JPRS-TEP-91-024 22 NOVEMBER 1991



JPRS Report

Epidemiology

DISTRIBUTION STATEMENT

Approved for public releases Distribution Unlimited

19980506 025

DTIC QUALITY INSPECTED 8

REPRODUCED BY U.S. DEPARTMENT OF COMMERCE NATIONAL TECHNICAL INFORMATION SERVICE SPRINGFIELD, VA 22161

Epidemiology

JPRS-TEP-91-024

CONTENTS

22 November 1991

[Recent materials on AIDS is being published separately in a later issue.]

SUB-SAHARAN AFRICA

ANGOLA

	egisters 1,000 Cases of Sleeping Sickeness [Luanda ANGOP, 22 Oct 91]	
CAMEROO	ON	
Choler	a Statistics for North Released [Yaounde CAMEROON TRIBUNE, 16 Aug 91]	1
GHANA		
Choler	a Outbreak in North Leaves 20 Dead [Dakar PANA, 15 Oct 91]	1
KENYA		
Menin	gitis, Typhoid Outbreak [Nairobi KTN Television, 22 Oct 91]	1
MADAGAS	SCAR	
Epiden	nic Danger Follows Incidents [MADAGASCAR TRIBUNE, 16 Aug 91]	1
MALAWI		
Officia <i>[Blar</i>]	l Comments on Sleeping Sickness Rate in Nkhotakota ntyre Malawi Broadcasting Corporation Network, 11 Oct 91]	2
MOZAMB	IQUE	
Inham	bane Vaccination Program Shows Success [Maputo NOTICIAS, 9 Sep 91] I Provinces Report Drop in TB Death Rate	2
[Maj	ntified Epidemic' Kills 15 People in Chibabava	3
<i>[Ma]</i> Health	outo Radio Mozambique Network, 20 Oct 91] Authorities Release Cholera Figures [Maputo Radio Mozambique Network, 23 Oct 91]	3 3
	s Killed 200 Children in Namuno in 1990 puto Radio Mozambique Network, 24 Oct 91]	3
NIGERIA		
Choler	a Death Figures by State Released [Onajomo Orere; Lagos THE GUARDIAN, 20 Aug 91] .	3
SOUTH AI	FRICA	
	Approach to Malaria Treatment Described <i>A.T. Dippenaar; Johannesburg ARMED FORCES, Sep 91</i>]	4
Anthra	x Still Rife at Kruger National Park [Johannesburg Radio RSA, 15 Oct 91] s Threatens Banana Industry [Cape Town THE ARGUS, 25 Sep 91]	5

TANZANIA

	Government Reports 593 Deaths From Meningitis [Dakar PANA, 11 Oct 91] Meningitis Outbreak Leaves 30 Dead [Dar es Salaam Radio Tanzania Network, 15 Oct 91]	6 6
	ZAIRE	
	Infant Measles Vaccination Program Succeeding [Ernest Lutumba; Kinshasa ELIMA, 11 Sep 91]	6
	ZAMBIA	
	Ten Cholera Deaths in Northern Province [Lusaka TIMES OF ZAMBIA, 23 Aug 91] New Anti-Cholera Measures Instituted [Lusaka TIMES OF ZAMBIA, 24 Aug 91] Cholera Epidemic Seen as 'Threat' to General Elections	6 6
	[Johannesburg South African Broadcasting Corporation Network, 12 Oct 91] Ninety Hospitalized in 'Serious' Outbreak of Dysentery [Johannesburg SAPA, 23 Oct 91] Cattle Afflicted by Corridor Disease [Lusaka TIMES OF ZAMBIA, 27 Aug 91]	7 7 7
СНІ	NA	
	 Trends of Epidemic Diseases Analyzed [Wang Jingzhu; Beijing YIYAO XINXI LUNTAN [CHINA MEDICAL TRIBUNE], 23 May 91] Help for Hepatitis C Beijing [CHINA DAILY (NATIONAL), 8 Jul 91] The Clinical Significance of Detecting Serum Nucleoprotein Antibody and Glycoprotein Antibody in Patients With Epidemic Hemorrhagic Fever 	9 10
	[Zhang Chengwen, Liu Yongteng; et al., ZHONGHUA CHUANRANBING ZAZHI [CHINESE JOURNAL OF INFECTIOUS DISEASES], Vol 9 No 3 Aug 91] Over 95 Percent of Children Under One Year Vaccinated	10
	[Hong Kong ZHONGGUO TONGXUN SHE, 22 Oct 91]	10 10 11
FAS	Last Anti-Epidemic Team Pulls Out of Anhui [Beijing XINHUA, 28 Oct 91]	11
LAS		
	CAMBODIA	
	Infectious Diseases Spreading in Kompong Cham [Phnom Penh SPK, 26 Oct 91]	12
	HONG KONG	
	Dengue Fever Spreads Rapidly in Guangzhou [Cary Huang and Amy Choi; Hong Kong THE STANDARD, 22 Oct 91]	12
	SOUTH KOREA	
	Professor Presents Paper on Non-BC Liver Virus [Seoul THE KOREA TIMES, 25 Oct 91]	13
	LAOS	
	Malaria Reportedly Rampant in Sekong Province [Vientiane Vitthayou Hengsat Radio Network, 24 Oct 91]	13
	MALAYSIA	
	Haze-linked Health Problems Increasing [Hong Kong AFP, 13 Oct 91]	13

2

VIETNAM

Over 600 Die of Malaria in Nghe An Province	[Hanoi Voice of Vietnam Network, 25 Oct 91]	13
---	---	----

LATIN AMERICA

BOLIVIA

Two More Cholera Cases in La Paz Department	
[La Paz Television Boliviana Network, 12 Oct 91] 1	14
Fearing Cholera, Raw Vegetables Banned at Restaurants	14
[La Paz Radio Fides Network, 12 Oct 91] Three New Cases of Cholera in La Paz [La Paz Television Boliviana Network, 17 Oct 91]	
Number of Cholera Cases Rises to 76; Seven Deaths	
[La Paz Television Boliviana Network, 22 Oct 91]	14
More Cholera Cases in La Paz District [La Paz La Red Panamericana, 24 Oct 91]	14
BRAZIL	
Number of Cholera Cases Countrywide Increases to 178	
[Sao Paulo O ESTADO DE SÃO PAULO, 23 Oct 91]	14
Over 1,000 Cases of Malaria Registered in Manaus in September	
[Brasilia Radio Nacional da Amazonia Network, 25 Oct 91]	14
GUATEMALA	
Cholera Epidemic Widens, Worsens [Carlos Garcia Urrea; Guatemala City EL GRAFICO, 10 Sep 91]	14
HONDURAS	
Seven Cases of Dengue in Capital [Tegucigalpa EL HERALDO, 12 Sep 91]	15
NICARAGUA	
Cacao Crop Affected by Fungus [Managua LA PRENSA, 20 Oct 91]	15
URUGUAY	
Number of Measles Cases Hits 1,120 [Madrid EFE, 20 Oct 91]	16
NEAR EAST & SOUTH ASIA	

BANGLADESH

Venereal Diseases Spreading in Jamalpur	[Meherullah; Dhaka THE NEW NATION, 27 Aug 91] .	17
	ts [Dhaka THE NEW NATION, 15 Sep 91]	

INDIA

Gastroenteritis, Dysentery Epidemic in Orissa [New Delhi PATRIOT, 2 Sep 91] 12	7
Floods Bring Gastroenteritis Epidemic to Bengal [Calcutta THE TELEGRAPH, 20 Sep 91] 18	8
Conjunctivitis Strikes Hundreds in Calcutta [Calcutta THE TELEGRAPH, 13 Sep 91]	8
Cholera Outbreak in Assam [Hong Kong AFP, 19 Oct 91]	
New Drug Therapy Brings Decline of Leprosy [Bombay THE TIMES OF INDIA, 19 Sep 91] 19	.9
Uttar Pradesh—388 Die of Encephalitis [Delhi All India Radio Network, 20 Oct 91] 20	20
Kala Azar Epidemic Sweeping Bihar [Bombay THE TIMES OF INDIA, 21 Sep 91] 20	20
Epidemic of Unknown Fish Disease Hits Kerala	
[Bombay THE SUNDAY TIMES OF INDIA, 1 Sep 91]	20
Berry Borer Strikes Southern Coffee Plantations [Madras INDIAN EXPRESS, 26 Aug 91]	20
Insect Pests Feed on Tripura Grain Crops [Calcutta THE STATESMAN, 17 Sep 91] 2.	21

3

IRAQ

Health Ministry on Spread of Diseases [Baghdad INA, 20 Oct 91]	21
Official Notes Worsening Health Conditions [Baghdad INA, 23 Oct 91]	22
Water In Baghdad, Provinces Said 'Not Fit To Drink' [Baghdad INA, 27 Oct 91]	22
'Unjust' Blockade Responsible for 2,690 Deaths in Dhi Qar [Baghdad INA, 27 Oct 91]	23

SOVIET UNION

Prediction of Activity of Sites Endemic for Anthrax in Voronezh Oblast	
[V. R. Krasilnikov, I. S. Lebedinskaya, et al.; ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I	
IMMUNOBIOLOGII Dec 90]	24
Building Pharmaceutical Factory Discussed With Danish Firm	
[Lyubov Dunayeva; Moscow TASS International Service, 16 Oct 91]	25
TV Reports Bubonic Plague Detected in Moscow [Moscow Russian Television Network, 17 Oct 91]	26
Bubonic Plague Case Not Confirmed [Moscow Russian Television Network, 21 Oct 91]	26
Kuzbass Medical Staff Stage Strike Over Work Conditions	
[Grigoriy Shalakin; Moscow TASS International Service, 21 Oct 91]	26
School Closed Following Hepatitis Outbreak [Moscow PRAVDA, 23 Oct 91]	26
Donetsk Region Reports Dysentery Outbreak [Moscow TASS, 28 Oct 91]	26

WEST EUROPE

FRANCE

w Flu Vaccine Readied for Vaccination Campaign	
Martine Perez; Paris LE FIGARO, 28-29 Sep 90]	27

UNITED KINGHDOM

Improvement in Hospital Service Seen	
[David Fletcher; London THE DAILY TELEGRAPH, 20 Sep 91]	27
Mad Cow Disease Declining [David Brown; London THE DAILY TELEGRAPH, 3 Sep 91]	28
Blue Ear Curbs Movement of Yorkshire Pigs [London THE DAILY TELEGRAPH, 21 Sep 91]	28

ANGOLA

Uige Registers 1,000 Cases of Sleeping Sickeness *MB2310082491 Luanda ANGOP in French 1930 GMT 22 Oct 91*

[Text] Uige (Angola), 22 Oct (ANGOP)—Joao Andre, provincial director of the program to fight sleeping sickness, said over the weekend that over the past 10 months of this year, Uige Province registered 1,000 cases of sleeping sickness, as compared to 788 cases registered during an equal period in 1990. Joao Andre said the most affected district was Dange-Quitexi which registered 1,004 cases [figure as received].

The official said the constant displacement of affected people and their resettlement in less suitable areas has contributed to the spread of the disease. He added that the shortage of [words indistinct].

Sleeping Sickness Kills 28 People in Cuanza Norte Jan-Sep

LD2510091591 Luanda ANGOP in French 1920 GMT 24 Oct 91

[Text] Ndalatando (Angola), 24 Oct (ANGOP)— Joaquim de Oliveira, head of the sanitation department in Cuanza Norte Province, told ANGOP last Wednesday [23 October] that 28 people died of sleeping sickness in the province between January and September this year, while 15 died of the disease last year.

Joaquim de Oliveira said the lack of medicines and other technical resources were hindering the fight against the disease in the province. He said the most affected areas in the province are Massangano, Zenza, Dondo, Canhoca, and Lucala.

The health official spoke of the urgent need to disinfect the affected areas to kill the tsetse flies that are the carriers of sleeping sickness.

CAMEROON

Cholera Statistics for North Released

92WE0013A Yaounde CAMEROON TRIBUNE in French 16 Aug 91 p 7

[Text] [The statistics are summarized in the following table:]

Cholera Status in the Far North and North From 10 May to 10 August 1991

Department	No. of Cases Reported	No. of Deaths
Far North	•	
Mayo Danay	469	70
Logone-et-Chari	717	131

Cholera Status in the Far North and North From 10 May to 10 August 1991 (Continued)			
Department	No. of Cases Reported	No. of Deaths	
Mayo Tsanaga	116	99	
Mayo Sava	6	1	
Diamare	8	5	
Total	1,316	306	
North			
Benoue (Lagdo)	58	12	
Total	58	12	

GHANA

Cholera Outbreak in North Leaves 20 Dead

AB1510181491 Dakar PANA in English 1753 GMT 15 Oct 91

[Text] Accra, 15 Oct (GNA/PANA)—About twenty people have been killed in an outbreak of cholera in a remote area of northern Ghana, according to reports reaching Accra on Tuesday. The reports said the disease broke out in five villages two weeks ago.

An assemblyman from the area, Bumawura Mahamah Gbeadese, appealed to the Ministry of Health to help in preventing the disease from spreading further. He said since the roads leading to the area are bad, a medical team should be flown in as quickly as possible.

KENYA

Meningitis, Typhoid Outbreak

EA2210114291 Nairobi KTN Television in English 0500 GMT 22 Oct 91

[From the press review]

[Text] In another front-page story, THE STANDARD reports the outbreak of meningitis and typhoid in southern Turkana regions bordering West Pokot District. The paper attributes the story to Turkana DC [District Comissioner] Suleiman Toyya, who disclosed the news in a Kenyatta Day [20 October] speech.

