handles and is competent to resolve the minor problems in the health area," as presently occurs where the State Secretariats of Health themselves help out, maintaining mobile services. [Sentence as published.]

The secretary recognized the good intent of the PIASS, in attempting to reverse the order of priority of the health sector needs, as they have been considered up to now. These needs can be summed up in five items: promotion [education], specific protection [immunization], early diagnosis and prompt treatment, disability and rehabilitation. The last three items constitute the purposes of curative medicine, and will be given priority.

#### FEEMA TO INITIATE RODENT CONTROL EFFORT IN RIO

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 7 May 77 p 19

[Text] In an area of 12 kilometers in the first construction lengths of the Carioca metro, experts from the Government Engineering Foundation for Environment (FEEMA) found more than 4,500 sites of rat infestation, a fact considered very serious but not alarming for the population, Foundation advisors yesterday explained.

In order to prevent the spread of these sites, FEEMA yesterday signed an agreement with the Metropolitan Company, and a massive attack on rats should begin

in the next few days with the placing of special anticoagulant bait that practically dessicates the animal in a maximum period of 4 days.

According to FEEMA the rodent problem is hardly limited to Rio de Janeiro but also exists to a distressing degree in Sao Paulo, Brasilia, and even in the large foreign capitals as, for example, New York and Paris. They recalled, moreover, that in its first days of operation, the Sao Paulo metro was significantly damaged, because the rodents destroyed fabrics and furnishings. Telerj in Rio is subject to the same problem. The anti-rodent campaign along the length of the Carioca metro is to be carried out now to prevent it from becoming worse in the future.

According to the agreement, FEEMA is to receive a total of 3.8 million cruzeiros and four adapted vehicles. Twenty-three technicians are being hired who will use an already determined technique: rodent elimination for a distance of 150 meters in the lengths already built, 300 meters in those under construction, and 1,000 meters in the areas where demolition is still proceeding.

Rio de Janeiro O GLOBO in Portuguese 21 May 77 p 14

[Text] There are 14 rats per inhabitant in the city of Rio de Janeiro, and there already exist rats of the size of cats in the South Zone. The disclosure was made yesterday by Prof Manoel Ferreira, a doctor who is the superintendent of the Evaluation and Research Unit of the Ministry of Health. He also warned about the potential danger which such a number of rats represents to a city like Rio, explaining that besides being a factor in the transmission of bubonic plague, rats contaminate and destroy food. Prof Manoel Ferreira made the statements while lecturing to students of Brazilian problems during the Seventh Science and Culture Forum of the Federal University of Rio de Janeiro.

#### FOUR MENINGITIS CASES REPORTED IN CARLOS CHAGAS HOSPITAL

Rio de Janeiro O GLOBO in Portuguese 10 May 77 p 14

[Excerpts] Four cases of meningitis took place in 6 days in the nursery of the Carlos Chagas State Hospital, which has led officials to the conclusion and the announcement that that section of the hospital is contaminated with the virus of meningitis. They consider that the trend favors the occurrence of new cases unless urgent measures are adopted. All the occurrences involved newborn babies between 3 and 9 days old. The babies were transferred to the Isolation Hospital of Caju. The afflicted infants are of poor parents, there even being instances of pregnant women who do not furnish addresses.

Dr Sebastiao Till, director of the Carlos Chagas State Hospital, confirms the occurrence of one case of meningitis in the institution under his charge:

"There was really one case of meningitis more or less a week ago, but, fortunately, it was not meningococccic. We took the precautions which the case required, sterilizing the whole area of the nursery and the maternity section. Afterwards, we expanded the disinfection to the delivery and post-delivery rooms. Following the incident, we use a chemical product for 40 minutes every day as a sanitary and preventive measure, and everything is under control."

Dr Till says that the patient was an abandoned infant being treated at the hospital.

"There are cases in which the patient, after being treated and sent to isolation, returns to the hospital for care. This a common occurrence. It can produce contagion without us being able to determine immediately their state of health. It must be remembered that the social stratum in the general vicinity of this hospital is rather low, and that affects the health condition, particularly of the children, who almost always are undernourished. In addition to that, we take care of innumerable persons who live in Caxias, Nova Iguacu, Queimados and the whole Rio Lowland. Isolated cases can occur, therefore, as it happened last year when four or five children turned up suffering from meningitis. When there are suspected cases of the disease, we treat them properly and immediately send them into isolation in Caju. Or we alert the parents or the guardians to watch over the reactions in order to examine them again if it is necessary."

Sebastiao Till explains that the spread is difficult to control, requiring in addition the cooperation of the families of the patients:

"The symptoms of meningitis are verified in the hospitals, but the disease does not originate there. The hospitals can record and confirm the disease, but they cannot ascertain how and where it originated. Therefore, it is necessary that at the appearance of the first symptom, the patient be taken to the closest hospital for correct medication and the implementation of the prescribed treatment. If the disease shows up again, return to the hospital and medicate once more. There must be continual and concerted action."

Rio de Janeiro O GLOBO in Portuguese 11 May 77 p 16

[Text] The three meningitis cases reported in the nursery of the Carlos Chagas hospital are of the B K group strains, considered the most benign form of the disease. The information is from Doctor Sebastiao Till, director of the hospital who said the problem was "completely under control."

Our fear was that the meningitis was of the meningococcal type--a bacillus difficult to control, but the Epidemiology Department of the Government Secretariat of Health, immediately alerted, has just delivered the results of examinations. This type of meningitis is easily controlled and therapeutic reaction is quick, hence there is no reason for alarm.

Meningitis of the B K strain is the most common type and according to Doctor Sebastiao Till, it is generally found in communities that do not practice the principles of hygiene. The mother of a newborn patient was tubercular, and the child acquired the bacillus from her. The child was immediately placed in isolation, and a short time later two more cases developed, both positive and one suspected.

The Carlos Chagas hospital made a monthly check of 600 births: daily there are about 20 newborn infants in the nursery. All the areas were sterilized in which prenatal cases and the newborn were treated. This included the nursery, the pre-delivery rooms, the delivery rooms, and the maternity wards.

#### ENCEPHALITIS IMMUNIZATION IN RIBEIRA VALLEY

Sao Paulo FOLHA DE SAO PAULO in Portuguese 10 May 77 p 18

[Text] The Health Secretariat of the state is going to start the first stage of vaccination against encephalitis in Ribeira Valley on the 28th. The inhabitants of the municipios of Pariquera-Acu, Jacupiranga, Iguape, Cananeia and Barra do Turvo should be vaccinated. Notwithstanding the existence of the Regional Hospital of Pariquera-Acu, which will serve as the base of operations for all the activities of the campaign, it is in these towns that the greatest incidence of encephalitis occurs.

With 150,000 doses of vaccine, the campaign will be carried out in three periods entailing one dose each. There will be a lapse of 7 days between the first and second dose, and of 21 days between the second and third.

"The Health Secretariat," said one of the campaign coordinators, "believes that one of the greatest difficulties to be encountered relates to the return of the people for the second dose. For that reason, we will activate with the aid of teachers, particularly those of communal schools, an educational program which, besides motivating the people in connection with the vaccine, will have the basic goal of demonstrating the need for getting the three doses of the immunizator in order that the protection received be more effective."

The task is being undertaken by a team of 24 vaccinators, 31 drivers and 5 coordinators equipped with 120 injectors. For that purpose, vaccinators from other cities were summoned, in addition to the human resources available at the Regional Health Delegation of Ribeira Valley.

#### Program

The concurrent sanitary education campaign will start in Ribeira Valley 15 days prior to vaccination, using the technical, administrative and auxiliary personnel of the entities involved in the program--community groups, leaderships, schools, and civic, religious and military organizations. Flyers will be distributed among the population, and loudspeakers and banners will

indicate the vaccination centers. In addition to that, the governor of the state can enlist the aid of other secretariats operating in the area.

During the campaign, the people will be informed about encephalitis, the need to receive the vaccine (all the doses) and the progress of the immunization activity.

#### Age Group

As to the children, only those over 3 years of age should be immunized because the incidence of the disease below that age is practically nil. Pregnant women up to the fourth month of pregnancy will not be vaccinated either, as a precautionary measure.

Vaccination will begin in Pariquera-Acu on 28 May, going on to Jacupiranga on the 29th, Iguape on the 30th, Cananeia and Barra do Turvo on the 31st.

#### ANTI-ENCEPHALITIS CAMPAIGN IN RIBEIRA VALLEY POSTPONED

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 17 May 77 p 20

[Text] In an official note containing a simple message of 60 words distributed to newspapers and television stations, the Health Secretariat announced that the vaccination against encephalitis in Ribeira Valley has been postponed. The disputed anti-encephalitis vaccination program, which was to begin on 28 May after more than 8 months of planning and weekly meetings, does not have a new starting date and, according to specialists connected with the organizations in charge of setting up the campaign, the real reasons for the postponement were not disclosed.

The communique of the Health Secretariat justifies the cancellation of the vaccination on the fact that the incidence of encephalitis has been much lower in 1977 than in the past 2 years--"no new case has occurred since 6 April"--without further explanations. It also adds that the technicians opted for the postponement with the intention that "the period of protection afforded by the vaccine will cover the time when conditions are most favorable to the transmission of the disease," that is to say, the summer.

In the meantime, no technician of the Health Secretariat was able to explain yesterday why those problems were not actually studied and defined during the months of extensive preparation of the program. When even the exact number of persons to be vaccinated--55,000 excepting children under 3 years of age and pregnant women up to the fourth month of pregnancy--personnel, doses of vaccine, equipment and vehicles had been already determined.

Although Secretary Walter Leser and Zelma Debert, chairwoman of the committee to combat arbovirolosis, who are in charge of the vaccination, spent the afternoon away from the secretariat and there was no one else to furnish the necessary information, it is known that the technicians were discussing the low

incidence of encephalitis in the past few months from the outset. Nevertheless, the fact that the indices registered only one case in April was not considered an argument against the start of vaccination but, on the contrary, as the precise moment for the start of a preventive program to avoid "surprises" such as the situation of the sporadic outbreaks in the area of the valley, where the disease is endemic. In addition to that, not even the specialists can guarantee that the low incidence of the disease is permanent.

On the other hand, the technicians already had amply discussed the month for the vaccination and, inasmuch as the incidence is actually greater in the summer, the most logical thing was for the population to be immunized during that period.

The announcement of the postponement of the vaccination took by surprise the very people involved in the program. In the absence of the secretary of health, his chief assistant, Olmar Salles de Lima, sought to justify the measure by reminding that despite all preparations, "a vaccination of that type resembles a major war, in which D-Day is always the last thing to be decided." The chief assistant warmed up to the comparison and asserted: "We are conducting epidemiologic studies in the area to determine the best date. But it seems that the cause of the war has disappeared for the moment--the enemy gave up in unconditional surrender."