MADAGASCAR

Epidemic Danger Follows Incidents

92WE0012A Antananarivo MADAGASCAR TRIBUNE in French 16 Aug 91 p 8

[Quotation marks as published]

[Text] International NGOs [nongovernmental organizations] specializing in medicine are gradually coming to Madagascar's rescue, following the events that are rocking the country.

Just yesterday a representative of "Pharmacies Without Borders" landed in Ivato with some supplies, joining his colleagues from "Dental SOS," "Doctors of the World," and "Doctors Without Borders." "Dental SOS" brought some 150 kg of medications.

"Doctors Without Borders" and "Doctors of the World" have had two mixed teams of surgeons and physicians in the capital city of [illegible in original] for the last several days. They have nearly 350 kg of supplies with them.

The teams are working in hospitals, and are taking care of both the wounded from the latest Mahajanga confrontation and plague victims. Actually, they are working much more on the latter scourge, which is becoming increasingly worrisome according to Mr. Eric Berthin-Maghit, the AICF administrator in Antananarivo and coordinator of the medical assistance.

The French "men in white coats" have indeed regretfully noted the lack of materials, ranging from operating room anesthetics to the most basic supplies, such as compresses and bandaids.... To fill the gap, "Doctors Without Borders" has coordinated with "Doctors of the World" and International Action Against Hunger (AICF), the imminent arrival of a substantial quota of relief material, in particular 700 kg of medications and 200 kg of logistic supplies. The shipment is expected today, and will be distributed among the country's hospital centers as deemed appropriate by the specialists.

With specific regard to the plague, the risk of an epidemic is alarming. According to the same source, there are 15 cases of bubonic plague and four cases of pulmonary plague.

These NGO members are sincerely cooperating with medical personnel and with local Red Cross people.

Coming to the rescue of the Malagasy people is not something the NGOs take lightly.

MALAWI

Official Comments on Sleeping Sickness Rate in Nkhotakota

MB1110175691 Blantyre Malawi Broadcasting Corporation Network in English 1600 GMT 11 Oct 91

[Text] The assistant district commissioner in Nkhotakota, Mr. Dlavio Chibwana, has expressed concern at the high rate of people suffering from sleeping sickness in the district. Opening a three-day seminar on sleeping sickness for health workers, Mr. Chibwana urged them to maintain a high sense of vigilance to control the disease.

MOZAMBIQUE

Inhambane Vaccination Program Shows Success

92WE0008B Maputo NOTICIAS in Portuguese 9 Sep 91 p 3

[Text] The newspaper NOTICIAS has learned that about 13,500 children under the age of 23 months were vaccinated in Inhambane Province during the first five months of this year as part of the Expanded Vaccination Program [PAV].

Sources connected with the program emphasized to our newspaper that the Expanded Vaccination Program is experiencing relative success in Inhambane despite the difficulties created by the criminal activities of armed Renamo [Mozambique National Resistance] groups.

According to our sources, activity by Renamo's groups has in fact been preventing the "carrying out of massive vaccination campaigns like those we conducted in the years following the proclamation of the country's independence," and in addition, "many of the localities where we used to conduct vaccination campaigns are now uninhabited," our sources said.

During the same period in Inhambane Province, 12,200 measles vaccinations were administered, as were another 10,771 inoculations against diphtheria, whooping cough, and tetanus. In addition, 7,610 women were inoculated against tetanus during the first five months of this year, as were 1,889 students and 47 workers.

Lack of Transportation

Besides the wartime situation, another factor affecting the Expanded Vaccination Program in Inhambane last year was the problem with the lack of transportation. We have learned that no district in Inhambane Province possesses suitable transportation for the PAV, "even though we received 13 bicycles and two motorbikes." "To carry out our activities, we are continuing to use ambulances, and that has contributed to the failure of the PAV/SMI [expansion of SMI not given], especially in our travel to distant localities," our sources emphasized, stressing that sometimes when "we are preparing to go to those localities, it is necessary to evacuate a patient to the Chicuque Rural Hospital or even the Provincial Hospital in Inhambane," and that obviously "creates serious disruptions."

Our source also told us that in the districts where there are no health vehicles, the PAV teams often use the vehicles of private individuals, "who want us to provide the fuel" to pay for their services. The only thing is that "the quantities are such that they are beyond our reach." "Sometimes they want us to pay in cash, but those are also large sums which our budgets cannot cover because they were not [word missing]," he said.

Central Provinces Report Drop in TB Death Rate

MB1610092891 Maputo Radio Mozambique Network in Portuguese 1730 GMT 15 Oct 91

[Excerpt] Experts say that in the past few years there has been a decline in the number of deaths caused by tuberculosis in Mozambique's central provinces. In 1990, 3 percent of the cases in Sofala Province resulted in death, compared to 6 percent in 1988. In Manica Province, the figure dropped from 7 percent to 3 percent over the same period, while in Tete Province the figure was 5 percent and 2 percent, respectively. There has also been a decline in Zambezia Province. [passage omitted]

'Unidentified Epidemic' Kills 15 People in Chibabava

MB2010181491 Maputo Radio Mozambique Network in Portuguese 1730 GMT 20 Oct 91

[Excerpt] An unidentified epidemic has already killed at least 15 people in Sofala Province's Chibabava town and Chibabava District in less than one week. The local health authorities say they do not have the means to identify the epidemic and have expressed grave concern about the possibility that it will kill more people.

A health source in Chibabava has told Radio Mozambique that the provincial health authorities have already been informed about this problem. [passage omitted]

Health Authorities Release Cholera Figures

MB2410072291 Maputo Radio Mozambique Network in Portuguese 1730 GMT 23 Oct 91

[Excerpt] Radio Mozambique has learned from our country's health authorities that the cholera outbreak which broke out in May of last year is now technically under control. The last case of cholera was registered in Quelimane city, Zambezia Province, during the last week of August this year.

A total of 4,152 cases of cholera, including 194 deaths, were registered in the country last year since the disease broke out in May. From January to June of this year, the country registered 6,063 cases of cholera, including 271 deaths.

According to the health authorities, this cholera outbreak, which hit a number of provincial capitals, was the second largest. The first largest took place in 1983 when the disease affected more than 10,000 people.

At the regional level, cholera has become an endemic disease instead of an outbreak. In Mozambique, it has mostly affected children over the past few years. [passage on preventive measures omitted] Measles Killed 200 Children in Namuno in 1990

MB2410193091 Maputo Radio Mozambique Network in Portuguese 1730 GMT 24 Oct 91

[Text] Measles killed 200 children in Cabo Delgado Province's Namuno District in 1990. Radio Mozambique's Cabo Delgado Province correspondent reports that the epidemic struck very poor children in particular.

NIGERIA

Cholera Death Figures by State Released

92WE0019B Lagos THE GUARDIAN in English 20 Aug 91 p 11

[Article by Onajomo Orere, head, Health Desk: "Cholera: Death Toll Hits 5,785"]

[Text] No less than 5,785 deaths have been recorded nationwide from a colossal 42,613 reported cases of cholera.

Federal epidemiology officials have said the epidemic defies known book formats, showing no sign of abating despite campaigns by health ministries and the United Nations Children's Fund (UNICEF).

Of the 21,892 cases reported in July, 2,576 died, 1,331 of the 8,106 cases in June died and 605 of the 3,489 cases in May died.

In April, 4,515 were reported and 671 died. Of the 2,635 cases in March, 348 died and of the 1,679 cases in February, 248 died. Six deaths of the 297 cases in January were recorded.

Although they were not certain of the age range of victims since states had not forwarded such data, officials of the Federal Task Force on cholera who went round noted that teenagers and adults were more affected than the usually vulnerable toddlers.

Of the old 21 states and Abuja only Rivers, Cross River and Niger states had not reported any cases as at August 14.

But task force officials think, this might be due more to inadequate search than complete absence of such cases.

In fact, states have reported more cases than they earlier did since the Federal Health Ministry encouraged their use of telephone, telex, telegraph or the conventional disease notification forms designed in 1989.

Official records show the least affected states to be Lagos, where the health ministry reported one death and the Lagos University Teaching Hospital (LUTH) reported three cases one of whom died, and Ogun with six sufferers but no death recorded.

Bauchi tops the list highly affected states with 8,974 cases and 1,909 deaths followed by Borno with 16,596 cases and 1,829 deaths.

Kano State recorded 7,736 cases and 792 deaths, Gongola—2,102 cases with 345 deaths and Sokoto— 2,028 cases with 298 deaths.

Other are Plateau—1,160 cases with 166 deaths; Kaduna—774 cases (124 deaths); Oyo—2,342 cases (106 deaths); Katsina—122 cases (52 deaths); Kwara 215:45); Bendel (45:43); Benue (51:28); Abuja (269:27); Anambra (26:6); Ondo (76:5); Imo (25:5); and Akwa Ibom (26:4).

Federal health officials said mortality rate, which stood at 14 percent, would have been higher but prescribed salt and sugar solution (SSS) as first aid against diarrhoea.

Other alternatives include coconut fluid, water from boiled local rice, water of boiled carrot and other rehydrating fluids.

The fluids replace—vital body salt (electrolytes) lost in vomitting and stooling giving energy until the diarrhoea subsided.

SOUTH AFRICA

SADF Approach to Malaria Treatment Described

92WE0033A Johannesburg ARMED FORCES in English Sep 91 pp 28-29

[Article by Brig. A.T. Dippenaar]

[Text] In days gone by, it was imagined that Malaria was caused by the foetid air arising from neighbouring swampland, little realising that it was, in fact, airborne by mosquito vectors. Today, centuries later, Malaria remains an ill wind that bodes no good, and continues to exert a profound influence on mankind and his military adventures.

Malaria remains a leading cause of death in the world today, annually accounting for some 200-300 million new cases worldwide, and some 1 million deaths in Africa. It is still a formidable factor affecting military campaigns in endemic areas, and if not taken into account during the planning phase of an operation, can easily inflict as many casualties as enemy action, and can even endanger the success of the operation.

Over the years, various measures have been adopted to lessen the impact of Malaria, with varying degrees of success. Anti-malarial campaigns rest on three main thrusts:

- 1. Prevention
- 2. Mosquito control measures
- 3. Larval control measures.

Prevention of Infection

The SADF has used a variety of anti-malarial agents over the past years, including Maloprim, (Dapsone and Pyrimethimene) Darachlor (Dapsone/Chloroquine), Daraprim (Pyrimethimene), Chloroquine/Fansidar combinations and finally, Chloroquine alone. Not one of these regimes proved to be foolproof, as so-called breakthrough attacks continued to occur. The change from one agent to the next was prompted as much by the belief that a particular agent was ineffective, as the conviction that resistant strains were emerging.

While there undoubtedly must have been isolated cases of resistant Malarial strains, the extent was never convincingly scientifically proven, and the repeated changes were rather of an empiric nature. What the various regimes did prove, however, is that there is no such thing as foolproof Malaria prophylaxis on the one hand, and that prophylaxis of necessity requires a combination of measures on the other hand.

It would appear that the single most important factor in breakthrough Malaria is not so much drug resistance, as poor compliance on the part of those exposed. There were several reasons for poor compliance:

1. Logistic breakdowns.

2. Oversight during the heat of the campaign, bedevilled by a host of competing priorities.

3. Deliberate non-compliance, based on many unfounded superstitions, inter alia, that the prophylaxis interfered with suntanning, and gave rise to impotence a rather potent deterrent! In an effort to enforce and monitor compliance, several steps were implemented:

a. Weekly Malaria register completed at a "pill parade."

b. Checking that troops had actually swallowed the pill.

c. Spot-checks on random urine samples to determine the presence of Chloroquine.

d. Urinary Chloroquine determinations in actual cases of Malaria to try and ascertain prior prophylaxis.

4. Diarrhoea, vomiting and various medications can interfere with the bio-availability even when prophylaxis is observed. The Chloroquine/Fansidar regime proved no more effective than its predecessors, and indeed gave rise to several cases of the Steven Johnson Syndrome, and was abandoned for this reason. Over the years, however, it became clear that there definitely were Chloroquine- resistant strains, especially of Falciparum Malaria. These occurred chiefly in Angola and along the Northern SWA/Namibian border, and along the eastern borders of the Kruger National Park with Mozambique.

Therapy

In the past, many cases were treated successfully with Chloroquine, but this is something of a paradox, if one treats actual cases with an agent that is suspect because it was also used for Prophylaxis and allowed a breakthrough, for whatever reason. For this reason, all cases of Malaria are currently treated with Quinine, 600 mg. by mouth three times a day, or in severe cases, intravenously for no longer than 24 hours, after which, oral therapy is commenced. The intravenous dosage is 20 mg/kg body weight over the first 8 hours, and 10 mg/kg over the second and third 8 hours.

It has become equally clear that the complications of Malaria, such as Cerebral Malaria, kidney failure or adult respiratory distress syndrome, usually occur when there has been a delay in diagnosis. Diagnosis must initially rest upon a high index of suspicion, to the extent that any febrile condition in a patient in or from an endemic area must be regarded as Malaria until proved otherwise. Definite diagnosis is often difficult, especially in areas without ready access to reliable laboratory facilities, and even with such facilities, it is often impossible to demonstrate parasites in the blood, due to prior (inadequate) prophylaxis, just sufficient to produce masking. To this end, all military members are issued with a card stipulating that they have been in an endemic area when leaving such an area. Importantly, we have had several cases where the incubation period of Falciparum Malaria has been in excess of six months.

Drug Resistance

There have been definite examples of Chloroquine drug resistance based on carefully researched clinical and laboratory evidence. As mentioned, there were breakthroughs on all other regimes as well, albeit most likely due to poor compliance, as are the majority of cases on Chloroquine prophylaxis.