In fact, several conjectures were proffered in other sectors to justify the delay of the vaccination. Some ventured to say that the amount of vaccine placed at the disposal of the secretariat by the Butanta Institute--180,000 doses--was insufficient. Others suggested that new viruses had turned up, against which the vaccine would be ineffective. And Secretary Walter Leser himself, located at the Bandeirantes Palace in late afternoon, recalled that the period of effectiveness of the vaccine is still uncertain, although the Japanese experience which guided its manufacture established a term of 1 year. Meanwhile, to those who are most closely associated with the whole process of setting up the program, another less important but significant hypothesis has come up: the Health Secretariat had reasoned at the last moment that prior to the start of that campaign of international significance--seeing that the vaccine is a Brazilian product totally developed at the Butanta Institute in Sao Paulo--it would be convenient to notify the PAHO and the Ministry of Health itself, which up to now have been set apart from the whole process.

#### MEASLES OUTBREAK IN RORAIMA TRIBE

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 12 May 77 p 25

[Excerpt] A measles outbreak reported in the last 60 days has killed 60 Ianomanis Indians living in the Rio Catrimani region in Roraima, and it is threatening to wipe out a tribe of approximately 2,000. This information was released by a Funai official and by Father Joao Safira who has lived in the area for more than 13 years.

The outbreak began in early March when the Funai headquarters in Boa Vista suspended the measles campaign because of the death of doctor Vicente de Paulo

Paraense in an air crash. To date, despite the requests of Father Joao Safiro, the headquarters is functioning without a doctor to take care of the people's needs. Nevertheless, Jose Carlos Alves, the delegate who is still maintaining contact with Funai in Brasilia, guaranteed that in the next few days a medical team will be in the region.

Moreover, the disease has been reported for several weeks in several Macuxis Indians who live in the Surumu, Raposa, Xumina Napolsao and Ouraricuera regions. The symptoms presented are fever, vomiting, diarrhea, headache in the Macuxis who are being treated by doctors in the hospital units in Boa Vista. It has been reported, however, that the Macuxis outbreak is not very severe. The disease was probably caused by polluted river water.

The Macuxis Indians, the majority of them uncivilized, live in a rural region of Roraima and their huts are easily accessible, which is conducive to quick medical attention. But the Indians in the Ianomani group, the Waikas, Wapixanas, Xirianas, and others live in mountainous regions.

In Boa Vista at the Coronel Mota hospital in only one week, four Indians died. In the Nossa Senhora de Fatima hospital, run by the Roraima prelacy, six Indians are hospitalized but with good possibilities of recovery. Funai today should be sending a team to the Catrimani region to bring Indians in a worse state of health to Boa Vista by air.

#### MEASLES OUTBREAK AMONG INDIANS UNDER CONTROL

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 18 May 77 p 13

[Text] The medical team dispatched by the government of Roraima to the area of the Catrimani and Lobo D'Almada rivers, in the southeast section of the territory, already have brought under control the outbreak of measles which in 60 days caused the death of 68 Ianomani Indians and threatened to exterminate the tribe of 2,000 individuals. An emergency hospital was set up alongside the BR-211 (North Perimeter) highway to take care of the most seriously ill Indians.

With the installation of that hospital, Jose Carlos Alves, the National Indian Foundation (FUNAI) delegate in Boa Vista, believes that it will not be necessary to bring any Indians to the Colonel Mota Hospital, in the capital of the territory, where an infirmary with 35 beds is at the disposal of the FUNAI. According to officials of the FUNAI Delegation, the disease was brought to the Ianomanis by whites who entered the area by evading the vigilance of the Catrimani Mission fathers. Those whites--known as "gateiros," or fur hunters, and even "mariscadores" [fishermen-hunters]--are hunters who habitually go down the Branco River and then up the Catrimani River during the summer, covering the whole area.

According to a report of the Brazilian Forestry Development Institute (IBDF), those hunters are guided by an Indian of the Tikuna tribe of the upper Negro River, in Amazonas. That Indian, named Jose Alfredo Ferreira and nicknamed Peruano, strayed from his tribe some years ago and went to the Roraima area of the Castanho Waterway, a tributary of the Catrimani River, where he married an Ianomani Indian woman. The Indian is considered to be one of the main wild animal fur traders, and neither the IBDF nor the FUNAI has been able to locate him to date.

The employees of the Health Secretariat reached the Catrimani River at 1145 hours Monday and walked about 20 kilometers through the jungle to the first village. There, a group of Ianomani warriors was performing a ritual for the purpose of warding off measles.

#### VACCINE SENT TO TYPHOID INFECTED AREAS OF PARAIBA

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 24 May 77 p 21

[Text] In order to control outbreaks of typhoid in the municipalities of Sertanejo de Souza, Cajazeiras, Mirauna, Nazarezinho, and Santa Cruz in the interior of Paraiba, the Government Health Foundation sent more than 30,000 doses of anti-typhoid vaccine to the region. As a result of the last floods that contaminated the public water supply, the problem became more acute in the first two cities but the sanitary engineers reassured the villagers that the situation was under control.

Simultaneously, the Government of Paraiba designated teams of technicians, made up of social advisers, nutritionists, and nurses to train the population in hygienic measures to prevent the spread of the disease.

#### Poliomyelitis

In spite of the denials of the Rondonia Secretariat of Health, six cases of infantile paralysis have already been confirmed in the region of the municipio of Guajara Mirim. Two patients were sent to Sao Paulo and Belem for examination. Three children were hospitalized in the San Jose hospital in Porto Velho. An official of the Health Secretariat arrived to investigate the death from the disease in Guajara Mirim.

According to the health officials these are the first cases of poliomyelitis that have occurred in the region in recent years, a fact that determined the sending of a technical team from the Evandro Chagas Institute in Belem to make a complete study of the health situation in the Guajara Mirim region that is near the Bolivian border.

## MALARIA REPORTED AGAIN IN UBATUBA

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 28 May 77 p 20

[Text] A focus of malaria in two locales on the northern coastline of the state--Ubatuba and Caraguatatuba--has been located by teams of the Superintendency for the Control of Epidemics--SUCEN--of the Secretariat of Health. The first case of the disease appeared in the locale of Ponta Grossa, Ubatuba, in the latter part of March, and it then spread to four other inhabitants, establishing the focus. In the course of that month, three other cases were reported, this time in the locale of Porto Novo, in Caraguatatuba.

According to an official note from the Secretariat of Health, there has not been an original case of malaria in that region for 15 years, as the area maintains a constant vigilance against the ailment. However, according to SUCEN technicians, "it must have been reintroduced in the area by some carrier coming from another part of the country."

The first measures to limit the focus have already been taken. Trained teams have been mobilized to reactivate immediately the measures against the endemic disease. After a thorough geographic reconnaissance of the localities in the region, treatment with insecticides was begun in the Ponta Grossa houses, and will be repeated in the other locations in the municipio of Ubatuba. In Caraguatatuba, the work has begun in the locations of Vapapesca, Travessao and Porto Novo. Because of the great number of houses--some 3,000--in the last named area, the technicians decided to apply the insecticide Malathion "at low volume," as the fastest method of action to combat the disease transmitting vector. In addition, a search for active and passive cases has been initiated in all locales along the coast.

## SCHISTOSOMIASIS CAMPAIGN TO COST 1 BILLION CRUZEIROS MORE

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 29 May 77 p 44

[Text] The Ministry of Health will need a minimum of one billion cruzeiros more before 1978 to complete the program for combatting schistosomiasis. It will attempt to increase the funds in the Northeast from 2.5 to 3.5 billion cruzeiros to carry out the plan. The information was released by the minister, Paulo de Almeida Machado, who today is completing inspection of the basic health program of the FSESP and of SUCAM in Sergipe.

Almeida Machado believes that the funds will only be won if the government's budgetary plans permit them. He admits, however, that obtaining these funds depends on whether his ministry can make an impression on those responsible for drawing up the budget. The health officials do not seem to be very optimistic. Almeida Machado says "in every country it is always difficult to make economists understand public health problems and to realize the importance of consigning a large amount of funds to public health."

The basic goal of PECF (Special Planning to Control Schistosomiasis) that is based on sanitation work and on special medical care for the population involved is to reduce the current figure for schistosomiasis cases by 10 percent before the end of the decade. Thus, in municipalities, like Carmopolis or Capela, inspected by the minister this past weekend, the cases reported this year, respectively, dropped from 77 percent to 56 percent, giving a 7 percent decrease.

Almeida Machado himself even admitted, however, that he has doubts that the next government would continue with plans such as this. After all, there are good reasons for this: almost none of his predecessors or contemporaries in the administration have dedicated a great deal of attention to public health problems. This happened especially in the government immediately preceding the Medici administration. Hence the ministry's concern in finishing the work before the end of the Geisel Government and its concern in admitting to Almeida Machado's advisors that they must discontinue a program that is irreversible.

On the minister's visit to Sergipe, little optimistic data, such as that on Carmopolis, was presented. In one of the districts of the municipality of Oiterinhos, 83.8 percent of the people suffer from schistosomiasis. Bom Jardim, a subdivision, beat this record: 100 percent had the disease. Even in the heart of the municipality of 4,550 inhabitants, 76.8 percent have schistosomiasis. The work that FSESP and SUCAM are carrying out will only show results over a medium- or low-term period. The ministry is building bathrooms and sanitation systems in almost every house in the populated centers, beginning with the establishment of water supply systems, under the sponsorship of FSESP. The treatments used on schistosomiasis also are producing good results.

All of this, however, is having its effects reduced because of the socio-economic conditions in which the local populace lives. Pushing the population back away from the rivers, for example, is a difficult task. The sanitation sector education that is only now beginning to be accomplished under a new director has produced few results. Finally, the teachers in the region, who are in charge of the services, are not accustomed to receiving more than 300 cruzeiros a month, which sufficiently reduces the possibilities of a quality task, and the question of health is barely evident, since a good part of the students of the 6th form in Japartuba do not know the name of the capital of Brazil.

#### YELLOW FEVER CARRIERS SEEN MORE FREQUENTLY IN RIO

Rio de Janeiro O GLOBO in Portuguese 25 May 77 p 13

[Text] A mosquito that acts as a yellow fever carrier, the *Aedes Aegypti*, has been found with ever greater frequency in Rio. The mere presence of the mosquito does not mean danger--it acts only as a carrier after stinging

something that has the yellow fever virus. The disease that has not been found for many years in Brazilian cities still exists in Brazilian forests, the director of the Institute of Tropical Diseases, Jose Rodrigues Coura said. In eradicating the last focus of the mosquito vector-A. Aegypti-in 1942, in the Nova Igauca vicinity, yellow fever was considered eradicated in Rio de Janeiro. This last March, however, foci were found in Sao Cristovao by a public health inspector, making a routine check. Since then, numerous foci have been found by personnel of the Superintendency of the Public Health Control Program-SUCAM, mainly in Sao Cristovao, Tijuca, Maracana, and Triagem. As a result of the findings, a control program against the mosquito that is the carrier of yellow fever is underway, and it will reach all municipalities. Meanwhile, the foregoing four quarters are being visited daily by 80 men from SUCAM, who are in charge of eradicating breeding sites. SUCAM is the organization of the Ministry of Health responsible for controlling the vector. Because of the intensification of the treatment program, which will be extended to every city, the number of persons hired will be large but the SUCAM Chief Inspector General, Argeu Sergio Ferreira, still does not know how many vector killers will be needed.

Only yesterday when O GLOBO went with a team of health officers, who went to houses on the following streets: Dr Abelardo de Barros, Araujo and Goulart in Tijuca from 8 a.m. until 5 p.m., the team found more than 240 larvae (collected in two small tubes containing alcohol and water) and captured two mosquitoes, which were female and hence carriers of the disease.

Silence

Yesterday the SUCAM regional director, Hamilton Vergne de Abreu, was sought to lecture on the subject, but not wishing to take part, he sent his substitute, the health official, Luciano Pedrosa, saying that "he was very busy" and that he could not give an interview to anyone--"the only person who can speak on behalf of SUCAM is the superintendent, Ernani Mota, in Brasilia." Without knowing of this prohibition, nevertheless, Argeu Sergio Ferreira, who is the Chief Inspector of the treatment program against the yellow fever mosquito, spoke saying that most of the breeding centers are being found in drinking water tanks--"the female only lays eggs in clean water" or on aquatic plants known as jiboia.

Argeu said that there is no cause for alarm as danger of an outbreak of the disease does not exist.

Not a single case of yellow fever has been found. Therefore the female mosquito, which is the vector, is no threat (she only transmits the disease by stinging, after stinging someone [or something] that has the disease).

If there had been any danger of an outbreak of the disease, the Ministry of Health would already have made arrangements for vaccinations. The SUCAM Chief Inspector said that the organization plans an antilarvicidal treatment for larvae all over the city to eliminate the already existing foci. He does not know how long it will take to eradicate all the breeding centers,

## It Came from Salvador

Argeu Ferreira has an idea of how the *A. Aegypti* returned to Rio. I have been in this work since 1942 when the organization was still called the National Yellow Fever Service. It was then called the National Department of Rural Endemic Diseases, and later SUCAM. Thus, because of my experience, I can say that in 1942, the mosquito vector was eradicated in Rio, as it was in precisely that year that a team, of which I was a part, exterminated the last site in Nova Iguacu. Now new breeding sites are appearing and I know we can find its origin in Salvador, which has sent word that it is infested. According to the SUCAM Entomology Division, "eggs can survive 450 days in the water." Then, if they are brought in on our car tires from Salvador, for example, they need only moisture and they are transformed into larvae. In a very warm climate the transformation process is rapid; in the space of 7 days, out comes the winged or adult mosquito.

Argeu told how the first site was found by a health official in Sao Cristovao in March.

He found the larvae and took them to the laboratory. Convinced that they were *A. Aegypti*, we began to make a study. Numerous foci were found and then the program began in April, and other quarters were also searched. We are spraying the larvae with Abate, which is a granulated powder mixed with water and the insecticide and larvicide Sumithion. It is sprayed on gratings, grease traps, stagnant water or, in other words, on everything that is not used for drinking water, since it is toxic.

## The Work

The team that yesterday sprayed the three streets of Tijuca was composed of the chief, Jose Paulino Gomes, and four other sprayers. They went from house to house, explaining that they were treating a species of mosquito that was the carrier of yellow fever. They said that in that area they had already found breeding sites and sometimes they showed the tubes filled with the larvae. They sprayed the insecticide and larvicide Sumithion on all the gratings and grease traps; they inspected plants on which they usually found larvae and they sprayed the water tanks, when necessary, with Abate larvicide. The only time they did not use Abate was when they were very sure that the larvae were checked.

Abate was also used on aquatic plants because, as Jose Paulino Gomes explained, if they were to use Sumithion, the plants might die. When the group entered a house, they left a small yellow flag at the door as a warning signal for those in the sector to see. When they left, they nailed a paper to the door, bearing the seal of the Ministry of Health and the name of the person who completed the spraying treatment and the date.

Jose Paulino commented that "the zone is infested" and after inspecting reservoirs, tanks, cisterns, flower jars, gratings, grease traps, the team

also sprayed the cemetery with the insecticide "since there are lots of microbes there." Other teams were completing the same tasks in Tijuca.

#### The Larvae

The team chief also showed how he could recognize the larvae of the yellow fever vector, as he pulled a book out of his pocket. The book had illustrations of live larvae breathing on the surface of the water. The larvae of *A. Aegypti* stay in a vertical position; that of *Culex*, or the common mosquito, stay inclined, and that of *Anopheles*, the malaria vector, stay in a horizontal position. He explained that "he could not let the larvae change into live mosquitoes."

To prevent this I place the larvae in tubes of water and alcohol; the alcohol is to kill them, and the mosquitoes are firmly trapped inside the capture device and then they are chloroformed. I only put them into a small box after they are dead.

The capture device is made up of a capsule and a long glass tube that has an opening at one end and a kind of sponge at the other to trap the mosquito. When Paulino found the two mosquitoes at No. 86 Rue Goulart, he demonstrated "the technique." The mosquito approached the end of the mosquito capture tube and opened the capsule by sucking on it.

The inhabitants of the house, Domingos Gomes Mano and his mother, Luzia, "did not know these mosquitoes existed." Luzia, sitting with a small daughter on her lap, said she did not know the mosquitoes were dangerous as she had never seen a case of yellow fever.

At No. 80 on the same street, Maria Jose Gomes asked the officials to fill a bottle with the insecticide. He then tried to find more mosquitoes in the gratings. The officials said the house was "now guaranteed," but they filled the bottle, explaining that it should not be left where children play and that it lasts 20 days. In some houses where officials found larvae on aquatic plants, the people living there preferred to throw the plants out.

Paulino said that it is easy to differentiate between the male and the female. The male is always thin and the female fat. The male lives off of the nectar from plants and usually does not go near the water. The female that prefers to lay her eggs in clean water lives off the blood of the things she stings. The male's stinger, compared with its antennae, is short, and therefore it would not be any good for sucking blood, which is just the opposite of the female.

#### In Brasilia

The Superintendent of Public Health Programs of the Ministry of Health, Ernani Motá, confirmed that *Aedes Aegypti*, the yellow fever carrier, found in the far northeastern part of Sao Cristovao, in Rio, was now completely eliminated. He explained that the Superintendency kept a constant vigilance of the ports, airports, and terminals, since mosquitoes can reach Brazil by plane, ship and bus.

For Ernani Mota, the fact that the presence of *Aedes Aegypti* in Rio was recognized "should be considered a very positive proof of the effective action of the officials who do the weekly spraying, in that they eliminate the mosquitoes and their breeding sites immediately."

He said, moreover, that since the mosquito had been detected and eliminated in our Bahia ports, the armadillos had been examined as a precaution, and the clay water containers (maintained by SUCAM at strategic points in the States that exist between Rio and Sao Paulo) had been examined as mosquitoes immediately search for water. Therefore, the Superintendency believes that it is possible to prevent the propagation of breeding sites and, as a consequence, the disease.

#### MALARIA REPORTED AMONG SURUI INDIANS

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 31 May 77 p 22

[Text] Porto Velho--Several Indians of the Surui tribe, of the "7 September" Station of the FUNAI [National Indian Foundation] in the territory of Rondonia, have been attacked by malaria and are interned in hospitals in Vila de Cocal and Porto Velho, where the most serious cases were sent. According to FUNAI officials, malaria has attacked the Surui with greater intensity this year, but as yet there have been no deaths.

Other major victims of malaria are the colonists who came from the south of the country to work in the agriculture-livestock projects of Rolim de Moura, in the environs of Vila de Cocal, and in Ariquemes. In the last mentioned, the outbreak of malaria is so intense that the SUCAM [Superintendency of Public Health Campaigns] has been forced to set up one of its emergency laboratories in the area. In the Sao Jose Hospital, in Porto Velho, which is maintained by the government of the territory, there are dozens of patients interned with malaria, and at least two deaths were registered in the month of May.

#### MEASLES ON RISE IN PERNAMBUCO

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 1 Jun 77 p 19

[Text] Recife--Studies conducted by the Pernambuco Secretariat of Health have shown that the incidence of measles in the state has been gradually increasing in recent years, because many families are neglecting to take their children to the vaccination stations. In 1975, there were 1,641 cases in Pernambuco, and the following year the total rose to 4,522, or an increase of 174 percent. In the first 5 months of 1977 there have already been 1,155 reported cases, or 20 percent more than the same period last year. Measles has thus come to be first on the list of the most common communicable diseases in the state.

However, the epidemiologists of the Aumaury Medeiros Health Foundation (FUSAM)--the agency that implements the state health policy--believes that the number of cases between January and May exceeded 4,000, because many cases were never reported to the health authorities. Referring to family negligence, Pedro Veloso, Pernambuco's secretary of health, reminded that immunization against the disease is performed routinely in all the health stations in the capital and the interior.

The health officials explain that although measles are benign in nature, among children of a low socio-economic level the disease can give rise to serious complications, even death, because it attacks bodies that are weakened by malnutrition.

## BURMA

### MASS CAMPAIGN AGAINST DENGUE HEMORRHAGIC FEVER

Rangoon THE WORKING PEOPLE'S DAILY in English 21 May 77 p 1

[Text] An intensive mass campaign is to be launched for combating dengue hemorrhagic fever during May and October, according to a directive issued by the Health Department to heads of State Division Health Departments.

Cleaning operations are to be undertaken inside and environs of homes to keep down breeding of mosquitoes. The campaign is to be carried out during May and October because the disease is most prevalent in these months of the year.

According to the reports received by the Central Epidemiological Unit, there were 179 cases of the disease with six fatalities in Rangoon Division, Bassein, Pegu, Nyaunglebin, Wakema, Tharrawaddy and Mandalay towns from the beginning of this year up to 16 May.

The epidemic first broke out in Rangoon during 1970, but the Central Epidemiological Unit has begun the study of the disease since 1965. There were only a few cases from 1965 to 1970. During 1970, Rangoon City had 1,654 cases with 81 casualties. In 1971, 691 cases occurred in Rangoon and five other townships with 34 casualties. In 1972, the epidemic continued in Rangoon and five other townships. There were 1,013 cases that year with 32 casualties. In 1973, there was a drop in the incidence. The epidemic was confined to Rangoon. Out of 349 cases, 15 were fatalities.

There was resurgence of the epidemic in 1974. It broke out in Rangoon and 23 other townships that year. Out of 2,477 patients who had the disease, 159 died.

During 1975, the epidemic was reported in Rangoon and 69 other townships. There were 6,750 cases with 363 fatalities.

In 1976, 3,153 cases were reported in Rangoon and 39 other townships with 98 casualties.

From 1970 to 1976, there were 16,087 cases of dengue hemorrhagic fever with 782 fatalities.

The symptoms of the DHF are sudden high fever accompanied by headache and vomiting. During the first one or two days of the attack, children are able to move about but they may lose their appetite. The temperature may rise up to 105/106 degrees. The condition worsens after one or two days of fever. The patient becomes somewhat weak and tends to keep still. This may be followed by violent convulsions or shocks. The patient may become cold all over the body and there may be beads of perspiration on the forehead and around the lips. At the same time, the face may turn red and red spots will appear on the face and hands and feet and the lips will begin to turn blue. The patient at that time may vomit or discharge blood. When such a stage has been reached, the patient may die if no timely treatment is given.