We do not subscribe to policy of Mefloquine prophylaxis, largely because of the risk of eliciting multiple drug resistance in due course, and prefer to reserve Mefloquine as a therapeutic trump card.

Halofantrine has been disappointing as a therapeutic agent, especially in the presence of other drug resistance.

We have had several cases of Falciparum Malaria that occurred after proper Chloroquine prophylaxis, showed a clearance of Paracytaemia after Quinine therapy, with a recrudescence without repeat exposure, were treated with Halofantrine with the same result, and only cleared up on Mefloquine therapy. (Mefloquine is currently not registered with the Medicines Control Council, but the SAMS has received special dispensation to use this agent under specified conditions).

Anthrax Still Rife at Kruger National Park

MB1510135691 Johannesburg Radio RSA in English 1100 GMT 15 Oct 91

[Text] Anthrax is still rife in South Africa's Kruger National Park, with 82 buffalo dying of the disease on the western boundary of the park last week. A spokesman for the park said the animals might have had polluted water to drink, and said the disease should be back under control after the first good summer rainfall. More than 1,000 head of game, including elephants and leopards, have died of anthrax since the outbreak of the disease a few months ago.

Fungus Threatens Banana Industry

92WE0054D Cape Town THE ARGUS in English 25 Sep 91 p 5

[Text] Johannesburg—A deadly plant disease has hit South Africa's flourishing banana industry and threatens to destroy it.

Banana farmers in the Eastern Transvaal and along the Natal South Coast are looking on helplessly as the Panama Wilt scourge wipes out their crops.

The Banana Board and scientists of the Department of Agriculture have been searching frantically for satisfactory control measures to contain the spread of the disease, but so far, without success.

Banana production is one of the most profitable commercial farming lines in South Africa. A farmer with 120ha in full production can expect a turnover of more than R1 million a year.

One hectare under bananas on average yields about 20 tons of fruit, which today sell at a producer price of about R450 a ton, or a total return of R9,000 per hectare.

This makes farming land in the Eastern Transvaal's banana production region exceptionally-expensive, with buyers paying anything from R15,000 per hectare upwards.

Head of the Plant Improvement Unit at the Nelspruit Fruit Research Institute, Mr. Zaag de Beer, says Panama Wilt has already caused serious losses in parts of the Eastern Transvaal, especially in the Kiepersol area.

Farmers in the other high-production areas, such as Melalane, Levubu, Letaba and Tzaneen, are deeply worried about the threat to their plantations.

Mr. de Beer said that at present there is no method of controlling the disease and prospects of finding one are far from promising.

The disease is caused by a soilborne fungus and is fatal once a banana tree becomes infected.

It can spread rapidly through a plantation if the spores were carried in surface run-off water or if they entered an irrigation source.

"Both the country's main cultivars, Cavendish and Williams, are affected, and new cultivars imported by the Banana Board could also become diseased under the South African conditions," Mr. de Beer says."

TANZANIA

Government Reports 593 Deaths From Meningitis

AB1110131791 Dakar PANA in English 1038 GMT 11 Oct 91

[Text] Dar es Salaam, 11 Oct (SHIHATA/PANA)—A total of 593 people died of meningitis in Tanzania in the last four months, the government has announced.

The death toll was revealed Thursday in Dar es Salaam by Wilfred Mwabulambo, the principal secretary in the Ministry of Health, who said that the deceased were among 4,286 patients.

Symptoms of the disease include severe head, neck and spinal cord pains.

The disease has mainly been prevalent in the central Tanzanian regions of Dodoma, Tabora in the west and the Lake Victoria regions of Mwanza and Mara, the principal secretary added.

Meningitis Outbreak Leaves 30 Dead

EA1510165091 Dar es Salaam Radio Tanzania Network in Swahili 1000 GMT 15 Oct 91

[Text] Urambo—In Urambo District, Tabora Region, 30 people died of meningitis since the outbreak of the disease early this year. Urambo District Commissioner Comrade Mwanga that 26 people died of the disease between January and August this year while three others died last month [figures as heard]. He said the danger of the disease spreading was real and therefore called on citizens to take preventive measures such as avoiding gathering in groups. He warned that stern action would be taken against people who gather in poorly ventilated places and at the same time called on citizens to go to the hospital for inoculation against the disease.

ZAIRE

Infant Measles Vaccination Program Succeeding

92WE0043A Kinshasa ELIMA in French 11 Sep 91 p 2

[Article by Ernest Lutumba: "The Anti-Measles Vaccine Administered at Six Months Has Proven Effective"]

[Text] The Edmonstonzagreb (EZ) anti-measles vaccine that was included in the expanded vaccination program (PEV) and administered to children beginning at six months of age has produced positive results in Kinshasa. There was an appreciable drop in the number of measles cases following administration of the vaccine to the infants.

According to a report by Kinshasa's sentry posts, the number of measles cases began to decline in 1989. That was the year the vaccine began to be given, and epidemics are now occurring at increasingly longer intervals. Careful scrutiny of vaccination booklets and studies of vaccinal coverage showed that anti-measles immunization rates climbed from 47 percent to 68 percent over the last few years. This suggests that Kinshasa city may gain control over measles in the future.

According to the weekly epidemiological abstract, children should be given the vaccine starting at the age of six months.

ZAMBIA

Ten Cholera Deaths in Northern Province

92WE0020A Lusaka TIMES OF ZAMBIA in English 23 Aug 91 p 1

[Article: "10 Die of Cholera"]

[Text] Ten people have died in a fresh outbreak of cholera in Northern Province, area permanent secretary Mr. Vitaliano Chipimo said in Kasama yesterday.

The worst hit area has been Mpulungu where eight deaths have occurred, one at Fisansa Island and another at Nsumbu.

Mr. Chipimo described the situation as "very bad", since the scourge resurfaced.

At least 15 patients were reported to be under treatment at Mpulungu where a treatment centre had been opened.

The cholera surveillance committee formed last year would meet to discuss how measures planned to be taken would be effected which might include the stopping of selling Kapenta from infected areas to other parts of Zambia.

Mr. Chipimo said from reports received it was suspected that cholera broke out at Chipiwa in Tanzania and was brought into Zambia by travellers.

He appealed to the Ministry of Health and organisations to help curb the outbreak by giving drugs and funds.

Mr. Chipimo said measures decided upon last year were being worked upon. It was decided the market place at Mpulungu be provided with water toilets.

Donor agencies were helping by providing funds to solve the problem.

New Anti-Cholera Measures Instituted

92WE0020B Lusaka TIMES OF ZAMBIA in English 24 Aug 91 p 3

[Article: "Province Acts to Control Cholera"]

[Text] The cholera situation in Northern Province has been described as explosive and provincial authorities have taken new tough measures to control its further spread.

The provincial cholera surveillance committee which met in emergency session in Kasama yesterday imposed an immediate three-week ban on the kapenta trade and restrictions of people's movements.

In a Press statement after the meeting, deputy permanent secretary Namushi Nyambi said a final order had been issued to illegal settlers at Ngwenya harbour in Mpulungu to vacate the premises immediately or security forces would move them by force.

Mr. Nyambi said the epidemic, which emerged last month in Mpulungu, had now spread to Nsumbu in Kaputa district, Mkushi in Central Province, Kasama's Nkolemfumu's area, Luwingfu and Chisanza island, where one person died this week.

Similar deaths were recorded in other areas.

So far 33 cases have been recorded with Chisanza registering seven.

Mr. Nyambi said almost all the cases have had a history of having visited Mpulungu and suffered the symptoms on return to their areas and more measures were necessary to forestall its further spread.

Other measures include the re-introduction of roadblocks on all routes leading into Mpulungu to control movement of people while transport firms including UBZ will now terminate their routes at Mbala without reaching Mpulungu during next three weeks.

Five more cases were admitted at Mpulungu treatment centre on Thursday—a sign that the disease was far from abating.

Mbala district authorities will address a meeting at the Ngwenya harbour today to persuade them to move.

Fishermen at Kaputa's Chisense and Muchanga camps in Nsumbu will move out or risk the application of force.

Cholera Epidemic Seen as 'Threat' to General Elections

MB1210125691 Johannesburg South African Broadcasting Corporation Network in English 1100 GMT 12 Oct 91

[Text] The cholera epidemic in Zambia is threatening this month's general elections. Zambian officials fear that the epidemic will spread as a result of the movement of voters to polling districts. Normally, areas affected by cholera are quarantined but this practice could become a controversial political issue if people are prevented from travelling to areas where they are registered to vote. At least 56 people have died in the current epidemic.

Ninety Hospitalized in 'Serious' Outbreak of Dysentery

MB2310173091 Johannesburg SAPA in English 1220 GMT 23 Oct 91

[Text] Lusaka Oct 23 SAPA—A serious outbreak of dysentery is ravaging Mbala and Isoka Districts in northern Zambia, on the border with Tanzania, where 90 people have been hospitalised over the past month after contracting the disease.

The government-owned TIMES OF ZAMBIA reported on Wednesday that 65 people had been hospitalised at Mbala General and 25 at Isoka District Hospitals—the two adjacent districts.

The newspaper quoted Northern Province Permanent Secretary Mr. Vitaliano Chipimo as saying that by October 16, 13 out of the 25 people admitted at Isoka District Hospital had been discharged.

No deaths have been reported since the outbreak of the epidemic some two weeks ago.

Mr. Chipimo was optimistic about the measures taken to control any further spread of the disease, and blamed the epidemic on inadequate water supply and bad treatment.

Meanwhile, the cholera situation has almost been brought under control in the Northern Province, with only one person still admitted at Mpulungu.

The cholera epidemic has so far killed about 60 people since its outbreak in the Luapula Province three weeks ago—an area bordering Zaire—with the Luapula River separating the two countries.

A team of medical corps was dispatched to the area to control the spread of the disease.

The cholera epidemic originated from Zaire, according to Ministry of Health permanent secretary, Dr. Everiste Njelesani.

Cattle Afflicted by Corridor Disease

92WE0020C Lusaka TIMES OF ZAMBIA in English 27 Aug 91 p 1

[Article: "Disease Claims 5,000 Animals; Cattle Wiped Out"]

[Text] People of Chief Nalubamba in Namwala have called on Government to institute emergency measures in the area where 5,000 head of cattle have died of corridor disease since January.

Minister of Agriculture, Cde. Biggie Nkumbula and Southern Province Minister, Cde. Daniel Munkombwe were told at a special UNIP ward conference at Nakabona primary school in Namwala at the weekend that corridor disease was wreaking havoc in the area.

Nakabona ward chairman Cde. Augustine Mulinda, said unless the Government instituted emergency measures

to stop the deaths, the population of cattle in the area would be depleted because of the disease and lack of water because of the prevailing drought.

Cde. Munkombwe who was with Zambia's high commissioner to Canada, Cde. Kebby Musokotwane and Chief Bright Nalubamba, said he was sad to learn about the seriousness of the outbreak and advised cattle owners to control the movement of livestock to avoid the disease from spreading.

Cde. Mulinda complained that Government supplied few drugs while the death toll of animals was increasing every month.

Most streams and wells in the area had dried up making it difficult for farmers to obtain water for their dip tanks.

But in Livingstone, Southern Province permanent secretary, Mr. Austin Mweemba, said while he knew Government had not eradicated corridor disease in the province the figures reported to the minister were "alarming".

In Choma, provincial veterinary officer, Dr. Dominic Minyoi said the number given to the ministers by the local people was "too alarming".

Dr. Minvoi said his records showed a total of 535 head of cattle had died of suspected corridor disease between January and May in parts of Namwala.

On June 14, he rushed to Muchila, Bweengwa and Chitongo areas in Namwala after receiving reports that animals were dying in large numbers because of suspected corridor disease and talked to farmers who had lost 100 head of cattle.

At the time there were 1,584 confirmed cases of corridor disease of which 535 died.

Senior assistant veterinary officer for Mbeza and Nakaboma wards Mr. Little Kalaula and livestock officer for Chitongo and Ndema areas Mr. Kenny Chilala feared the figure of animals that had so far died might be higher than 5,000 because some cases were not reported.

But the two Government officers attributed the high death toll to lack of cooperation from cattle owners who they said did not dip their animals on a regular basis but conceded they received inadequate supplies of curative drugs from their head office in Choma.

Mr. Chilala said his monthly supply of curative drugs was 20x40ml bottles which were enough only for 20 animals yet in his area he was expected to service about 23,000 animals in Chitongo and 19,000 in Ndema or a total of 42,000 heads of cattle.

Mr. Kalaula said there were 21,000 animals in Mbeza but 3,000 of these had since died.

JPRS-TEP-91-024 22 November 1991

Trends of Epidemic Diseases Analyzed

91WE0419A Beijing YIYAO XINXI LUNTAN [CHINA MEDICAL TRITUNE] in Chinese 23 May 91 p 8

[Article by Wang Jingzhu [3769 2533 3796]]

[Text] The Chinese Preventive Medicine Hospitals held their 1990 Annual Epidemic Disease Analysis Meeting in Nanning from 18 through 21 April. Director Zeng Guang [2582 0342] of the Epidemic Disease Research Laboratory in the Epidemic Disease Microbiology Research Institute made a report on the trends and forecast of China's epidemic diseases.

Based on statistics from 30 provinces, autonomous regions, and direct municipalities, all 24 class A and class B diseases under the management of the epidemic disease prevention law have occurred in 1990. The number of reported cases was 3,303,448 and the number of deaths was 13,039. The case rate was 297.240 per 100,000, the death rate was 1.173 per 100,000, and the disease death rate was 0.395 per 100,000. There were two types of class A diseases with a total reported cases of 714 and 9 deaths. For class B diseases there were 22 types, with a total reported cases of 3,302.734 and 13,030 deaths.

Of the three respiratory epidemic diseases under planned immunization control, the number of measles cases was slightly higher than that of 1989. The causes were the large number of immunization void population and advanced age cases. Although the national measle vaccination in China has met the target in the county level in 1990, but it only reflected the situation for babies born in 1989 and more than 55 percent of the cases were on patients 5 years or older. The measle problem in children has not been solved and the predicted measle cases this vear is higher than that of last year. Since 1979, the number of whooping cough cases in China has decreased at a rate of 28.89 percent per year. The number of whooping cough cases forecasted for this year is considerably less than last year, by about 20 percent or so. The number of cases of epidemic encephalitis has steadily decreased since 1985 and the number in 1990 was 33.01 percent less than that in 1989.

In 1990 the total number of the following five intestinal epidemic diseases accounted for 78.70 percent of the 24 class A and class B epidemic diseases: cholera, viral hepatitis, dysentery, typhus and paratyphoid. Last year there were only 639 reported cases of cholera in China, which was the lowest since 1976 and most of these cases occurred along the coast. In 1990 for the first time in China, viral hepatitis cases were classified and 63.99 percent of cases were identified. The percentages of hepatitis A, hepatitis B and non-A/B hepatitis were respectively 69.88, 29.15 and 0.97. Hepatitis A was characterized by epidemic in local regions. Non-A/B hepatitis was reported in 29 provinces, autonomous regions and direct municipalities, but not in Ningxia, and the outbreak was mild. The cases of viral hepatitis in 1991 will be slightly less than in 1990 and the percentage 9

of hepatitis B will be slightly higher. The number of dysentery cases was slightly lower than in 1989 but the death rate increased by 22.63 percent. The number of reported typhus and paratyphoid began to drop in 1989, and dropped some more in 1990. Most of the typhus cases (50 percent of the national total) occurred in the six provinces of Gueizhou, Yunnan, Jiangsu, Zhejiang, Hunan and Hubei. The predicted number for 1991 is slightly higher than in 1990. In 1990, 673 of the counties and regions in 28 provinces, autonomous regions, and direct municipalities reported cases of myelitis; most of the cases involved children who has not had or completed myelitis vaccination. More cases were reported by highly populated rural areas and regions left out by planned vaccination. In 1990, 85 of the counties in China met their goal of myelitis vaccination. Booster vaccinations were given to vulnerable children and there are reasons to expect that the number of myelitis cases in 1991 will drop. In 1990, there were two reported cases of AIDS in China, in both cases the patient died. In 1990, for the first time in China, there were data on gonorrhea and syphilis; the number of cases were respectively 7,289 and 1,047 and most of the cases were from cities.

Bubonic plague, bleeding disease, rabies, ancylostomiasis, brucellosis, anthrax, typhus, encephalitis B, black fever, malaria, Deng-Ge fever, are 11 diseases with natural sources or insect transmitted. The number of cases of these diseases in 1990 accounted for 7.14 percent of the 24 class A and class B epidemic diseases. In 1990 Yunnan has 73 reported cases of gland bubonic plague; in addition, Nei Monggol and Qinghai each reported one case, which made the national total 75. This was the highest number since 1955 and two patients died. Due to the increased number of encephalitis B in Henan, Hubei, and Hunan, the year 1990 had the highest number of encephalitis B since 1982. Using the cumulative percentage analysis algorithm, the number of encephalitis B in 1991 will be at least 20 percent less than in 1990. Although the number of reported black fever was low, it was noticeably higher than in 1989. The occurrences of rabies, malaria, bleeding disease, brucellosis, anthrax, and typhus have dropped. There were 32.70 percent fewer rabies (and 1,672 fewer deaths) in 1990 than in 1989. The numbers of rabies, malaria, and bleeding disease are expected to continue their drop in 1991 and for the first time malaria will be less than 10 per 100,000 and the bleeding disease is expected to drop by 15 percent or so. The year 1990 saw the first report of Deng-Ge fever data; only Guangdong and Jiangsu reported cases.

Based on reports from 127 monitor points in China (monitoring a population of 10,048,734) there were 99,898 cases of 11 class C epidemic diseases and 157 people died. The disease rate was 994.13 per 100,000 and the death rate was 1.56 per 100,000. Some 5,084 cases of tuberculosis were reported, with 86 deaths. There were also 44 cases of schistosomiasis, 6 cases of filariasis, and 17 cases of leprosy, with no deaths.

Help for Hepatitis C

54004802A Beijing CHINA DAILY (NATIONAL) in English 8 Jul 91 p 3

[Text] Chinese medical scientists in Beijing People's Hospital have successfully developed biological tests to diagnose hepatitis C. The test, which recently passed an experts' evaluation organized by Beijing Medical Sciences University, can help to rapidly and accurately find out if patients are carrying the virus and thus effectively stop further spreading of the disease. The new technique will soon be applied in Beijing Blood Centre and then be expanded to hospitals and medical institutes throughout the country.

The Clinical Significance of Detecting Serum Nucleoprotein Antibody and Glycoprotein Antibody in Patients With Epidemic Hemorrhagic Fever

54004801A Shanghai ZHONGHUA CHUANRANBING ZAZHI [CHINESE JOURNAL OF INFECTIOUS DISEASES] in Chinese Vol 9 No 3 Aug 91 p 132

[Article by Zhang Chengwen [1728 2052 24290, Liu Yongteng [0491 3057 750060, et al.]

[Abstract] Nucleoprotein antibody (NPAb) and glycoprotein antibody (G_2Ab) to epidemic hemorrhagic fever virus (EHFV) in 291 serum samples from 65 EHF patients were detected by antibody blocking-ELISA. The positive rates of NPAb and G₂Ab were 93.25 percent (286/291) and 32.98 percent (96/291) respectively. They appeared practically on the 2nd day after the onset of the disease. The positive rates of NPAb and G₂Ab reached 100 percent on the 8th and 25th day respectively. Both titers were negatively related to protein levels in the urine samples (p)NPAb may play an important role in the mechanism of immunopathogenesis of EHF, a weak immuneresponse to EHFV G2 appears the main pathological basis of a lower production of neutralizing antibodies. NPAb or G₂Ab may be used as one of the valuable markers for early diagnosis and prognosis of EHF.

Over 95 Percent of Children Under One Year Vaccinated

HK2210094191 Hong Kong ZHONGGUO TONGXUN SHE in English 0900 GMT 22 Oct 91

[Text] Beijing, October 22 (HKCNA)—The proportion of Chinese children under the age of one who received vaccination was more than 95 percent, according to latest statistics.

With 20 million babies born every year, the state set up the National Planned Vaccination Cooperation Commission, which includes government agencies of various levels, social organizations, women's groups, schools and news media, in order to promote planned vaccination work. Strong support from the government and various sectors help to further promote vaccination., By 1988, four-fifths of children in China received six vaccination doses over the space of a year. About 99 percent of children under one year of age throughout the country have received Bacille Calmette Guerin vaccine this year, while 97 percent of children in the same age group have been vaccinated against diphtheria, pertusssis and tetanus.

All countries and townships subjected to inspection last year reached 85 percent of their immunization target, meaning that China could boast having at least 98 percent of its counties and townships achieving 85 percent of their immunization target.

Outstanding achievements attained by planned vaccination have resulted in a sharp drop in infant death resulting from preventable diseases. China saw a mere 110,000 cases of measles, pertussis and poliomyelitis in 1989, a sharp drop from 1.6 million cases in 1978.

Efforts made in carrying out planned vaccination of children must be ongoing in view of the outbreak of infantile paralysis in the past two years which left some 10,000 children disabled.

Shandong Province Beating Tuberculosis Epidemics

OW2210120391 Beijing XINHUA in English 1152 GMT 22 Oct 91

[Text] Jinan, October 22 (XINHUA)—In the past decade the government of east China's Shandong Province has invested 13 million yuan to combat TB, which was rampant here before the founding of New China in 1949.

So far, 90 percent of the towns and villages in the province have doctors specialized in treating this disease—a total of 4,400; there are also 3,100 beds in special TB hospitals.

In the past four decades the stress of the work has been in the rural areas, as 80 percent of the province's 84 million people live in the countryside.

A 1990 survey showed that the province's TB rate was 15 per 10,000, the lowest in the country after Beijing and Shanghai.

Research on Chinese Herbal Medicine Continues

OW2310142591 Beijing XINHUA in English 1346 GMT 23 Oct 91

[Text] Beijing, October 23 (XINHUA)—As an integral part of the health system in China, traditional Chinese medicine is by no means inferior to synthetic drugs and antibiotics.

This was claimed at an International Congress on Traditional Medicine, which closed here yesterday.

Sources at the Chinese Academy of Medical Sciences told the congress that the latest nationwide survey

showed at least 8,000 kinds of traditional Chinese medicinal herbs, animals and minerals are currently being used.

The sources disclosed that the cultivation area of some 100 types of medicinal plants in China has reached 330,000 hectares, with the yield per annum around 250,000 tons.

Success has been achieved in the introduction of many important exotic species. Detailed studies of the cultivation of the most important medicinal herbs have also been carried out.

A monograph titled "The Agronomy of Chinese Medicinal Plants" was published in 1991. The latest edition of the Chinese pharmacopoeia includes 784 kinds of Chinese herbal medicines and their preparation.

The sources noted that drugs extracted from animals, such as musk deer, scorpions and geckos, have also been studied, resulting in new biological techniques being developed.

In recent years, according to the sources, about 200 kinds of new drugs have been developed from Chinese medicinal herbs.

Gansu Province First To Eliminate Glanders Disease

OW2410043891 Beijing XINHUA in English 0403 GMT 24 Oct 91

[Text] Lanzhou, October 24 (XINHUA)—Gansu, one of China's largest animal breeding bases in the northwest, has become the country's first province to eliminate glanders—a highly contagious and destructive disease to both animals and man.

Glanders, a type of chronic disease prevalent among livestock, especially horses, had long been a problem in the province. Prior to 1982 the disease affected some 1.69 percent of the livestock in the province. The infection rate was much higher in certain years.

As part of the efforts to eradicate the disease, the province drafted an anti-glanders plan in 1982. Over the past decade, veterinarians in Gansu have examined 5.2 million head of livestock, or 90 percent of the province's total number of livestock, and have destroyed over 1,100 horses suffering from the disease.

The effort saved more than 370,000 horses of the province from contracting the disease, local experts said.

The elimination of glanders is the second notable success in wiping animal borne diseases, following its eradication of cattle plague in 1956, they said.

Experts pointed to the success of Gansu, the country's only province free of glanders disease, saying that other parts of the country also benefit from Gansu's success.

Last Anti-Epidemic Team Pulls Out of Anhui

OW2810185191 Beijing XINHUA in English 1526 GMT 28 Oct 91

[Text] Hefei, October 28 (XINHUA)—The last group of anti- epidemic teams sent by the Ministry of Public Health pulled out of Anhui Province today.

Anhui Province was the hardest hit by floods last summer and the Ministry of Public Health, the Ministry of Railways and the Chinese People's Liberation Army sent 117 anti-epidemic teams made of more than 1,000 medical personnel to the flooded areas to prevent the possible occurence of epidemics.

Thanks to the efforts by the teams, no major epidemic diseases occurred.

Today, the Anhui Provincial Government held a grand ceremony to send off the medical teams.

The province will rely on its own medical personnel to prevent and control diseases in the coming winter and spring, according to the Provincial Vice-Governor Du Yijin.

CAMBODIA

Infectious Diseases Spreading in Kompong Cham

BK2610093391 Phnom Penh SPK in English 0447 GMT 26 Oct 91

[Text] Phnom Penh SPK October 26—Infectious diseases are threatening Kompong Cham Province, 120 km northeast of Phnom Penh, now that the Mekong River floods have receded.

More than 10,000 people in the region have so far suffered dysentery and diarrhea, according to Than Phat, chief of the provincial health care service.

He gave no figure on the death rate but said typhoid, malaria, and skin and eye diseases were expected to increase in many areas due to the unhygienic conditions caused by the flood.

"Malnutrition is another problem," he added, noting that many flood victims still [words indistinct] shortage despite relief given by the local authorities and international organizations.

Tuberculosis, which the service had tried to eradicate, was badly affecting the people, he said. Patients who had not yet recovered [word indistinct] the flood hit had become worse.

There were now more than 2,00 [figure as received] tuberculosis patients in the province, he said, 340 of them had been hospitalized, the rest are being treated at home. Ten died in the past months, he added.

The health care service had sent several medical workers to villages to talk with the inhabitants on how to live safely from diseases as part of its flood efforts.

The service had organized a two-day seminar early this month at the provincial town in cooperation with the Medecins Sans Frontiere (MSF) and the Save the Children Fund of Australia (SCFA) to disseminate information on the cause of infectious diseases after flood receded and to give some medical advice to the people. Those two international organizations had made great efforts to rescue people from flood and had given urgent relief worth 10 million riel to the victims during the flooding period, he said.

The service also had contacted the World Food Program (WFP) for more food to the victims so as to avoid malnutrition.

HONG KONG

Dengue Fever Spreads Rapidly in Guangzhou

HK2210063191 Hong Kong THE STANDARD in English 22 Oct 91 p A-1

[Article by Cary Huang and Amy Choi]

[Text] A fatal disease, which has already killed three people and infected 188 others, is spreading fast in Guangzhou.

A Health Department spokesman said the Hong Kong Government had so far not been notified by Guangzhou authorities about the spread of the disease—dengue fever.