To prevent DHF, it is essential not to permit breeding of mosquitoes in and around houses by keeping it clean and changing of water in pots, tubs, vases, bowls kept under the legs of meatsafes and barrels frequently. In places where water is scarce, water from one barrel may be sifted into another and the larvae left on the sieve destroyed.

#### MALARIA AT BOKEYPIN TOWNSHIP

Rangoon THE WORKING PEOPLE'S DAILY in English 5 Jun 77 p 1

[Text] Tenasserim, 31 May--The production of the Yadanabon Mine in Bokeypin Township which exceeded the production target in 1976-77 is feared to be below par this year due to malaria epidemic which has hit a large majority of mine workers.

Out of the estimated 1,500 mine workers and their dependents more than 1,000 are reportedly stricken with malaria. Most of the employees of the mine have fled to malaria free areas such as Maneelon Village in Bokeypin Township and Mergui.

One of the engineers of the mine and two workers have died of malaria and the only doctor posted there is away attending a course. The spread of disease has [been] exacerbated by the absence of a doctor and lack of medicines.

Most of the employees of the mine are now getting treatment at Mergui Township Hospital as in-patients while the rest are being looked after at the mine's branch office in Mergui. Personnel from the 17th Burma Regiment, Fire Service Department and cargo handlers welfare organization have donated blood needed by these patients.

## CASES OF VIRAL HEPATITIS HIGHER THIS YEAR

Rangoon THE WORKING PEOPLE'S DAILY in English 2 Jun 77 p 1

[Text] Nine out of 661 persons suffering from viral hepatitis who came for treatment at the health centers in 38 townships of the Rangoon Division from January to May this year have died.

This was reported by Dr Daw Ohn Kyi, Epidemiologist, regarding the viral hepatitis situation in Rangoon Division at the second meeting of the Viral Hepatitis Committee held at the Central Epidemiological Unit today.

The meeting was attended by Director of Health (Public Health) Dr U Kyaw Sein and other members of the Committee.

Daw Ohn Kyi continued that 592 persons had the disease and 14 died in Rangoon Division in 1976. It might therefore be concluded that the incidence of the epidemic is greater this year than in the previous year, she said.

Hepatitis specialist Dr Khin Maung Tin reported that the number of persons hospitalized with viral hepatitis in Rangoon City was greater this year than last year and the mortality rate among expecting mothers was also higher.

The meeting deliberated on the treatment, prevention and imparting of health education regarding the epidemic.

The symptoms of the disease are loss of appetite, the color of urine turning yellow, loss of desire to smoke in case of smokers, uncomfortable feeling and feverishness. When a person has these symptoms, he should at once go to the nearest hospital or dispensary for medical examination.

For prevention against the disease, it is necessary to drink boiled water, to refrain from bathing and swimming in creeks and rivers where the water is not clean, to refrain from having unnecessary injections and from eating raw vegetables and to take care of personal hygiene.

## CYPRUS

### HEPATITIS REPORTED IN OROKLINI CAMP

Nicosia TA NEA in Greek 25 May 77 p 1

[Text] Three hepatitis cases were reported at the Oroklini camp as a result of the existing unhealthy conditions.

According to the complaints of the refugees living at the camp, crowded conditions, insufficient sanitary facilities (lavatories, toilets, etc.) and

stagnating water are the causes of this contagious illness, and fears are expressed about a possible epidemic.

According to other sources, the two children from the Oroklini camp who were first stricken had visited relatives in the Vrysoules camp, where some hepatitis cases had been diagnosed one and a half months ago.

The children are believed to have been infected in Vrysoules, carrying back the disease to their own camp, where another child was stricken.

However, the three children were immediately treated and are now out of danger.

Meanwhile, an official of the welfare organization of Larnaca, with whom we communicated yesterday evening, emphatically confirmed that all necessary measures have been taken and that there is no cause for concern.

Moreover, provincial welfare coordinator Iereidis visited the Oroklini camp and announced to the refugees that serious attempts are being made to improve sanitary conditions and living conditions in general.

At the meeting which took place during Iereidis' visit, the secretary of the Refugee Commission addressed the audience, asking them to remain united around President Makarios in the struggle for return.

Similarly, the refugees decided to participate en masse in the pan-Cypriot movement for housing. to be held in Lefkosia on 19 June.

## GABON

### INFORMATION ON TETANUS

Libreville L'UNION in French 27 Apr 77 p 2

[Text] In most developed countries, the progress of hygiene and vaccination has caused tetanus to recede. The situation appears to be different in the developing nations, where this sickness remains one of the major infectious diseases with respect to its morbidity and above all its mortality.

Of the 87 declared cases of tetanus throughout the nation in 1975, there were 14 deaths, which is 16 percent of the cases. This is terrifying, all the more so because tetanus preferably attacks young and active persons. Tetanus is an accidental toxin infection caused by a microbe which lives in the ground in the form of spores and which commonly lives in the intestines of various domestic animals and sometimes of man.

Tetanus spores penetrate the body through a wound which has been contaminated with dirt or has been caused by a dirty instrument. Any wound can cause tetanus, from a mere thorn prick to large, deep, slow-healing, and anfractuous wounds.

Some routes of entry for tetanus spores are characteristic of the African environment: circumcision wounds in little boys, which are often coated with dirt, ear-piercing in little girls, sores from chigoe removal, chronic ulcerations of the leg, aseptic [sic] abortions, and sometimes childbirth at home. But umbilical tetanus remains a true social scourge in some African countries, where it represents a significant cause of peri-natal mortality. It generally follows a childbirth at home, in the village, but sometimes a childbirth in the hospital, because as soon as the newborn goes home to his family, often at an early date, the traditional dirt-based topical treatments are applied to the umbilical sore.

In spite of the existence of modern therapeutic drugs, the only measure which pays off is prevention.

The following should be avoided: various dangerous traditional practices, childbirth at home, aseptic [sic] abortion, etc.

The following should be done: wearing shoes, disinfection of any wound, no matter how small, childbirth in a hospital and heeding medical advice, anti-serum vaccination in case of any wound that appears dubious, and obligatory vaccination.

Vaccination is obligatory for pregnant women around the sixth month of pregnancy in order to protect the mother from post-partum tetanus and the child from umbilical tetanus.

We now have a vaccine available which is nearly 100 percent effective, which requires but a single injection, followed by a booster a few months later, and which may give protection for several years, perhaps for a lifetime. As the old saying goes: "An ounce of prevention is worth a pound of cure."

#### ECUADOR

##### TYPHOID OUTBREAK UNDER CONTROL IN GUAYAQUIL SUBURB

Quito EL TIEMPO in Spanish 15 Apr 77 p 3

[Text] Guayaquil, 14 Apr--The Provincial Health Headquarters announced today that it has already brought under control the endemic outbreak of typhoid which had been detected in the suburbs of this city, in the section encompassed by the Francisco Segura, Sedalana, Eleventh and Twelfth streets, where a perifocal anti-typhoid vaccination of all the inhabitants of the neighborhood was effected, and instructions were imparted by the personnel of the health education department on the measures to be adopted to avoid contagion of the disease.

## Unsuitability of Fills

Meanwhile, the provincial health chief contacted the mayor of the city to inform him for the second time about the unsuitability of the so-called sanitary fills which are being carried out in the suburban sections without packing down the rocky material, thus creating real sources of infection which produce endemic outbreaks of typhoid, as in the present instance.

On the other hand, the general director of health officially requested by telegram that the necessary measures be dictated to prevent that the filling using trash, without the supplementary and immediate work of packing down with rocky material, be continued in the suburban sections of Guayaquil.

In this respect, it was pointed out that, fortunately, the cases which have come up are few and limited to a certain section of the city, and this has enabled the health department to control the endemic outbreak, providing epidemiologic security and avoiding an epidemic for the city.

## INDIA

### FALL IN CHOLERA DEATHS CLAIMED

Calcutta THE STATESMAN in English 3 Jun 77 p 7

[Text] A spokesman of Calcutta Corporation said on Thursday that only two people had died of cholera in Calcutta during the first five months of 1977, out of 70 people who had been attacked by the disease.

He said that the incidence of cholera deaths in the city, as also in West Bengal, had declined in recent years. About 1,000 people died of the disease every year from 1947 to 1963. Each year about 3,000 people were affected by the disease in the city during this period. But from 1963 only about 100 people in the city died of cholera in a year, the annual incidence of cholera cases being 1,000, the spokesman added.

Two factors contributed to the decline of the disease in the city. The spokesman said that the Corporation had succeeded in making arrangements for chlorination of the unfiltered water supply to the city, and so the "vibrio" (cholera-bacterium) had lost its main breeding ground.

Secondly, the environment of West Bengal and coastal Orissa, which used to be favorable for cholera-bacteria, had changed during recent years. As a result, the "classical" type of vibrio, which was very strong had almost withered away. In its place had come a more mild "vibrio"--scientists have named it the "eltor biotype"--which resulted in a type of cholera which was almost as "harmless" as diarrhoea, provided the people contacted the doctor, the spokesman said. He added that the recent advances in the field of anti-biotics had also helped to reduce the incidence of cholera deaths.

In this connection, the spokesman said, the new type of chlorosol was very effective in combating the disease. The Corporation had a special clinic where people could get chlorosol and other cholera treatment facilities, including preventive inoculation.

He said the Corporation conducted a number of special drives during the summer. A special squad visited markets, and seized rotten food articles, especially fish and meat.

## JORDAN

### BILHARZIASIS SAID BROUGHT TO COUNTRY BY FOREIGN WORKERS

Amman AL-DUSTUR in Arabic 24 May 77 p 10

[Article by Sulayman Nimr: "Bilharziasis in Jordan; Ministry of Health Treats Cases Successfully and Moves to Besiege Areas Infested With Disease"]

[Text] Some people, especially the Ministry of Health officials, believe that this topic may evoke needless sensitivities. Some may also believe that bringing up this topic could arouse needless fears--fears of agricultural workers refraining from work in the valleys [al-aghwar] area which is the focal point of the development plan being implemented in the country and fears that such refrainment may obstruct the ceaseless work in the valleys.

We believe in the exact opposite. Bringing up the question of the presence of bilharziasis in Jordan is not intended to point out failure by any specific authority. When warnings were sounded regarding the danger of the presence of bilharziasis in Jordan in the wake of the discovery of the disease-carrying snails in the southern valleys, the purpose was not so much to point out failures as it was to warn of the spread of the disease and to draw attention to the need to deal with this issue and to provide protection from the disease before it spreads among our citizens and before a catastrophe befalls us.

Some people may deny the presence of bilharziasis in Jordan but these people cannot conceal the truth, despite their denials. The truth is that 20 cases of bilharziasis have been discovered in Jordan so far and that these cases are increasing daily. The proof of this is that during our tour in the outpatient clinics last Saturday, we met a foreign worker employed in the country who was suffering from the disease and who had come for tests. This foreign worker has been working in the irrigated agriculture sector for 2 years and was infected with the disease long before he came to work here. We tried to get some information from him but he refused to divulge his name for fear that he might lose his job.