"It's the Guangzhou health authorities which decide whether to inform us on the matter," she said.

Statistics on the number of patients with the fever in Hong Kong were not available, she said, because private practitioners were not obliged to notify the Government upon receiving such patients.

She said dengue fever was common in India, Central and South America, but "very rare" in Hong Kong.

The disease, a corruption of "dandy fever", is thought to occur epidemically in tropical and subtropical regions due to a parasite transmitted solely by a mosquito of the genus Aedes.

Symptoms include intense aching in the head, muscles and joints, together with fever, according to medical experts.

There are usually two attacks, separated by an inactive period. The first attack is a reddening of the skin, the second an eruption of rosy spots similar to measles, according to a medical dictionary.

President of the Hong Kong Medical Association and Legislative Councillor, Dr. Leong Che-hung said the disease posed no serious threat to human life.

The most important preventive measure was to control the spread of mosquitoes, he said.

Reliable Guangzhou sources yesterday told THE STAN-DARD that dengue fever broke out in Guangzhou early this month.

Up to 16 October, according to official statistics, the disease, had killed three people and another 188 were diagnosed as having the disease. Most of those infected have been hospitalised.

Guangzhou health authorities yesterday confirmed the news, but said the situation was not very severe.

Li Jingan, the director of the General Office of Guangzhou Municipal Health Bureau, said: "Yes, it is now spreading, but it is not as severe and terrible as people have thought."

Until yesterday the authorities had not informed the general public of the spread of the disease.

Through an internal circular, the authorities have only alerted concerned Guangdong provincial and Guangzhou municipal departments of the spread of the dengue fever, sources said.

In the internal circular, the Guangzhou authorities ordered all departments concerned to keep alert, monitor the disease and start a huge campaign to kill mosquitoes. Quoting the official statistical figures from the circular, dated on 16 October, the sources said almost all city districts were affected.

The districts are: 116 cases (one dead) from Haizhu; three (one dead) from Baiyun; one dead from Liwan; 11 from Dongshan; eight from Yuexiu; and 52 from suburban areas.

SOUTH KOREA

Professor Presents Paper on Non-BC Liver Virus

SK2510012091 Seoul THE KOREA TIMES in English 25 Oct 91 p 3

[Text] Of 673 chronic liver disease patients, 45.3 percent suffered from Type B liver diseases, 27.3 percent from Type C liver diseases and the remaining 28.4 percent from Type Non-BC liver diseases.

Type Non-BC chronic liver disease viruses have caused more liver diseases including liver cirrhosis and hepatocellular carcinoma than Type C viruses, he said.

The average age of the new hepatitis patients was 5-9 years higher than that of Type B hepatitis patients, he said.

Accordingly, these patients have been infected with the virus after starting social life while Type B viruses strike the people at an early age, he said.

It is almost certain that the new liver diseases are passed on through foods, he said, adding citizens will have to step up individual sanitation to curb infection.

So far, a total of five kinds of liver disease viruses have been reported, but only Type B and C viruses were found to cause chronic liver diseases.

Vaccines have been already developed to prevent infection by Type B viruses.

An outbreak of chronic liver diseases caused by unidentified viruses has been newly reported in the country, a professor said yesterday.

Prof. Kim Chong-yong of Seoul National University disclosed the result of his recent research on the "prevalence and age difference of Type Non-BC chronic liver diseases in relation to Type B and C chronic liver diseases in Korea."

The report, regarded as the first on new viruses in the country, was announced at an autumn seminar of the Korean Association of Internal Medicine.

According to the professor, the percentage of chronic liver disease patients unrelated to Type B and C hepatitis viruses amounts to 20-30 percent, slightly more than Type C hepatitis patients.

A research team headed by Prof. Kim conducted a survey on 1,702 patients suffering from liver problems from November last year to May this year.

LAOS

Malaria Reportedly Rampant in Sekong Province

BK2610091891 Vientiane Vitthayou Hengsat Radio Network in Lao 0000 GMT 24 Oct 91

[Text] In the past two months, the spread of malaria in Sekong Province remains highly rampant. According to authorities at the malaria eradication station attached to the public health service of the province, at present 708 persons or some 30 percent out of 1,299 persons who have undergone blood tests have been found to be inflicted with this disease. Most of the 328 in-patients out of 457 now hospitalized at the provincial hospital are inflicted with malaria. According to a hospital official, five persons have already died of the disease.

MALAYSIA

Haze-linked Health Problems Increasing

BK1210150791 Hong Kong AFP in English 0605 GMT 13 Oct 91

[Text] Kuala Lumpur, Oct 12 (AFP)—The forest fireinduced haze, now six weeks old, has resulted in a 10 percent rise in cases of asthma, respiratory and eye ailments in Malaysia, Health Minister Lee Kim Sai said Saturday.

This was based on feedback from government hospitals throughout the country, he said, adding that he expected the number to increase if the haze situation prevailed.

"The effects of the current haze on health are still not serious but my ministry is closely monitoring the situation and would advise on the precautions to take if the haze worsens," Lee said when asked to comment.

Lee assured that the levels of poisonous gases in the air were still within safe limits set by the World Health Organisation. A meteorological department official said Saturday the haze was expected to ease in the coming week with changes in wind direction.

The much-awaited rain to clear the haze came late Friday, but the five-hour torrential downpour caused two deaths. [Passage omitted]

VIETNAM

Over 600 Die of Malaria in Nghe An Province *BK2810130791 Hanoi Voice of Vietnam Network in Vietnamese 1100 GMT 25 Oct 91*

[Text] There have been two malaria epidemics in Nghe An this year causing 611 deaths. The second epidemic which lasted from late August to the middle of September killed nearly 500 people.

The Nghe An Medical Service has taken extensive measures to fight malaria. They have sent staff, equipment, and medicine to the infected areas but the speed of the contagiouness has resulted in many deaths. The medical service continues to send experienced nurses and doctors and medicine to the affected areas.

BOLIVIA

Two More Cholera Cases in La Paz Department

PY1210140891 La Paz Television Boliviana Network in Spanish 0200 GMT 12 Oct 91

[Summary] National epidemiology department director Roberto Vargas has said that two new cholera cases were reported on 12 October in La Paz and El Alto. The total number of cases in La Paz department now stands at 57.

Fearing Cholera, Raw Vegetables Banned at Restaurants

PY1210180491 La Paz Radio Fides Network in Spanish 1100 GMT 12 Oct 91

[Text] The Ministry of Social Security and Public Health has forbidden consumption of raw vegetables in restaurants throughout the country in the face of the increasing number of cholera cases in the city of La Paz.

National Epidemiology Department Director Roberto Vargas has reported that up until 2400 on 11 October, 57 cases had been detected.

[Begin Vargas recording] The effects continue to be felt only in La Paz department. Thus far we have 57 cases, of which 33 are from Rio Abajo, 12 from El Alto, 10 from the city of La Paz, one from Achocalla, and one from upper Beni.

As you can see, today we have two new cases, one of them from Villa San Antonio, an area in the city of La Paz in which no case had thus far been detected, and the other one is in Villa San Jose, in El Alto. [end recording]

Three New Cases of Cholera in La Paz

PY1710145691 La Paz Television Boliviana Network in Spanish 0200 GMT 17 Oct 91

[Summary] Three new cases of cholera were recorded today in La Paz Department. National Epidemiology Director Roberto Vargas reported that overall cholera cases now stand at 67—44 confirmed and 23 still considered probable cases.

Number of Cholera Cases Rises to 76; Seven Deaths

PY2210143491 La Paz Television Boliviana Network in Spanish 0200 GMT 22 Oct 91

[Summary] National Epidemiology Department director Roberto Vargas has reported that four new cholera cases were detected in La Paz department over the weekend, that one of them was fatal, and that the number of deaths has risen to seven. He added that the total number of cholera cases has reached 76, and that only one of them has been detected in Oruro.

More Cholera Cases in La Paz District

PY2410214391 La Paz La Red Panamericana in Spanish 0000 GMT 24 Oct 91

[Summary] Dr. Rosario Quiroz, member of the Epidemiology Department, has reported that the number of cholera cases in La Paz District total nearly 100. She stated that the number of cases have increased from 79 to 84.

BRAZIL

Number of Cholera Cases Countrywide Increases to 178

PY2410154091 Sao Paulo O ESTADO DE SAO PAULO in Portuguese 23 Oct 91 p 10

[Summary] Health Ministry records show that there are 178 cholera cases in Brazil. Baldur Schubert, head of the National Cholera Prevention Commission, has reported that 600 health agents are being trained to identify and treat the illness in Manaus, Amazonas State. Amazonas State Health Secretary Arnaldo Russo reported on 22 October that the Manaus Institute of Tropical Diseases (IMTM) has diagnosed 24 cholera cases in Manaus since 5 October and that of the 57 examined only four remain hospitalized.

Over 1,000 Cases of Malaria Registered in Manaus in September

PY2510134491 Brasilia Radio Nacional da Amazonia Network in Portuguese 1000 GMT 25 Oct 91

[Summary] A total of 1,280 cases of malaria have been registered during the month of September in Manaus. This information was disclosed by (Graca Alecrin), head of the protozoology branch of the Tropical Medicine Institute, who added that a total of 1,789 cases of malaria have been detected in Manaus during the January-July 1991 period, compared with 1,145 during the same period last year.

GUATEMALA

Cholera Epidemic Widens, Worsens

92WE0007A Guatemala City EL GRAFICO in Spanish 10 Sep 91 p 6

[Article by Carlos Garcia Urrea]

[Text] The cholera epidemic in Guatemala is continuing its slow but inexorable advance and is threatening to spread to areas that have been free of the disease ever since it entered our country through the western region that borders on Mexico.

According to official information 181 cases of cholera had been reported as of last Friday, but only one death has been acknowledged. Other official sources, however, told EL GRAFICO yesterday that the number of cases

LATIN AMERICA

JPRS-TEP-91-024 22 November 1991

has already risen to 190, including the most recent cases that have not yet been reported by the Ministry of Public Health. According to unofficial sources, more than 200 cases are awaiting confirmation by laboratory tests.

Yesterday, for example, it was reported unofficially that there are six new cases of cholera in Roosevelt Hospital, but these figures have not yet been announced by the Ministry of Public Health. These cases apparently came from the capital proper rather than from the interior of the Republic, as was the case with the IGSS's [Guatemalan Social Security Institute's] patient, who came from the San Marcos region on the Mexican border.

The region affected by the cholera epidemic is still defined as the departments of the southwestern part of the country, including San Marcos and Retalhuleu and to some extent the municipality of Coatepeque on the Quetzaltenango coast. It so happens, however, that the patients from San Marcos and Retalhuleu departments are transferred to that municipality.

Fortunately, all the patients from the southwestern coast who tested positive have responded favorably to treatment, and their lives have been saved.

The area regarded as most vulnerable is that of the municipalities bordering Mexico, and in particular the San Marcos Department municipality of Tecun Uman—where most of the cases testing positive have originated—and to some extent Malacatan, also in San Marcos Department.

This situation results from the fact that a cholera epidemic broke out on the other side of the border in Ciudad Hidalgo but was not reported to Guatemala in timely fashion.

Dr. Renato Palma, deputy minister of public health, reportedly met with Mexican health authorities and stated in so many words that the failure to provide timely information to the health authorities of Guatemala led to the entry of cholera into our country. Dr. Palma expressed the opinion that if Mexico had notified Guatemala of the existence of cholera on its border, the disease would perhaps not have spread to Guatemala.

HONDURAS

Seven Cases of Dengue in Capital

92WE0036A Tegucigalpa EL HERALDO in Spanish 12 Sep 91 p 2

[Text] Yesterday the vice minister of health, Ramon Pereira, confirmed two more new cases of hemorrhagic dengue. This brings the total number of reported victims residing in the capital to seven.

The official explained that those cases, which had been awaiting confirmation since Friday, proved positive in the laboratory tests.

He also noted that a native of Choluteca and seven other individuals from the department of Yoro are being examined, with a study made of their samples. If these suspected cases should be confirmed, with the number of victims exceeding 10, Pereira claimed that a state of emergency would be ordered immediately. Its purpose would be to execute the operational plan devised by that secretariat.

The plan consists of making fumigation more drastic, requiring house to house cleaning, reinforcing the laboratory, and setting up a similar one in San Pedro Sula. International aid would also be sought to support the hospitals, especially in the area of blood treatment.

Nevertheless, as the official explained, the ministry does not intend to let down its guard in the campaign against cholera. This message was conveyed to President Rafael Leonardo Callejas by Minister Cesar Castellanos.

However, there will be a redoubling of efforts to prevent hemorrhagic dengue from becoming a national epidemic; because the rise in cases to a massive scale would entail serious difficulties for the country.

As for the incidence of cases in the capital alone, the vice minister remarked that it could be due to the fact that the last epidemic of classic dengue occurred in Tegucigalpa. Those people are now more susceptible to contracting the hemorrhagic type.

Finally, he observed that the disease is being reported in the city's southwestern section, in communities such as 21 de Octubre, Miraflores, Altos del Carrizal, and Kennedy.

NICARAGUA

Cacao Crop Affected by Fungus

92P40038A Managua LA PRENSA in Spanish 20 Oct 91 p 18

[Text] Eighty percent of the 400 manzanas of cacao grown in the area of Papaturro, in the Rio San Juan jurisdiction near the border with Costa Rica, has been affected by the Nomilia fungus which affects cacao fruit and foliage.