This is one case encountered by AL-DUSTUR. There are numerous other cases which some people are trying to conceal and there are cases that are not

known to anybody. However, there are those who do not deny the presence of such cases.

In an interview with Dr Qindil Shakir, director of the Jordanian University Hospital, we asked him about the bilharziasis cases and he said:

The hospital has come across some bilharziasis cases recently. But the patients are not Jordanians.

The disease is not endemic in our country and no Jordanian citizen has been infected with it so far. But the possibilities of our citizens becoming infected with the disease continue to exist as long as the causes of the disease are present.

In another interview with Dr Ilyas Saliba, the biology professor at the Jordanian University who discovered the snails in the southern valleys which harbor the germs that infect man through penetrating the skin, talked to us about his discovery. He said:

In October 1975 and while conducting laboratory and field tests, we discovered the presence of the snails which harbor the worm that penetrates the skin. We discovered the snails in the canals and pools in the southern valleys area and in the area of the Egyptian Triangle in particular.

These snails are not dangerous as long as patients infected with bilharziasis keep clear of these snails because the snails transmit the bilharziasis worm to healthy people. Should the water in which the snail exists become contaminated with the urine of a bilharziasis patient, then the snails carry the worms and transmit them to healthy people who come in contact with such water through either drinking it or swimming in it.

[Question] Has the Ministry of Health been informed about the results of your research?

[Answer] Of course, all the studies have been referred to the Ministry of Health and a warning has been issued regarding the danger of the possibility that the disease is present in the areas where people suffering from bilharziasis live and where the snails have been discovered.

[Question] Are the snails present in the southern valleys area only?

[Answer] The area in which the snails have been discovered is the southern valleys area. However, this does not mean that the snails are present in other areas, especially the areas where canals and pools exist [sentence as published].

[Question] Have bilharziasis cases been discovered since the discovery of the snails?

[Answer] Numerous cases have been discovered and all the patients are foreign citizens. So far, no Jordanian citizen has been infected with the disease. But as long as the source of infection, namely the snails, are present and as long as people infected with the disease are close to this source, then this danger is ever present.

[Question] How is it possible to eliminate the danger and to get protection against this disease which has entered Jordan for the first time?

[Answer] Repelling the danger and protection from bilharziasis can be done through keeping the patients, and most of them are workers coming to the country from abroad, away from areas where bodies of water are present.

The entire danger lies in having foreign agricultural workers harboring the bilharziasis worm close to [the water sources]. This is a warning that I address not to the Ministry of Health and to officials of the Ministry of Interior but to the farm owners for whom such laborers work.

In the Jordanian University Hospital, we discovered the presence of a woman infected with bilharziasis. She is not a Jordanian and she has been suffering from the disease for a long time. She is now being treated at the hospital and the results of the treatment seem to be positive.

We asked one of the specialists about the chances of treating and curing the disease. He said: it is possible to treat the disease in the initial stages. But if the treatment is delayed, then the bilharziasis worm will continue to eat into the liver until it ruins it completely.

We have learned from special sources that al-Salt Hospital has treated several cases of bilharziasis among foreign workers and that there have been two cases of the disease among Jordanian citizens. We went to al-Salt government hospital and asked Dr Fadil al-Minri, a physician in the hospital, about the bilharziasis cases that he has treated at the hospital. He said:

I discovered three cases of bilharziasis in the southern valleys last month. Two of the patients have been treated. They are non-Jordanian agricultural workers. They have been treated against the disease and cured because the infection was in the early stages. They have now returned to their work.

[Question] What about the third worker?

[Answer] Treatment of the third worker has been delayed because he fled from the hospital twice. But the police brought him back and he is now in the stage of recovery and is under full medical observation at present.

[Question] But we have learned from some sources that there have been two cases of Jordanians being infected with the disease and that the two patients were given treatment here.

[Answer] The presence of bilharziasis was suspected in two Jordanian citizens working in the valleys. They were admitted to this hospital and were given complete medical and laboratory tests. They were placed under medical observation in the hospital for a period of 3 weeks. Finally, it became evident that they were free of the disease.

[Question] What are the chances of Jordanian citizens getting infected with this dangerous disease?

[Answer] As long as there are places where the disease-communicating snails exist and as long as there are people infected with the disease, then the danger of the citizens being infected by the disease continues to exist. This is why the Ministry of Health resorted recently, and after the cases appeared, to setting up field laboratories to discover the disease and to comb the valleys area completely.

It seems that the Ministry of Health began to move recently to confront this disease that is threatening Jordan and that can obstruct the development movement being undertaken by our country. A number of field laboratories have been set up in the southern valleys to check all the agricultural workers in these areas in order to find out the infected persons and to treat them. The Ministry of Labor now refrains from issuing work permits to foreign workers unless they bring with them certificates from their ministries of health attesting that they are free of this dangerous disease. But is this enough?

[Question] (We asked Dr Raghil Kamal, the director of laboratories at the Ministry of Health) Is the laboratory test given by the [government] laboratories enough to find out whether a person is infected with the disease or not?

[Answer] The laboratory analysis is not enough for this purpose because there are periods through which the patient passes when the disease-causing worm does not secrete the eggs that are transmitted with the urine. Such a period may occur when the laboratory tests are carried out for the infected person. Consequently, the tests may show that he is free of the disease when in fact he actually has it.

[Question] So how can we tell if a person is infected with the disease or not?

[Answer] We should not be content with one laboratory test and a person suspected of having bilharziasis should be subjected to a long period of medical observation during which several tests and examinations are given to him.

[Question] But what is bilharziasis and what are the symptoms of of the disease?

[Answer] (Dr Ilyas Saliba says) The disease is caused by a small worm, namely the bilharziasis worm. This worm penetrates to man's intestines

through the skin and is harbored by snails living in stagnant waters and canals. The snails carry the eggs of the worm and transmit them to man. The bilharziasis worm eats into man's liver and intestines and causes them to stop functioning. It also causes a bilharziasis victim to live in a state of constant bleeding during the advanced stages of the disease.

Concerning the symptoms of the disease, Dr Mahmud al-'Anbar says:

The first signs of the disease appear in the form of a sensation of burning during urination and in the form of blood emitted with the urine, in addition to a general weakness experienced by the patient. In the advanced cases, blood flows more profusely with the patient's urine and from his mouth.

So, despite the fact that numerous cases have appeared and have been treated at the government hospitals and the fact that we have learned from the physicians and the officials the symptoms of bilharziasis and the means of protection against it;

I say that despite all this, the various agencies of the Ministry of Health have been able to contain the disease, to besiege the infected areas and to achieve success in treating the cases.

The preventive health section and the curative health section have adopted all the measures that are truly capable of halting the spread of this disease.

#### MALAYSIA

##### MALAYSIAN OFFICIAL REPORTS ON DENGUE FEVER CASES, CAMPAIGN

Kuala Lumpur NEW STRAITS TIMES in English 6 Jun 77 p 6 BK

[Text] A total of 161 cases of dengue hemorrhagic fever, including 14 deaths, have been reported during the first 5 months of this year, Deputy Health Minister Datuk Haji Abu Bakar Umar, said today.

The number of cases were 45 more as compared with the same period last year, he said.

Datuk Haji Abu Bakar was speaking at the launching of an anti-dengue cleanup campaign at Kampung Kerinchi here.

The health ministry had launched a new strategy in fighting the disease in a 1-month intensive campaign in April this year. This was followed by the enforcement of the destruction of disease bearing insects act of 1975.

The campaign would be repeated in July and October, he added.

Datuk Haji Abu Bakar urged the people not to allow mosquitoes to breed.

He said: "I certainly hope no one is stupid enough to want to risk getting this disease."

His ministry and local authorities were carrying out house-to-house inspections, and issuing warnings and fines on those who allowed mosquitoes to breed.

First offenders could be fined \$1,000 or 3 months' jail or both while second offenders face a \$2,000 fine or a year's jail or both.

About 500 new students of the Universiti Kebangsaan and the Kampung people participated in the Gotong Royong [mutual assistance] campaign.

#### PEOPLE'S DEMOCRATIC REPUBLIC OF YEMEN

##### CHILD VACCINATION PROGRAM BEGINS

Aden 14 OCTOBER in Arabic 8 Apr 77 pp 1, 8

[Article: "PDRY Begins Implementation of a Comprehensive Child Vaccination Program"]

[Text] The PDRY is to begin implementation in cooperation with the World Health Organization and UNICEF of a comprehensive program to vaccinate children against the six fatal diseases, which are whooping cough, infantile paralysis, measles, infantile tuberculosis, diphtheria and tetanus. This will take place in July.

This was announced yesterday by Dr 'Abd-al-'Aziz al-Dali, minister of health, in a speech which he delivered before an oratorical assembly dedicated to World Health Day. The assembly was held by the Institute for the Development of World Health Cadres and was attended by Dr 'Umar Immam representing the World Health Organization.

Immediately afterwards, Dr 'Umar Imam, the World Health Organization's representative in Aden, delivered a speech in which he spoke of the importance of vaccinating against the common diseases which children are exposed to. He said, "While 90 of those children of the world who live in wealthy countries are vaccinated, we find that this rate drops to 10 percent or less in the developing countries." He added, "Modern science, as well as the evidence of actual events, have proved that it is possible to completely eliminate some of these diseases through vaccination, as occurred this year in the case of smallpox which is on the way to extinction."

The representative of the World Health Organization specified measles as the most serious of the six diseases. It spreads because of malnutrition and results in death for 1 out of 10 children it strikes, although a dose of the preventative vaccine for this disease has a 95 percent or greater rate of success.

He also concentrated on the seriousness of diseases of the throat, tetanus, infantile paralysis and tuberculosis which are more challenging, and stressed the importance of vaccinating against them and preventing them.

At the conclusion of his speech, he emphasized that all the nations have agreed on one strategy whose effectiveness has been proved by many nations, including the PDRY which has turned to the organization. The agreement has been made to begin an extended campaign to vaccinate children against the six diseases in the rural areas, the settled areas [and] the desert including all children throughout the republic. The citizens will see and hear much about this campaign through the various information media, the moviehouses and posters.

#### PERU

##### PERU TO BEGIN EXPORTING ANTIBIOTICS

Lima LA CRONICA in Spanish 12 May 77 p 4

[Text] In 3 years, Peru will be able to satisfy the total annual demand of antibiotics of the member countries of the Andean Pact, which currently amounts to 52,500 kilograms of those pharmaceutical products, asserted Gerardo Garrido, general manager of the Chemical Synthesis Corp (SINQUISA) antibiotics factory.

In a press conference in connection with the first year of operation of the first factory of that type in Peru...[typographical error] in the Andean sub-region, Garrido announced that the SINQUISA is entering the export market this year with 1,000 kilograms of antibiotics.

This will mean, he stated, a revenue of about \$150,000 in foreign exchange. Subsequently, he gave details about the production intended for the domestic market.

On that score, he said that the estimated production for this year will be approximately 12,500 kilograms of antibiotics, the amount that Peru consumes at the present time.