Arnoldo Paniagua, regional delegate of the Agriculture and Livestock Ministry [MAG] in San Carlos, Rio San Juan, explained that efforts are being made to fight the disease by using fertilizers, working to regulate shade and pruning, and removing damaged stalks.

Paniagua further explained that cacao plantations in the Papaturro area had not received adequate attention because growers had abandoned them during the war.

According to Paniagua, the cacao yield will be minimal due to the fungus. Studies forecast five quintals per manzana, and as a result the price for the product will increase. MAG hopes to innovate and renovate cacao growing in order to restore production to previous levels.

MAG, in conjuntion with the mayor's office, is promoting the El Recreo Experimental Center located in Rama where techniques to improve cacao production will be implemented.

There are nearly 4,000 manzanas of cacao in 33 districts of Rio San Juan.

URUGUAY

Number of Measles Cases Hits 1,120

PY2210015291 Madrid EFE in Spanish 0317 GMT 20 Oct 91

[Summary] According to the Uruguayan press, 1,120 measles cases have been registered so far in Uruguay, while the Health Ministry has reported that this amount already has surpassed the number of cases normally registered in this period.

BANGLADESH

Venereal Diseases Spreading in Jamalpur

92WE0041 Dhaka THE NEW NATION in English 27 Aug 91 p 7

[Article by Meherullah: "VD Patients on Rise"]

[Text] Jamalpur—Venereal diseases are alarmingly spreading in all the seven upazilas of Jamalpur district, according to hospital sources.

Doctor's report reveals that more than one hundred and fifty patients suffering from various genital diseases received nominal treatment at the outdoor at Jamalpur general hospital during the last year. On the other hand, each of at least fifty registered and unregistered medical practitioners of the district, are reportedly treating on an average two VD patients a day.

According to local practitioners and hospitals, the diseases which have been found common are gonorrhoea, congenital syphilis, syphilis "T", gono coccal conjunctivitis, gonococcal urthritis, vaginitis, syphilitic aertratis, neuro-syphilis, etc. Besides these there are some other serious and complicated types of VD which could not be detected without thorough examination and tests carried out by highly sophisticated medical procedures and appliances which are not available here.

Experts say, syphilitic aertitis may bring death, Gonorrhoea may bring ruination of genital tracts and gonococcal conjunctivitis may bring serious urinal troubles diminishing fast sexual strength, snatch away fertility of a couple, and a woman may incur habitual abortion. The venereal diseases may be contacted by a man directly or indirectly, they added.

Generally, people from 16 to 50 years age attacked with many diseases are mostly found amongst the professional criminals, slum dwellers, frustrated and drug addicted youngsters, tourists, young men returning home from abroad, drivers of heavy motor vehicles, personnel of law enforcing agency, contractors and high officials who are isolated from their family for long.

The disease is mostly communicated to the bodies of the aforesaid persons through sexual promiscuity with prostitutes, sex-excursion, rape and adultery. The disease also transmits to a body of a man from hospitals, midwives, maltreated patients and from those who are unidentified or unaware of the disease they posses. The disease may also be contacted by visiting mostly hotels and restaurants, sometimes the disease may be contacted hereditarily, suffering of familial disharmony or separation of marriage.

In order to save the posterity from the pervasive menace of venereal diseases the prostitutes, if not rehabilitated otherwise should undergo six-monthly tests and verification of health. Videos on sex, import print and sale of pornography should be banned and sale of any kind of sex literature should be prohibited to curb the disease, the doctors suggested.

Malaria Said Spreading in Chittagong Tracts

92WE0039 Dhaka THE NEW NATION in English 15 Sep 91 p 7

[Text] Rangamati, 14 September—Malaria has been spreading fast in the CHT [Chittagong Hill Tracts] districts claiming 30 more lives and affecting hundreds of others in the last one month, it was learnt from official sources, reports UNB.

The worst affected areas are: Matiranga, Panchari, Manichari and Dighinala upazila of Khagrachari district and Roungchari upazila of Bandarban district.

Of them, 20 died in Puzzang, Longang, Ultachari, Zinnagar Madhyanagar in Panchari upazila, Sakhina Begum (27) of Ultachari along with her husband Hashem and sons Abdul Khaleque (12) and Malek (10) died on 27 August, having only one member of the family alive.

A local UP [Union Parishad] member Hazral Ali (30) has also been a casualty of malaria recently.

Sources said 600 families out of 1600 at Taidong, Tabalchari and adjoining areas under Matiranga upazila of Khagrachari district have been affected by the disease.

Ten people died of malaria in a day at Raitang Karbaripara of Afelong mauza under Roangchari upazila of Bandarban district on 7 August.

Malaria affected about 500 people in Raungchari upazila, Upazila Parishad sources said.

All the inhabitants of the village Ruitang-nearly about 100 families—50 percent of whom have been affected, have abandoned their homes and migrated to areas, they consider to be safe from malaria.

The Civil Surgeon of Khagrachari district has visited the affected areas and said medical teams were being sent to the malaria hit areas.

INDIA

Gastroenteritis, Dysentery Epidemic in Orissa

91WE0028 New Delhi PATRIOT in English 2 Sep 91 p 6

[Text] Koraput (Orissa), Sep 1 (PTI) Gastroenteritis and bacillary dysentery epidemics claimed about 500 human lives in the tribe inhabited Koraput district in Orissa during the past two months, according to Mr. Harish Chandra Buxipatra, the State's Minister for Forest and Environment.

The disease, which surfaced in isolated pockets took epidemic forms due to acute malnutrition and water pollution, he told newsmen after the situation was reviewed at a district-level meeting here on Saturday.

The Minister, who visited 55 villages of eight blocks affected by the epidemics during the past 10 days regretted that the health authorities did not rise to the occasion to combat the fast spreading epidemics.

The situation was compounded as implementation of development works in the district had come to a grinding halt due to continuous rains for the last one month, he said and added, this had caused untold hardship to the daily wage-earners who, deprived of their daily wages, could not afford two square meals a day.

Expressing his unhappiness over the failure of the health administration, the Minister said 70 posts of doctors, besides large number of posts of para-medical staff were lying vacant in the district.

Earlier, medicines and disinfectants were not available in the government health institutions to combat the epidemics. However, he said, medical teams with medicines and disinfectants were being rushed to the affected areas during the past five days.

He urged the district administration to take up implementation of labor intensive works on the large scale to enable the wage-earners to earn wages and to rush adequate quantities of medicine and disinfectants.

Properties and paddy crops estimated at Rs 20 crore were lost by the floods in the district during July last, Mr. Buxipatra said.

Floods Bring Gastroenteritis Epidemic to Bengal 92WP0019 Calcutta THE TELEGRAPH in English 20 Sep 91 p 5

[Excerpt] Calcutta, Sep 19—With the flood waters receding in most parts of Malda, West Dinajpur, Murshidabad and other North Bengal districts, an outbreak of gastroenteritis has become a cause for serious concern.

The state relief minister, Ms Chhaya Ghosh, told newsmen at Writers' Buildings today that so far nearly 75 cases were reported of which 15 proved to be fatal. The minister said that Malda and West Dinajpur were the worst affected districts, with 343 and 273 gastroenteritis cases respectively. The health department has been asked to supply sufficient anti-diarrhoea medicine to the patients.

[Passage omitted]

Conjunctivitis Strikes Hundreds in Calcutta

92WP0023 Calcutta THE TELEGRAPH in English 13 Sep 91 p 7

[Text] Calcutta, Sep 12—Conjunctivitis, locally known as "Jai Bangla" has struck Calcutta again with hundreds of people with swollen and watery eyes pouring into city hospitals and opthalmologists' chambers for treatment. Eye-specialists in the city say the infection is spreading with alarming rapidity because of poor hygiene habits and lack of preventive measures. Though the ailment lasts for about a week, it can sometimes turn out to be a source of permanent ophthalmic problems including loss of visibility, the doctors say.

This viral infection, first broke out in the state during the Bangladesh war in 1971 and since then it has occurred annually, normally during August and September. According to Dr. Badal Chowdhury, former head of the department of R.G. Kar Medical College, the infection this year is as widespread as in previous years.

Dr. M.P. Samanta, director of the Regional Institute of Ophthalmology, says over 20 afflicted people come to his department for treatment every day. Other hospitals like R.G. Kar, National Medical College and SSKM too have recorded an increase in patients suffering from conjunctivitis. According to the state health department, the disease has also spread to the districts.

Prevention

Dr. Samanta says the best way to prevent the infection is to keep the patient's belongings separate, and to wash the eyes with saline water twice or thrice a day. According to him the ailment lasts for three or four days but doctors still prescribe some antibiotics as a precaution.

Specialists argue that one of the main reasons for the recurring ailment and its swift spread in Calcutta is because garbage is not cleared regularly. Since the disease is airborne germs from garbage often cause the infection, according to Dr. Badal Chowdhury.

He says in five percent of the cases the cornea is infected and the patient may suffer from blurred vision for days together. He recommends that those affected wear dark glasses for a couple of days to avoid a relapse and to prevent the disease from spreading.

Cholera Outbreak in Assam

BK1910162691 Hong Kong AFP in English 1350 GMT 19 Oct 91

[Text] New Delhi, Oct 19 (AFP)—At least 185 people have died of cholera during the past week in the northeastern state of Assam, bordering Bangladesh and Bhutan, the PRESS TRUST OF INDIA (PTI) said Saturday.

The deaths were reported from the two flood-hit districts of Nagaon and Morigaon, state government officials were quoted as saying.

Assam Cooperation Minister Nurul Hussain reportedly said that an indefinite strike launched by doctors from the state's public health department was hampering an effective anti-cholera drive.

New Drug Therapy Brings Decline of Leprosy

92WE0029 Bombay THE TIMES OF INDIA in English 19 Sep 91 p 5

[Text] Bombay, Sep 18—The World Health Organization's objective of reducing the prevalence of leprosy to one per 10,000 of the population is nearing realization in India with the adoption of the Multi Drug Therapy [MDT] strategy which has resulted in an 80 percent decline of the disease.

Announcing this to the press here today, Dr. R. Ganapati, recipient of the Padmashree in 1983 and chairman of the Bombay Leprosy Project, said that in the last decade, since the introduction of the MDT (at Wardha in October 1981), the incidence of leprosy in India had been reduced from four million cases to 2.8 million but remains the highest in the world.

The strategy has so far been adopted district-wise, covering areas where the prevalence was very high like Tamil Nadu, Andhra Pradesh and the eastern coastline. The prevalence rate in these regions has dropped from 12 per 1000 to 2 per 1000. So far, 130 of the 196 endemic (where prevalence is more than 5 per 1000) districts have been covered and now the focus would be on those districts where leprosy prevalence is not very high, said Dr. Ganapati.

The press was informed that for the first time, Bombay is to host the National Conference of Voluntary Organizations (NCVO), involved in the national Leprosy Eradication Programme, on September 21 and 22, at Dr. Jivraj Mehta Hall, in the KEM hospital campus.

The conference, to be attended by around 300 delegates including senior government officials, WHO representative Dr. Olavi Elo, leprologist consultants of NLEP, state leprosy officers and representatives of voluntary organizations, will be inaugurated by Mr. M.L. Fotedar, Union minister for health and family welfare, with Mr. Sidhakarrao Naik, chief minister of Maharashtra presiding. Ms. Pushpatai Hirey, state minister for health and family welfare will be the guest of honor.

The national conference would review the progress of leprosy eradication efforts but the main focus would be the problems and issues relating to voluntary organizations (over 200 in India) performing more than 25 percent of the eradication work in India, 16 percent of them in Maharashtra, informed Ms. Leela Moolgaonkar, honorary president of the NCVO.

"We no longer need to worry about transmission, with chemotherapy available, but what is essentially required is a national strategy for deformity care and reconstructive surgery for a while the "bacterial pool" can be checked, the number of deformed cases is static or probably increasing," noted Dr. Ganapati.

The government had established around 25 reconstructive surgery units countrywide, he said, but many were non-functional. In Maharashtra alone, out of 11 units, merely 3 were operational, J.J. hospital ranking highest among them.

The Multi Drug Therapy (using Dapsone, Refampacine and Lamprine) would be introduced in Bombay within the next three months, it was announced.

"For deformity care, we can incorporate certain low cost aids like the finger-loop splint, pipes and footwear made out of micro-cellular rubber for curing foot ulcers," claimed Dr. Atul Shah, honorary plastic surgeon attached to the J.J. hospital here and working on the Comprehensive Leprosy Care Project. He said that many of the latest techniques of plastic surgery could be applied to leprosy, providing favorable results.

"Reconstructive surgery can even be done via camps held in rural areas, and here voluntary organizations, in coordination with the government, could play a vital role," suggested Dr. Ganapati. He added that a recent camp held in Balsad had proved extremely effective with 20 cases operated upon in two days.

Dr. Shah endorsed that the government should adopt this new strategy of reaching out to the rural leprosy affected populace via camps and said that he himself had operated upon 500 cases in camps. On October 7, another camp would be held at Yavatmal, he said.

While the central government was providing Rs 50 lakhs per annum to every state for anti-leprosy drugs alone and the government of Maharashtra had an annual budget approximating Rs 12.5 crores, a mass strategy for leprosy deformity care still needed to be evolved, and medical education needed to be oriented more towards meeting the common needs in the country—like treatment for leprosy and tuberculosis, opined Dr. Ganapati.

He said that the government needed the aid of voluntary organizations who had greater commitment, emotional involvement and were not bound by limitations. Their role was also crucial in social rehabilitation of leprosy patients.

Bombay is the center for experimentation and refinement of low cost and simple techniques in disability functions, said Dr. Ganapati. He observed that while chemotherapy was available, immunotherapy (the body's immune reaction to germs) could be incorporated in the eradication programme and added that India had the distinction of conducting such research.