He also stated that such production will represent a saving to our country of \$1,267,000 (approximately 96 million soles) in 1977.

Last year, the first one of operation for SINQUISA, this enterprise sold 4,500 kilograms of antibiotics, mainly ampicillin, which represented a saving of \$500,000. "We consider this first year of operation to have been most productive," commented Garrido.

Later on, he disclosed that the SINQUISA plans to enter the Central American market next year. "For that purpose," he continued, "we are installing new equipment which will also allow us to diversify our production."

At the end of the press conference, executives of that firm and functionaries of the Ministry of Industry and Tourism made a tour of the main installations of the factory, where it was possible to observe the progress and the complex machinery of the facility.

#### CLEAN UP CAMPAIGN UNDERWAY IN SLUM AREA

Lima EL COMERCIO in Spanish 12 May 77 p 10

[Text] The elimination of 300 tons of trash accumulated for more than 10 years in the 3d Zone of the young town of 7 de Octubre, of El Agustino, was begun in a joint operation of six municipios of the capital in coordination with the Interior Government Office, in a public clean up campaign started by the authorities last March.

The large amount of trash, which constitutes a real threat to the health of the neighborhood, especially of the students of a school located in the vicinity, is being carted away to the dump located at Kilometer 18 of the road to the south in trucks loaned by the municipios of Brena, Pueblo Libre, Rimac, Callao, La Victoria, El Agustino and Lima.

According to Mauricio Vablos, public sanitation inspector of the municipio of El Agustino, it is expected that the extensive area will be cleaned up within 15 or 20 days.

#### AUTHORITIES CALL FOR MANDATORY YELLOW FEVER VACCINATION

Lima LA CRONICA in Spanish 12 May 77 p 5

[Article by Juan Medina]

[Text] Huancayo--The Midcentral Health Region with headquarters in this city has decreed mandatory vaccination against yellow fever for all persons entering the Central Jungle. This is a preventive measure against that scourge, which afflicted seven persons last month.

To prevent a repeat of those cases, 10,000 doses of vaccine have been sent to the sanitary units and health assistance centers of La Merced, San Ramon and other places in the jungle region.

Dr Jose Portocarrero, epidemiologist of that agency, pointed out that persons who enter the jungle should request immunization at the sanitary units of Satipo, La Merced, Tarma and Oxapampa, and at the Daniel A Carrion Hospital of this city.

He added that this campaign will be intensive and permanent. Another 5,000 doses of the vaccine will be sent next week to the assistance centers located in the jungle area. The supply of vaccine has been requested from the Ministry of Health.

Dr Romero reiterated that the campaign is preventive. No outbreak of yellow fever has been detected this month, but it is essential that all persons entering the jungle be immunized because of the danger of having new outbreaks of the disease.

#### YELLOW FEVER OUTBREAK BEING CONTROLLED, MASSIVE VACCINATION UNDERWAY

Lima LA CRONICA in Spanish 21 May 77 p 1

[Text] The outbreak of yellow fever in a section of our jungle is being controlled thanks to the vaccination campaign calling for the administration of 100,000 doses, disclosed yesterday Peruvian Air Force Lt Gen Humberto Campodonico Hoyos, the minister of health.

The minister of health announced that the appearance of that dangerous, infectious and transmissible disease is due to the fact that there is a migration of people at this time of the year to the Amazon coffee areas, where harvest work is available. The coffee harvest requires many workers, but those persons who go there for the season are not immunized like the local people and are prone to contract the disease, explained Minister Campodonico.

As a result, there have been 43 cases, 28 of them lethal, and for that reason the health sector has intervened on an emergency basis, ordering all the personnel of the area of Huanuco and Chanchamayo--where the yellow fever has come up--to engage in the task of control and to issue instructions to the population for avoiding contagion.

Whoever goes to the jungle must receive a dose of the vaccine, of which there are 100,000 doses available for travelers and people living in areas which are supposedly liable to be affected.

Yellow fever is also known as black vomit because of the blood vomits which mark its full development in the organism. The disease has been eradicated in the urban areas in Peru, but it persists in the jungle areas. It is contagious, but its outbreak is circumstantial and will be brought under control, according to the minister.

Lima EL COMERCIO in Spanish 27 May 77 p 29

[Text] Cusco, 26 May--A huge vaccination campaign to prevent yellow fever was begun in the departments of Cusco and Madre de Dios, following the detection of some outbreaks of that disease in certain areas of the country's jungle region.

The Southeastern Regional Health Office has begun a vast program through the Epidemiology Department, having received 20,000 doses of vaccine against yellow fever from the central ministry.

With an increased number of personnel, vaccination units have been installed in the city of Cusco at the Regional and the Antonio Lorena hospitals, as well as at the Velasco Astete Airport.

The vaccination units in the province of La Convencion were set up at the Quillabamba Hospital and the sanitary centers of Palma Real, Kiteni and Cirialo.

Vaccination is taking place in the province of Paucartambo at the Health Center and the sanitary centers of Kosnipata, Patria, Pillcopata, Salvacion and Sintuya.

In the province of Quispicanchis, the vaccination units have been established in Quincemil, Ocongate and Marcapata.

In Madre de Dios, the administration of vaccine is being done at the Puerto Maldonado and the Iberia hospitals, as well as at the other sanitary centers.

The regional office reminds that all persons over 6 months of age residing in the upper and the lower jungle areas or visiting those places should be immediately vaccinated. It warns that the vaccine against yellow fever provides immunity for 6 years. Compulsoriness applies to those persons who have not been vaccinated since 1971 to date.

Vaccination is completely free of charge, and persons who wish to travel to the jungle area will not be able to do so without the corresponding certificate.

## TURKEY

### MEDICINE SHORTAGE IN DIYARBAKIR

Istanbul AKSAM in Turkish 8 May 77 p 3

[Excerpts] TURKISH NEWS AGENCY--It is reported that there is a serious shortage of vitally important medicines in Diyarbakir and vicinity, in south-eastern Anatolia. Bekircan Gelen, President of the Union of Pharmacists in Diyarbakir, noted that some of the medicines which are unobtainable in that

area are as follows: (for cancer patients) Uncovin Methotioxe Purinethol; (heart patients) Isoket Retard, Alupent A., Heparin Novalente, and Nitropenton; (gall bladder) Sulfarlem, Cholipin; (gastro-intestinal) Eucarbon; (diabetes) NPH Insulin; and (child birth diseases) Anteron 1,000 and 5,000. It is further noted that this area does not have any serums used to counteract tetanus, scorpion stings, and snake bites.

## VENEZUELA

### LEPROSY VACCINE SUCCESSFULLY TESTED ON HUMANS

Caracas EL UNIVERSAL in Spanish 7 Jun 77 pp 1-16

[Article by Juan Inojosa]

[Text] Venezuela is the only country that has been testing a vaccine against leprosy in humans for the past 3 years, and the results are satisfactory. The announcement was made by Dr Jacinto Convit, director of the National Institute of Dermatology and chief of the Dermatology Division of the Ministry of Health.

Great Britain and the United States are the other two countries working on the production of a vaccine against the mentioned disease, but they have experimented solely with animals to date.

Leprosy is a chronic granulomatosis caused by Mycobacterium leprae which is characterized by lesions of the skin, nerves and viscera and sensibility disturbances. Gerhard Armaur Hansen, a Norwegian scientist, described the bacteria between 1871 and 1874. Leprosy is also known by the name of Hansen disease.

The boundaries of the endemic zones have faded away in Venezuela on account of the great mobility of the rural population. There are rather regions of high incidence by reason of the place of origin or of the place of residence of the patient.

It is known that the high incidence of leprosy owing to the place of origin is found in the states of Apure, with 7.3 patients per 1,000 inhabitants; Trujillo, with 6.2; Merida, with 3.5; Tachira, with 3.5; and Barinas, with 3. Guarico, Portuguesa and Aragua are also included.

As to the high incidence of leprosy owing to the place of residence, Apure again heads the list with 6.5, followed by Trujillo, Merida, Tachira and Barinas. The Federal District acquires significance as to the place of residence with its two departments: Vargas, with the leprosarium around which gravitate a large number of patients; and Libertador, with more than 3,000 lepers, a number which is diluted by the high populational figure. There is also a large number of undetected patients in the metropolitan area who have come from the rural districts or from the poor sections.

## Test on 20 Persons

One of the important steps for the production of the vaccine is the transmission of leprosy to the "cachicamo" (armadillo), whose scientific name is *Dasipus sabanicola*, which is most suitably adapted to laboratory conditions because it is small, long-lived and low in temperature, and gives birth each time to four genetically identical offsprings, making crossbreeding easier.

"This allows us to obtain," explained Dr Convit, "an adequate supply of germs suitable for the research to develop the vaccine. We have conducted experimental work in this country on laboratory animals--rabbits and mice, among others--and uncovered grounds for subsequent studies on humans, in order to determine how man reacts to the vaccine. We possess all the necessary laboratory procedures to detect the effect of the vaccine, and we have used all the immunologic investigative techniques to measure the reaction from the standpoint of the cell and the antibodies in the blood."

The director of the National Institute of Dermatology next pointed out that testing on humans was begun 3 years ago with a small group of 20 persons, and the initial results are rather promising. The group has been subject to periodic laboratory tests and to a strict control during that time.

"No unfavorable result has developed among the humans up to now. We have solid grounds to state that the vaccine is a fact." commented Dr Convit.

The bacillus of leprosy (*Mycobacterium leprae*) is not cultivated in test tubes like that of tuberculosis. The armadillo serves as the culture tube in this case because it reproduces a very serious disease with the infection spreading to all the organs until death.

"What we do," added the researcher, "is that once the infection has developed, we isolate the bacterium from the organs, purify it by means of meticulous laboratory procedures, and ready it so that the organism can react against it in conjunction with other substances which stimulate the reaction mechanisms to counter *Mycobacterium leprae*."

Dr Jacinto Convit warned that the vaccine against leprosy is selective and has the characteristics of the ones used against measles and poliomyelitis.

"We make tests to select the persons who run the risk of contracting the disease in its serious form," he said. "The vaccine would be selective to protect these persons and prevent new cases of leprosy. It is not a vaccine which will be administered to the population in a large-scale fashion."

The sanitary authorities have 17,000 lepers on record, but it is estimated that there are 20,000 to 24,000 persons suffering from this serious illness in the country.

Dr Convit said that he expects to publish the first experiences in a year.

MEASLES OUTBREAK SUCCESSFULLY CONTROLLED

Caracas EL NACIONAL in Spanish 6 Jun 77 p D-4

[Article by Jairo Pardey Arrieta]

[Text] The outbreak of measles which took place on the Central Littoral in the middle of last month and caused four deaths has been completely controlled by the Ministry of Health and Social Welfare. The secretary general of health and social welfare explained that the epidemic source was located in Chichiriviche, near Arrecife.

"A group from the ministry headed by the general health commissioner of the federal district went to the place and established that there were another eight patients afflicted with the same disease: one of them gravely ill at the Carayaca Hospital, another three in the eruption stage, and the remaining four in the convalescent stage."

Dr Gil Garcia indicated that in view of the situation, a house-to-house check for new patients was conducted throughout the town.

What preventive measures were adopted?

"Orders were given to protect the population under 4 years of age by the administration of 2 cubic centimeters of gamma globulin, and the anti-measles vaccine was administered to children older than 9 months."

According to a revelation by another spokesman from the epidemiology department, the Ministry of Health has started a rural penetration campaign in neighboring settlements using all vaccines and stressing the one against measles.

What was the diagnosis of the deaths?

"It was confirmed at the death registry located in Carayaca that the direct cause of the four deaths was bronchopneumonia as a consequence of measles."

It was learned from a reliable source that the dispensary of the Public Welfare Board of the Federal District (JBPDF) in that locality has not provided either permanent or periodic medical assistance for 7 months.

In light of such a situation, the chairman of the JBPDF, Dr Gaston Vargas, has been requested to order that the doctor assigned to Chichiriviche renew the weekly medical visits.

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## VIETNAM

### BUBONIC PLAGUE BREAKS OUT IN VIETNAM

Rangoon THE WORKING PEOPLE'S DAILY in English 24 May 77 p 3

[Text] Tokyo, 23 May--Bubonic plague has broken out in Vietnam and the Vietnamese authorities have ordered the inoculation of every household in Hanoi, the Japanese Welfare Ministry said today.

Quoting a report from the Japanese Embassy in Hanoi, the Ministry said it had instructed quarantine offices at Japanese ports and airports, and foreign and Japanese shipping companies, to be on the alert against the disease.

## ZAIRE

### THEATER TEACHES ABOUT KWASHIORKOR

Kinshasa ELIMA in French 30 Apr 77 p 5

[Excerpt] Even more than a disease, kwashiorkor is a social problem. Not caused by a random transmission of a virus but by a prolonged protein deficiency in a child's diet, it has its origins in adult negligence (even if involuntary). The cases of children with distended bellies, with sad, misshapen faces, and with swollen limbs are multiplying in Lubumbashi.

Caring for these children will be long, costly, and without assurance of total recovery, and the consequences fall back on society as a whole. Everyone is involved. For this reason, the Mwondo Theater, research division of the National Ballet in Lubumbashi, considers that theater has the obligation of being a spokesman for society, of sounding the alarm (Mwondo or Tshondo means conveying a message) and possibly of proposing solutions.

Following the spread of this disease in this part of the country, the medical and social divisions of the Zairian National Culture Society (SNCZ) have requested that an educational play be worked up dealing with the fight against malnutrition. The troop at once began work on setting up the play, a process which was done in three overlapping stages: research, creation, and development.

With respect to research, the artists took part in numerous information sessions which were organized especially for them, in order better to know the causes, symptoms, cure, and prevention of kwashiorkor. The actors carried out an inquiry in their own surroundings in order to know how the disease is discerned by the people.

Kwashiorkor is caused by protein deficiency; it is cured by supplying protein-rich foods (eggs, meat, fish and soybeans).

But what is the cause of this deficiency? Although the lack of proper care is always the source of the evil, it is induced or aggravated for the following reasons: (1) the majority of the children who are hit are social cases (children under guardianship, children from broken homes); (2) pregnancies which are too close together, and sudden weaning (the tradition which required one or two years of sexual abstinence after a childbirth protected mother and child by spacing the births).

Premature weaning was justly associated with the disease which often bears the equivalent name of "jealousy." The true cause is that the proteins of the mother's milk are not replaced.

(3) The decrease in buying power and the frequently prohibitive prices of proteinaceous foods; (4) dietary taboos (for example, eggs, which are highly proteinaceous, are often avoided) and ignorance of nutritional values.

With respect to setting up the play, these data have to be converted into language (dialog, mime, song and dance). Research is done on stage in parallel with the inquiry.

As matters progress, a picture emerges from the improvisational work. The plot, while maintaining a direct simplicity, must conspicuously show causes and cures. Following a break-up between their parents, two young children are placed under the care of their aunt, who is herself a widow with a large family. The big cousins grab all the meat, at the expense of the two small "interlopers." Neglected and undernourished, they fall prey to parasites, infectious diseases, and kwashiorkor, and the smaller one dies. This sets off a pow-wow to determine who is responsible for his death. Each in his turn, the accused (the two parents, the aunt, the eldest of the cousins) present their arguments.

The spirit of the dead child leaps into the midst of the discussion, threatening to carry off his brother who is also afflicted with kwashiorkor. He answers the others' protests by a song setting forth the cause of his death, how to care for his brother, and especially how to protect healthy children.

The play, which is in Swahili and lasts 45 minutes, is interspersed with slides and is supported by a semimodern musical score. However, the start of performances does not mark the end of work. According to the public's reaction, the play will continue to be modified.

## II. ANIMAL DISEASES

### BRAZIL

#### FOOT-AND-MOUTH DISEASE UNDER CONTROL IN PRESIDENTE PRUDENTE

Rio de Janeiro JORNAL DO BRASIL in Portuguese 6 May 77 p 14

[Text] In the last vaccine review, the National Campaign To Combat Foot-and-Mouth Disease in the Presidente Prudente, concluded that the disease is under control. This region of Sao Paulo was considered a pilot project zone for anti-foot-and-mouth disease, begun 11 years ago by the then Agriculture minister, Ivo Arzua, with vaccinations being done every 4 months. After the last vaccination, carried out in 50 municipalities, there were 15 outbreaks reported of foot-and-mouth disease in 61,771 rural farm areas.

#### FOOT-AND-MOUTH DISEASE IN SERGIPE

Rio de Janeiro JORNAL DO BRASIL in Portuguese 26 May 77 p 16

[Text] Aracaju--PRONASA, the National Program for Animal Health, has asked the livestock farmers of Sergipe not to transport cattle, in order to prevent the spread of foot-and-mouth disease, which is attacking the state's herds. In an effort to control the disease, the technicians are quarantining affected properties, disinfecting stables and vaccinating the herds within a 5-km radius of the contaminated locations.

In the Legislative Assembly, Deputy Jackson Barreto (MDB [Brazilian Democratic Movement]) declared that, without knowing it, the population in this capital is consuming unpasteurized milk coming from municipios affected by foot-and-mouth disease.

## HUNGARY

### VETERINARY SITUATION EXAMINED, APPROVED WITH RESERVATIONS

Budapest MAGYARORSZAG in Hungarian 12 Jun 77 p 21

[Excerpts] The fact that the authorities no longer anticipate an epidemic of foot-and-mouth disease similar to that of 1972 is caused by the fact that mandatory inoculation against this disease is being enforced in Szabalc-Szatmar, Hajdu-Bihar, Bekes and Csongrad counties [which lie along the eastern borders of the country]. This measure promises to set up a satisfactory look-out ring. Nevertheless, much remains to be done in the field of veterinary epidemiology.

Unfortunately, only 16 percent of the over 8,000 sites at which animal husbandry is practiced are provided with the equipment prescribed to fend off epidemics, including such elementary things as a fence. Nevertheless, the veterinary organization of Hungary is one of the best in the world. Recently, a leading specialist in this field from the FRG spoke of this organization with great approval. Within 12 hours after the onset of an epidemic, a veterinarian can arrive and begin working even at the other end of the country. There is a shortage, however, of secondary personnel of the feldsher type. According to Dr Lajos Denes, main department head of the Ministry of Agriculture and Food, "We must blame ourselves in part for closing down the veterinary technikums 15 years ago. A system of private practice has developed under which the veterinarian receives his true income on the basis of the primitive work he performs, legally and using a scale of officially set fees."

The average pay of the district veterinarian is about 3,300 forints. To this are added the fees he earns from providing various services such as inoculations. A special problem is that the practicing and official roles have become entangled. To separate these would require at least 400 veterinarians. As a first step the chief district veterinarians will be made independent as of 30 June 1977. This means they will be forbidden to conduct a private practice, but their wages will be raised. Thereafter their sole function will be to inspect. Nevertheless, this process cannot be a speedy one if for no other reason than that today replacements for veterinarians around the age of 40 are scarce. In the early 60's graduate veterinarians numbered about 150 a year; today they number between 80 - 90. The ministry feels that 120 - 130 would be desirable. (In that case why not change the situation? The University of Veterinary Medicine operates under the supervision of the ministry. There are plenty of applicants: 350 last year. Yet only 100 were admitted.)

In the interest of modernization, certain measures will be adopted, but the veterinarian can be truly productive only at a well-managed farm. Where the veterinarian is trusted, he can call to account those who disregard his instructions. Veterinarians will no longer be at the mercy of their superiors [on the farm]. The soon-to-be-published decree on farm veterinarians

ensures their protection by law. The approval of the director of the county veterinary hygiene station must be obtained before they can be appointed or dismissed. He also plays a part in disciplinary matters. In most cases the head of the farm is not qualified to judge whether or not a professional error has been.

Measures are also expected to improve the situation in regard to lower-level veterinary personnel. For a year it has been possible for the veterinary stations to provide a 6-week training course at which those who care for animals can learn certain fundamental procedures. Most counties sent 20-25 persons to such courses, but after a few months barely five remained with the veterinary service, mainly for financial reasons. The person in charge of milking earns 2,000 forints more than they. The shortage of veterinarians is so great formal education is not required for course attendance.

#### PERU

##### SOME TUBERCULOSIS INFECTED CATTLE DISCOVERED IN PIURA

Lima EL COMERCIO in Spanish 20 May 77 p 3

[Text] Diagnostic tests for tuberculosis of the dairy cattle of middle and lower Piura, Sullana and San Lorenzo are being carried out in Food Zone 1. This is being done through the Promotion Office. To date, the tests have been completed in the dairy districts of middle and lower Piura, and 2,355 head of dairy cattle owned by 56 associated producers have been examined.

The following conclusions are drawn from the tests performed: The valley is free from bovine brucellosis, the index of tuberculosis infection is 3.68 percent, and the food zone and the producers are taking all precautions to eradicate these diseases in the Piura districts. In like manner, the food zone will take all kinds of sanitary measures to control the encroachment of those diseases and keep the valley free of them.

The producers have provided and are providing all sorts of cooperation in carrying out these tests, which have to be repeated every 6 months.

#### RHODESIA

##### MINISTER URGED TO KILL BUFFALO TO STOP FOOT-AND-MOUTH DISEASE

Salisbury THE RHODESIA HERALD in English 17 Jun 77 p 12

[Text] The Minister of Agriculture was asked to order the eradication of buffalo from the Lowveld ranching area in a resolution passed at the Rhodesian Cattle Producers' Congress in Bulawayo last week.

The proposer, Mr S. Cawood, on behalf of the Victoria area cattle committee, suggested that National Parks staff, with helicopters, should "annihilate all buffalo".

He pinpointed the dangers of the disease spreading and said that most agricultural export produce must be certified that it is from an area free from foot and mouth.

Retired

Dr Jackson, a retired veterinarian who farms in the Victoria district, said that 90 percent of outbreaks were in this area, and nowhere else was there the same contact between game and cattle.

Buffalo could carry all three types of the disease, for years. In the nine outbreaks so far this year, all the cattle had been in contact with buffalo.