"Some agents, called immunotherapeutic agents, are believed to offer protection against the leprosy germs but they are still at the experimental stage," he said. The Indian Council for Medical Research (ICMR) had found promising "candidates" to combat the disease: the ICRC (Indian Cancer Research Center bacillus) and the M-W (Mycobacterium-W).

Health education to the masses however, was of prime importance, stressed Ms. Moolgaonkar. She emphasized that the stigma attached to leprosy was unfounded since

NEAR EAST & SOUTH ASIA

JPRS-TEP-91-024 22 November 1991

only 10 to 15 percent of the leprosy patients, if untreated, and after prolonged contact, were infectious. Within one week of treatment under MDT, the patient became non-infectious she added.

Uttar Pradesh—388 Die of Encephalitis

BK2010095891 Delhi All India Radio Network in English 0830 GMT 20 Oct 91

[Text] Encephalitis has claimed 388 lives in Uttar Pradesh so far. Fifteen deaths were reported during the last 24 hours. Worst hit is Deoria where 185 people have died due to the disease, while [word indistinct] deaths have been reported from Maharajganj District.

Kala Azar Epidemic Sweeping Bihar

92WP0024 Bombay THE TIMES OF INDIA in English 21 Sep 91 p 11

[Text] Patna, Sep 20—The state government decided to declare kala azar as a notifiable disease under the Epidemic Act and take action on war footing to contain if which had swept the state. [as printed]

Addressing newsmen here on Wednesday, the minister for health, Mrs. Sudha Srivastava, said that this decision had been taken after receiving reports of the experts and the World Health Organisation. Under the Epidemics Act, 1897, family members or neighbours of the patients are liable to be punished in case they did not inform the state authorities. In fact, criminal cases could be initiated against them.

The tropical school of Calcutta was conducting detailed survey about the spread of the disease, Mrs. Srivastava said. She said that the state had asked the Centre to at least give them a sum of Rs 10 crores to combat this disease, and also asked them to send a wagon full of DDT to Muzaffarpur from where it will be lifted send to all hospitals. [as printed]

The requirement for DDT has been put at 2,250 metric tonnes for the year 1992.

She said that supply of DDT from the Centre was totally inadequate and never come on time. Instead of 800 metric tonnes required for second spraying only 400 MTs had come so far.

Replying to a question, Mrs. Srivastava said that no spraying could be done in May this year because they did not have enough DDT. She said that sodium antimony group of medicines was inadequate supply and at present the authorities had merely about 15,050 vials of medicine. At present 8,322 vials of pentamidine were in the government stock and 1,34,900 [as printed] had been distributed. Epidemic of Unknown Fish Disease Hits Kerala

92WE0030 Bombay THE SUNDAY TIMES OF INDIA in English 1 Sep 91 p 8

[Text] Kottayam, Aug 31—An unidentified disease, which has acquired epidemic proportions in parts of Kottayam, Alappuzha and Pathanamthitta districts, is threatening to destroy the fish population in the Kuttanad rice bowl area, Verband lake and the rivers flowing into it.

The disease, which was first noticed in the western parts of Kottayam district during the middle of this month, later spread to the lake and the contiguous paddy field covering the whole upper and lower Kuttanad.

This disease, which has had an adverse effect on the livelihood of the fisherfolks as people refuse to buy fish so affected, is suspected to be a viral attack, known as Asepizootic Ulcerative disease syndrome.

It first appears as a white patch on the skin and scales. Later it eats into the flesh like a cancer. Local people understandably call it fish cancer. The fish so affected move about slowly and finally die and float.

The late minister of fisheries, Mr. T. Padma, who visited some of the affected areas, has sought the help of the Central Inland Capture Fisheries Research Institute, the Central Institute of Fresh Water Aquaculture and the fisheries development commissioner to make an immediate study in the causes of the epidemic and suggest remedies.

In the meanwhile, a team of experts from The Fisheries college, Kumarakon, and the micro-biology department of the local medical college has begun experiments to determine if the virus has a harmful effect on humans.

Kuttanad alone accounts for 4 percent of the inland fish capture in Kerala accounting for 1.97 lakhs tonnes.

Berry Borer Strikes Southern Coffee Plantations

92WE0031 Madras INDIAN EXPRESS in English 26 Aug 91 p 12

[Text] Bangalore, Aug 25 (UNI) Berry borer, the killer beetle, has once again struck the coffee plantations in southern states this year.

Fresh incidents of the pest causing havoc to coffee plantations, especially in small growers region has put the Coffee Board officials in a fix.

A recent survey by the board had revealed fresh attacks by the pest in some estates in Chundale in Wynad. Subsequent investigations had also led to the discovery of widespread menace in a number of small coffee estates in Wynad area. Similar occurrences were reported from Sultan Battery and other places surrounding the Wynad district.

The pest, though familiar in the leading coffee growing countries including Brazil, made its first appearance in India in early 1990 when it attacked the coffee plantations in Gudalur (Tamil Nadu), Noolpuza and Sultan Battery taluks (Kerala) and Kutta (Karnataka).

The pest has already affected the coffee crop this season by spreading its attack in the extended areas of the previous year.

The Coffee Board has suggested to the Center to declare the entire Wynad district as "berry borer infested" for the purpose of handling and curing of the coffee during 1991-92 session.

A detailed survey done in estates of Karnataka revealed that the pest had attacked a number of small growers estates in and around Kutta and Srimangala. Though the infestation was not widespread as yet, the board had drafted various measures to cordon off the area and take up fumigation on warfooting.

Board sources told UNI that the coffee yield would be badly affected in these areas due to the attack. An estimated 10,000 tonnes coffee were likely to fall 'prey' to the pest attack as against 3,000 tonnes during last year.

Insect Pests Feed on Tripura Grain Crops

92WP0018 Calcutta THE STATESMAN in English 17 Sep 91 p 9

[Text] Agartala, Sep 16—At this time of the year, the deer has water aplenty and even a widow has grain in her house, goes a saying among local tribals, reports PTI.

But this year grain bins are empty in tribal households of the "jhumiyas," shifting cultivators in the remote Tripura Hills because of devastation of crops by an insect menace which has brought in its wake the spectre of starvation.

More than 100,000 tribal jhumiyas are facing nearstarvation conditions in the Atharamura, Baramura, Jampui, Debtamura, Sakhahan and Longtarai hill ranges, the Minister for Agriculture, Mr. Nagendra Jamatia, told reporters.

The insect called "mewa," has been laying waste to crops, eating the grain a few days before it could be harvested. The tribals, who are among the poorest of the poor have no other means of livelihood.

To add to their misery, jhum crops in thousands of hectares were damaged by wild elephants and boars, Mr. Jamatia said.

The CPI(M) [Communist Party of India-Marxist] leader of the Opposition in the Tripura Tribal Area Autonomous District Council, Mr. Aghore Deb Barma, has claimed that 32 tribals had died of starvation while many are suffering from malnutrition and migrating in batches to neighbouring Mizoram, Assam and even Bangladesh.

The ADC [Aide-de-camp], which ended its session on September 12, was rocked by the failure of jhum crops and distress conditions in the hills. Mr. Deb Barma, in a calling-attention notice, had said neither the ADC nor the State Government had any funds to meet the crisis and both would appeal to the Centre for aid.

The Agriculture Minister, however, denied that there had been any starvation deaths or that tribals had been migrating from their homes in the hills. He said the tribals were subsisting on bamboo shoots.

Mr. Jamatia said Government scientists had tried to raise alternative crops in the hills, but failed. The jhumiyas did not contact their nearest Government offices at the outset of the insect menace which could then have been controlled.

IRAQ

Health Ministry on Spread of Diseases

JN2010150191 Baghdad INA in English 1340 GMT 20 Oct 91

[Text] Baghdad, Oct 20, INA—New cases of water-borne diseases have been registered recently, an official source of the Ministry of Health told local press.

A report published by English language daily 'THE BAGHDAD OBSERVER' said that the source attributed the spread of these diseases to contaminated water as a result of the damage inflicted upon Iraq's water purification plants during the U.S-led war against Iraq.

Director of Epidemics Control Centre of the ministry, Dr. Ahmad Hardan said some 9,545 cases of hepatitis have been reported over the first eight months of this year. For the same period of last year, 2,548 cases were registered. This means that there is an almost four-fold increase in the number of hepatitis cases over that of last year, he said.

He added that the main children diseases have risen while the rate of immunization went down because of the destruction power situation which came under heavy allied bombardment. [sentence as received]

The ministry's figures estimate that there is now a 6.3-fold increase of tetanus cases, three-fold increase of polio, and seven- fold increase of whooping cough cases over that of pre-war period.

According to recent figures released by the Ministry of Health, some 412,103 cases of tape worms disease have been reported over the last eight months, compared to 56,608 cases for the same period last year. This stands at more than a seven-fold increase after the Gulf war.

Only 2,195 typhoid cases were registered before the war, while the post-war figure stands at 15,417. There is also a 4.5-fold increase in the number of geraldia [giardiasis] cases which have increased from 2,484 to 101,178 cases.

Brucellosis, or Malta Fever, is a highly invasive disease and is now spreading rapidly among both the country's animals and population. Some 11.896 brucellosis cases have been reported recently, compared to the pre-war figure of 2,190, which is equal to a 5.4-fold increase.

There is also an eight-fold increase in the number of hydatid cyst cases. Only 246 cases were registered before the war, while the number increased to 2,060 cases after the war.

Mr. Hardan explained that mortality rate among children under the age of five has risen sharply because of acute shortages of drugs and vaccines due to the blockade imposed on Iraq.

Earlier, Health Undersecretary Dr. Shawqi Marqus had said that some 48,230 children over the age of five have died of diabetes, hypertension, cardiac diseases and cancer. Furthermore, some 19,863 children under the age of five have died since August 1990.

The Ministry of Health had said the blockade on Iraq has so far claimed the lives of some 68,093 Iraqi children. A Harvard study team had warned in a recent report that the figure is likely to reach some 170 thousand children by the end of the year as a result of shortages in food and medicine.

Meanwhile, the United Nations Children's Fund (UNICEF) said some 340,000 Iraqi children are threatened by death if nothing is done about their plight. The agency also indicated that the number of underweight babies has increased as a result of the lack of food for mothers. It said that before the war, 36,000 underweight children were born yearly, while the figure now stands at 72,000.

Official Notes Worsening Health Conditions

JN2310160591 Baghdad INA in Arabic 1337 GMT 23 Oct 91

[Text] Baghdad, 23 Oct (INA)—Dr. Shawqi Sabri Murqus, first undersecretary at the Ministry of Health, has met with Professor Marco Mantler of the School of Medicine at Bern University, and Dr. Dante [names as received], the International Committee of the Red Cross [ICRC] representative in Baghdad.

Dr. Murqus reviewed the serious consequences of the U.S.-Zionist- Atlantic aggression, and the hardship endured by the women, children, and the elderly of Iraq from the sustained blockade which runs counter to international and humanitarian laws and conventions. He noted an increase in the number of fatalities among Iraqi children brought on by malnutrition and lack of medicine.

The health conditions in Iraq will deteriorate further if the blockade is maintained and drugs continued to be withheld—particularly those required for cancer, trauma, and anesthetics. The scarcity of these items, he added, has led to their extremely restricted use—a situation contravening humanitarian medical ethics.

Professor Marco Mantler emphasized that he will prepare a comprehensive study of the health and environmental conditions in Iraq and the impact of the continued blockade on public health. He will present the study to the ICRC in Geneva for an assessment of the aid the committee will offer Iraq.

The ICRC has budgeted \$3 million to meet part of Iraq's requirements at this stage, he noted.

Water In Baghdad, Provinces Said 'Not Fit To Drink'

JN2710162891 Baghdad INA in English 1330 GMT 27 Oct 91

[Text] Baghdad, Oct 27, INA—Bacteriological tests carried out recently on water samples of potable water taken from Baghdad and some other provinces have shown that the water was not fit to drink.

A source at the Environmental Protection Centre told AL-JUMHURIYAH daily that according to tests some 3.032 samples out of 14.857 were unsafe, adding that the percentage of samples found to be unsafe is estimated at 20.4, whereas chloride was found at an average of 14.50 percent in some 4.937 water samples, a proportion not in conformity with international standards.

Moreover, Diyala Health Department has recently launched inspection drives and the result was that water in some eight water complexes and projects are unsafe for drinking, according to a provincial health department official.

The environment protection source attributed the deterioration of the environmental status in Iraq to the U.S.-led aggression against Iraq and the damage or destruction of water treatment plants, distribution networks and power stations.

Furthermore, lack of spare parts and steady power supply has disrupted sewage treatement plants, as a result, most sewage treatment plants ceased to operate, consequently resulting in the overflood of pumping stations with sewage and rain water during the war. Untreated sewage water is now either overflowing in the streets of the cities or being discharged into rivers without any treatment. Much of the population, particularly those on the banks of the Tigris and the Euphrates are obliged to drink this polluted water straight from the rivers, since most of the water purification systems are no longer functioning. This further complicates the vicious cycle of water-borne diseases such as cholera, typhoid and hepatitis.

NEAR EAST & SOUTH ASIA

JPRS-TEP-91-024 22 November 1991

Aluminium, sulphate and chlorine, chemicals essential for water treatment, are now in short supply because of the economic sanctions and the halt of the production of indigenous agents following the destruction of local chemical plants. These chemicals are now to be imported. Due to chlorine shortage since the end of the war, the water is too often distributed without being treated by this vital chemical agent. The shortage of chlorine has also prevented the pre- chlorination process in treatment plants.