The wording of the resolution was as follows: "As long as trivalent vaccines alleviate the problem of foot and mouth disease, the Lowveld will always remain an endemic foot and mouth area because buffalo are still at large in the Lowveld ranching areas.

"In view of the fact that upon technical grounds the Director of Veterinary Services is unwilling to recommend the eradication of all buffalo in the Lowveld ranching areas, this congress requires the Minister of Agriculture personally to make the decision to authorize the eradication of buffalo in the aforesaid areas."

The Acting Director of Veterinary Services, Dr J. Thomson, supported the resolution, saying that it was very difficult to get cattle vaccinated in security areas, and this applied especially to the SE operational area.

Root Cause

The cost of vaccine this year would be \$335,000, and it was criminal to spend this kind of money when the root cause was known. The situation could not be allowed to continue.

It would help if farmers, voluntarily, tried to get rid of the buffalo, but if the resolution was carried, it would strengthen the involvement of the Veterinary Department.

There were buffalo calves in the Zambezi Valley which had been tested and found to be free of the disease, so that restocking the Lowveld, at a later date, would be possible.

The resolution was carried unanimously, but not before one Lowveld farmer had stated unequivocally that it was playing with fire for farmers to try and shoot out the buffalo.

Near his farm was a herd of between 40 and 80 which would scatter in all directions if shooting started.

Interviewed in Salisbury this week, Dr Thomson confirmed that what he had said in Bulawayo was basically the official attitude of his department. It was preferable that farmers should try and get rid of the buffalo on a voluntary basis.

#### Strong Action

If there were any left, the Veterinary Department would have to take strong action to ensure that buffalo and cattle were kept separate. There were approximately 400 to 500 buffalo in Lowveld.

Dr Thomson said: "The power is there and new legislation is not required. Under Section 15 of the Animal Health Act, the Minister could order that the buffalo are eradicated from the area.

"The section is seldom invoked, but it has been done once in the past, in a different case."

#### COMPULSORY INOCULATION URGED AGAINST CONTAGIOUS ABORTION

Salisbury THE RHODESIA HERALD in English 17 Jun 77 p 12

[Text] The owners of all young female cattle should be forced by law to inoculate them against contagious abortion. This was a resolution proposed at the RCPA Congress by Midlands area cattle committee (and later carried) and here are some of the points raised.

The original resolution put the age for inoculation from six to nine months, later amended to four to eight months.

The Director of Veterinary Services will act if he has the support of the RCPA.

The degree of "policing" would depend on the Veterinary Department, which is short-staffed, but the local veterinary officer could require to see receipts for doses.

Last year, there were 55,000 female head under a year old in the Midlands area, but only 26,000 doses were sold. This was the worst area; the country-wide average of young females dosed was 78 percent.

It is not easy to assess the degree of financial loss from CA; it usually results in a 25 percent longer gap between calving.

Because of cost, it would be impossible to enforce in the TTLs, but the legislation should apply to all licensed farmers.

Finally, two pithy quotes: "If you inoculate already, you have nothing to fear. If you don't you need your head read!"

"Be careful about demanding legislation in these uncertain times. Remember the pension scheme."

#### TURKEY

##### FOOT-AND-MOUTH DISEASE

Istanbul AKSAM in Turkish 19 Jun 77 p 5

[Excerpts] Hakkari--The Turkish government has begun to take necessary measures to prevent the spread of foot-and-mouth disease along the Iranian and Iraqi borders. In this regard 86 villages near the Iranian and Iraqi borders in Hakkari province have been designated as a pilot region in the animal inoculation campaign, and a total of 200,000 of an anticipated 300,000 doses of serum have arrived in Hakkari. It is anticipated that 158,684 head of cattle will be inoculated against this disease. It is further noted that a total of 171,867 head of sheep and 16,473 head of goats will be treated against pox.

#### VENEZUELA

##### ANTI-RABIES CAMPAIGN LAUNCHED

Caracas ULTIMAS NOTICIAS in Spanish 9 May 77 p 17

[Article by Coromoto Alvarez]

[Text] Some 180,000 dogs are being vaccinated against rabies in the metropolitan area, house-by-house, while an extermination campaign of stray dogs is being carried out at the same time.

This is a preventive, rather than a curative, measure against rabies inasmuch as there are no indications of the spread of that disease at the present time.

The Anti-Rabies Service of Health and Social Welfare (SAS) headed by Dr Miguel Guaitero has asked for the cooperation of the citizens, in order that all facilities be afforded to the vaccination team for the purpose of having the dogs protected against rabies.

Greater emphasis is being placed on the elimination of stray dogs in the outlying districts because those who are in better economic condition take their animals to private veterinary clinics.

#### EQUINE ENCEPHALITIS VIRUS STUDIED

Caracas EL UNIVERSAL in Spanish 13 May 77 pp 2-18

[Text] The mosquitoes which transmit the Venezuelan Equine Encephalitis (EEV) could also act as natural reservoir for the EEV virus, which, according to researches of the Virus Biology Department of the Venezuelan Institute of Scientific Investigations (IVIC), remains in the cells of these mosquitoes during periods when the activity of the virus is not evident.

The investigation was conducted by veterinarian Gabriel Leandro Carreno, fellow of the Central West University, who is doing postgraduate studies in the Advanced Studies Center of the IVIC, where he will soon present his thesis for the degree of Master of Science specializing in virology. His thesis concerns the subject mentioned, and it was directed by researcher Jose Esparza, chief of the Virus Biology Laboratory.

On one occasion, Dr Esparza pointed out that most of the virology laboratories of the country dedicated a major portion of their time to the study of the EEV virus because it is one of the factors responsible for the disease known as EEV, or "crazy pest." The other factors contributing to the spread of the disease are the transmitting agent (mosquito) and the host of the virus (the victim), which complete the infection triangle giving occasion to the viral diseases transmitted by mosquitoes (arboviroses).

"This virus," explained veterinarian Carreno, "has been studied repeatedly in the cells of mammals and barely in the cells of insects, and consequently our research was conducted with the use of our own methodology consisting of the isolation of healthy cells of the insect in a culture medium. After infecting them with EEV virus, we were able to observe that the virus remained in the cells in the form of a provirus, that is to say, a virus which is transmitted from one cell to another without pathological effects.

"Could we say that it is during this stage that the virus remains inactive in the interepidemic periods?"

"If we can manage to demonstrate this inactivity of the virus in the whole insect during a certain period, we can establish that the insect, like rodents, not only acts as transmitter of the disease but also as reservoir of the virus during interepidemic periods.

"This hypothesis is strengthened," he continued, "if we take into consideration that after remaining in the cured cells for 5 months (supposed to be the interepidemic period), we managed to recover the viral information in the

cells by using chemical and physical procedures (drugs and ultraviolet rays) in what experimentally could be regarded as the moment of the epidemic outbreak."

The work of veterinarian Carreno forms part of the research on the subject being promoted by the Virus Biology Laboratory, where other postgraduate students of microbiology of the Advanced Studies Center of the IVIC are also working.

## ZAMBIA

### ANTI-RABIES VACCINE

Lusaka TIMES OF ZAMBIA in English 29 May 77 p 1

[Text] Fifteen thousand doses of anti-rabies vaccine which have been ordered from a French firm will arrive in the country in three weeks, a spokesman of Veterinary and Tsetse Control Department reported in Lusaka yesterday. The spokesman was clarifying an earlier report on the state of vaccine in the country to fight outbreaks of rabies.

### III. PLANT DISEASES AND INSECT PESTS

#### BRAZIL

##### UNIDENTIFIED COFFEE DISEASE

Sao Paulo FOLHA DE SAO PAULO in Portuguese 25 May 77 p 21

[Text] Franca--Reports from coffee growers in Jeriquara assert that there was a 30 percent drop in the current coffee harvest. A still unidentified or undefined disease which yellows the leaves and damages the fruit infected a good portion of the coffee plantations of the area, occasioning losses.

#### NEW ZEALAND

##### ARMY MAY BE USED TO FIGHT LOCUST PLAGUES

Wellington THE EVENING POST in English 26 May 77 p 7

[Text] Brisbane--The Australian Government is to be asked to make the armed services available to combat locust plagues and similar emergencies which affect the man on the land.

The Queensland United Graziers' Association at its annual council meeting in Brisbane yesterday decided the Government should be pressed to make this general policy.

The meeting was told by Mr Bob Whelan, a member of the Central and Northern Graziers' Association, that it is impossible at times to find the manpower needed to fight locust plagues which sweep through crops.

He said he believed most graziers would be willing to pay something towards the cost of army participation in operations of this kind.

PERU

DISEASE AFFECTS POTATO CROP

Lima LA PRENSA in Spanish 2 Jun 77 p 1

[Article by Cesar Alvarado S]

[Text] In view of the persistence of the potato disease known as bacterial withering, the shipment of potatoes to unaffected areas for seeding, consumption and other uses has been banned in seven departments.

The departments affected by this measure are Piura, Lambayeque, Cajamarca, Amazonas, La Libertad, Ancash and Huanuco, and violators are subject to fines ranging from 5,000 to 30,000 soles. A shipment authorization certificate issued by the authorized production agent of the place of origin will be required. It is also stated that the shipment authorization certificates will be valid for 8 calendar days.

The potatoes will be shipped directly to the wholesale market of Lima to be controlled and distributed by the National Market Service for the exclusive consumption of Metropolitan Lima, the mining centers outside the quarantined area, and the areas of the jungle departments which do not grow potatoes.

VENEZUELA

"KILLER BEES" NEST DISCOVERED IN ORINOCO RIVER LIGHTHOUSE

Caracas EL UNIVERSAL in Spanish 7 May 77 pp 2-34

[Text] Puerto Ordaz, 4 May--A nest of what are presumed to be "killer bees" was discovered in a lighthouse located at Mile 146-6 of the navigation channel of the Orinoco River, at the Guarguapo Channel, in the Delta Amacuro Federal Territory.

The information was conveyed by a source at the National Canalization Institute, who said that he had been able to observe the insects at a prudent distance by means of binoculars, verifying that there are large, fuzzy bees swarming in and out of the mentioned nest.

He said that the lighthouse in question is located approximately 200 meters inland, where there is a peasant community which is terrified because the bees, according to reports, have killed six goats, two roosters and three donkeys. He pointed out that the peasants said the animals died a few minutes after being stung by the insects. Lastly, he said that the National Canalization Institute sent a report to the sanitary authorities to have them fumigate the hive and take whatever measures are deemed necessary.

ZAIRE

COMBATTING MANIOC DISEASE

Kinshasa ZAIRE in French No 457, 9 May 77 p 37

[Text] Two Zairian regions, Bandundu and Bas-Zaire, have recently suffered from manioc disease, which has cut back the level of production of this foodstuff during the last two years. In order to combat this danger, the Community Development Center in Kimpese (Bas-Zaire) is currently developing the cultivation of more than a hundred varieties of manioc from various countries throughout the world. Research will allow the best quality to be selected which can resist insects and other diseases.

Manioc is a basic food for a large number of persons in the two areas.

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