According to a report conducted by the executive delegate of the U.N. secretary general, Prince Sadruddin Aga Khan "the results of the humanitarian efforts launched by the international community and the great strides made by the various governmental departments to reactivate essential services have not succeeded in meeting the basic recurrent water and sanitation requirement. They are clearly insufficient to reestablish standards of living at minimal acceptable level."

Prince Aga Khan recommended that Iraq must be allowed to import supplies and equipment needed to raise present potable water production and sewage treatment rates to their prewar levels. If this is not possible, importation of at least 180,200,000 dollars in goods and materials should be allowed over the next 12 months to restablish these systems at minimal rates. In rural areas the population receive water from artesian wells or springs, but with a high percentage of these springs having been damaged, potential risks have also increased.

In addition to all these factors, the public health in Iraq is now at stake because of growing environmental hazards and insufficient access to safe, potable water.

'Unjust' Blockade Responsible for 2,690 Deaths in Dhi Qar

JN2710104591 Baghdad INA in Arabic 0808 GMT 27 Oct 91

[Text] Al-Nasiriyah/Southern Iraq, 27 Oct (INA)—Dr. Muhammad 'Abbud, Dhi Qar Governorate health director, has announced that 2,690 citizens, mostly children and the elderly, have died in this southern governorate due to various diseases resulting from a shortage of food, medicine, and milk.

In a statement to the INA correspondent in al-Nasiriyah, the governorate's health director said that the health and environment protection branches and units have intensified their services to combat the dangers of the unjust economic blockade. They also contribute to combating the spread of contagious diseases.

Prediction of Activity of Sites Endemic for Anthrax in Voronezh Oblast

Moscow ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII in Russian Vol 111 No l2, Dec 90 (manuscript received 25 Jan 90 pp 38-40

[Article by V. R. Krasilnikov, I. S. Lebedinskaya, Yu. M. Skorokhodov, S. A. Kurolap, B. T. Artemov, and L. I. Yefanova, Voronezh Oblast Sanitary and Epidemiological Station]

UDC 616.98:578.852.11]-036.21-07-037

[Text] The intensity of the epidemic situation in the presence of anthrax is determined virtually entirely by the intensity of the epizootic process among livestock, which continues to be the main source of human infection even when morbidity is sporadic. For this reason, development of methods of predicting the epizootic situation is of utmost importance to planning anthraxcontrol measures.

When predicting infectious disease, it is promising to use methods of mathematical modeling based on the indicator approach, which consists of determining the link between the dynamics of endemic sites and environmental factors, which play an important part in fluctuations of intensity of epidemic and epizootic processes [2, 4, 6]. Determination of factors that are indicators of the activity of such sites permits not only validated prediction of the hazard of an anthrax outbreak, but to advance in our understanding of the patterns of epidemic and epizootic processes.

Material and methods. The general methodological approach we used consisted of quantitative comparison of the dynamics of intensity of the epizootic process to the status of environmental factors for the period of 1959-1985, and subsequent mathematical modeling of the epizootic process on the basis of the obtained data.

Over the period under study, there was a general and appreciable decline in livestock morbidity in Voronezh Oblast as a whole due to planned increase in scope of preventive vaccination [7]. In order to rule out the influence of preventive vaccination and detect factors that affect the annual fluctuations in activity of the sites, we took epizootic potential (EP) as a parameter of such activity [1]. We determined the EP for each year as the ratio of number of sites in a given year to the number of sites for the preceding year, and expressed it as a percentage.

The meteorological conditions were characterized by mean values according to information from five meteorological stations situated in different parts of the oblast.

The number of myomorph rodents (percentage caught per 100 trap-days) was determined according to species, as well as the total in different seasons and different habitats. We used 70 meteorological factors and 65 parameters of myomorph population in our analysis. The activity of anthrax sites was compared to abiotic and biotic factors in both the current and preceding year.

Correlation and regression analyses were performed using standard methods [3] on an SM-4 computer. As a result of mathematical modeling, we constructed equations of multiple regression, in which environmental conditions were factorial characteristics while the EP parameter was the result characteristic. In the models, the parameters were arranged in diminishing order of their statistical significance, as determined by the tcriterion [8].

Results and discussion. Correlation analysis revealed that there are statistically reliable links of mean force between EP and certain meteorological conditions in the prior year. To sum up the results, it can be concluded that increases in activity of anthrax sites were preceded by cool years with an overcast, rainy warm period (April-October) and high ambient humidity in the fall. Prior to declines in site activity, there were years with higher temperatures, sunny and dry warm period, and low ambient humidity in the fall.

It was also established that there are close links between the dynamics of intensity of the epizootic process and dynamics of overall myomorph population and dynamics of number of different species. A statistically moderate and strong reliable correlation was demonstrated for 26 indicators of number of rodents.

The correlations detected in 1959-1985 were the most distinct when we compared EP to total number of myomorphs in hay and straw stacks in the early spring (February-March) (r=0.57). In the 1968-1985 period, a strong correlation was established between site activity and number of common voles in hay and straw stacks in the early spring (r=0.82).

The demonstrated patterns serve as indirect confirmation of the involvement of myomorph rodents in the epizootic process for anthrax, particularly if we consider the reports of numerous instances of isolation of the pathogen of anthrax from myomorphs in the wild [5, 9]. It can be assumed that the accumulation of rodents in hay and straw stacks by the end of the winter is instrumental in activating the epizootic process in rodent populations. As a result of seasonal migration, when rodents scatter in the spring and summer, this is reflected by worsening of the epizootic situation, since anthraxstricken rodents can serve as carriers of the disease by contaminating feed and the ground surface.

Since the weather has an appreciable effect on rodent population size, the established correlation between anthrax site activity and meteorological factors can also be explained on the basis of the deciding role of myomorphs in the dynamics of the epizootic process. In this case, meteorological conditions should be viewed as factors that affect the number of rodents but do not have a direct effect on the activity of anthrax sites. However, this assumption requires special investigation.

The demonstrated quantitative data on site activity as a function of some meteorological factors and total myomorph population enabled us to calculate the equation of multiple nonlinear regression: $Y = -160.96 + 3.131X_1 + 0.27(X_2)^2 + 3.32X_3 - 8.51X_4 + 70,916(1/X_5)$, where Y is EP of anthrax sites expressed as percentage, X_1 is total number of myomorphs in hay and straw stacks in February-March of the current year, X_2 is number of days with relative ambient humidity in the summer in excess of 80 percent; X_3 is mean relative ambient humidity in the fall, percentage; X_4 is annual mean ambient temperature expressed in degrees of deviation from the norm, X_5 is duration of sunlight in hours over the warm period.

All of the meteorological factors included in the model pertain to the preceding year in relation to EP. The appearance of the function was determined empirically for each factorial characteristic.

Retrospective verification of the model revealed that it is highly justified: there is a strong correlation (r=0.89) between actual and model-calculated theoretical EP values.

We also constructed an equation of multiple regression for the base period, 1968-1985, on the basis of the established relationship of site activity to number of common voles in hay and straw stacks in February-March of the current year (X_1) , as well as to the number of days with precipitation during the warm period of the preceding year (X_2) and mean annual ambient temperature expressed as deviation from the norm for the preceding year (X_3) : Y = -55.76 + 3.85X₁ + 1.60X₂ -3.68X₃.

Although statistical reliability of values calculated using this equation is lower than with the preceding model, due to the fewer years involved in the analysis, it permits significant simplification of calculations and faster preparation of a forecast.

Forecasts of anthrax site activity using both models can be prepared as early as the end of March, i.e., 2-4 months before the epizootically most intense period.

Use of these forecasting methods in practice has shown much validation of predictions made on the basis of the set of biotic and abiotic factors, as well as the expediency of using information about expected activity of anthrax sites in planning comprehensive epidemic- and epizootic-control measures.

Conclusions

1. In 1959-1985, activation of anthrax sites in Voronezh Oblast was preceded by cool years with overcast, rainy warm period (April-October) and humid fall. Prior to declines in site activity there were years of high ambient temperature, sunny warm period and dry fall. 2. The demonstrated close correlations between intensity of the epizootic situation and size of myomorph population in hay and straw stacks in the early spring of the current year serve as indirect confirmation of involvement of myomorphs in the epizootic process for anthrax.

3. The equations of multiple regression calculated on the basis of a set of biotic and abiotic factors permit early preparation of a quantitative prediction of anthrax sites and planning of preventive measures on this basis.

References

1. Artemov, B. T., Skorokhodov, Yu. M., Kurolap, S. A., and Lebedinskaya, I. S., "Sovremennyye problemy profilaktiki zoonoznykh bolezney i puti ikh resheniya: Tezisy dokladov" [Current Problems of Preventing Zoonotic Diseases and Means of Solving Them: Summaries of Papers], Minsk, 1987, pp 128-129.

2. Belyakov, V. D., VESTN. AMN SSSR, 1980, No 10, pp 15-19.

3. Vuchkov, I., Boyadzhiyeva, L., and Solakov, Ye., "Prikladnoy regressionnyy analiz" [Applied Regression Analysis], translated from Bulgarian, Moscow, 1987, p 239.

4. Korenberg, E. I., and Yurkova, Ye. V., MED. PARAZITOL., 1983, No 3, pp 3-10.

5. Korol, A. G., ZHURN. MIKROBIOL., 1973, No 2, p 141.

6. Kurolap, S. A., Skorokhodov, Yu. M., Barvitenko, N. T., et al., "Primeneniye matematicheskikh metodov i EVM v zdravookhraneniye: Tezisy dokladov" [Use of Mathematical Methods and Computers in Health Care: Summaries of Papers], Voronezh, 1986, pp 50-52.

7. Skorokhodov, Yu. M., Artemov, B. T., Lebedinskaya I. S., et al., "Diagnostika i profilaktika infektsionnykh bolezney s.-kh. zhivotnykh: Sbornik nauchnykh trudov" [Diagnosis and Prevention of Infectious Diseases of Livestock: Collection of Scientific Papers], Voronezh, 1986, pp 4-8.

8. Forster E., and Rents, B., "Methods of Correlation and Regression Analysis," translated from German, Moscow, 1983.

9. Cherkasskiy, B. L., and Marchuk, L. M., ZHURN. MIKROBIOL., 1971, No 5, pp 45-48. ©Izdatelstvo "Meditsina", 1990

Building Pharmaceutical Factory Discussed With Danish Firm

LD1710042491 Moscow TASS International Service in Russian 1315 GMT 16 Oct 91

[Article by TASS correspondent Lyubov Dunayeva]

[Text] Moscow, 16 Oct (TASS)—The Russian Ministry of Health and the Danish company Novo-Nordisk are conducting active talks about building a pharmaceutical factory, producing insulin and other modern biotecnichal products, in the Soviet capital.

According to the president of the firm's European branch, Anthony Elfik, the project envisages building an ecologically clean enterprise in Moscow. In an interview with the TASS correspondent he said: "Our company has been supplying high quality insulin to the diabetes sufferers in the USSR for the last 15 years. In recent years our export has significantly increased. The product is supplied in cartridges, which are then inserted into special pens called "novo-pen," first developed by Novo-Nordisk. Diabetes sufferers use these pens widely, both disposable ones and the reusable ones with a measuring hopper."

Novo-Nordisk has established scientific contacts with leading medical institutes of the USSR, specializing in diabetes and endocrinology research. Cooperation is developing, as well. For example, Novo-Nordisk uses Soviet raw material, crystals, that are processed in Denmark for producing highly pure insulin, which in turn is exported to the USSR in bottles. This way almost 60 percent of the Soviet insulin demand is met, thus allowing a savings of more than 20 million dollars per year.

But the demand for insulin in the USSR is very high, and the necessity of building an enterprise here is selfevident.

TV Reports Bubonic Plague Detected in Moscow LD2010162291 Moscow Russian Television Network in Russian 2100 GMT 17 Oct 91

[From the "Vesti" newscast]

[Text] IMMAPRESS reports that a case of bubonic plague has been observed in Moscow. Outbreaks of the illness are often associated with the appearance of a large number of rats.

Bubonic Plague Case Not Confirmed

LD2210003991 Moscow Russian Television Network in Russian 2100 GMT 21 Oct 91

[From the "Vesti" newscast]

[Text] Fortunately, our report about the case of bubonic plague in Moscow, which we received from IMAPRESS, have not been confirmed. However, while apologizing to panic-stricken citizens, the agency's employees are themselves being vaccinated against the plague, since there have been occasions when IMAPRESS information has anticipated events.

Kuzbass Medical Staff Stage Strike Over Work Conditions

LD2110163291 Moscow TASS International Service in Russian 0800 GMT 21 Oct 91

[Article by TASS correspondent Grigoriy Shalakin]

[Text] Kemerovo, 21 Oct (TASS)—About 100,000 Kuzbass area medical workers halted work for two hours today. At the same time, ambulances occupied the main square in the oblast center, and pickets were placed outside medical institutions.

Health workers in this industrial region have resorted to such a form of protest due to the heartless attitude of all levels of the power structures toward the situation in the branch, where before ones very eyes hospitals and polyclinics become dilapidated, and they are not provided with the basic drugs and preparations. The staff has pitiful wages, an unlimited working day, and meagre annual holidays.

Ambulancemen were at their posts and were carrying out their duties during the strike.

School Closed Following Hepatitis Outbreak

PM2410153991 Moscow PRAVDA in Russian 23 Oct 91 p 2

[Untitled report from PRAVDA, TASS, INTERFAX "News in Brief" Roundup]

[Text] There has been an outbreak of hepatitis in the city of Guryevsk in Kemerovo Oblast. By last Friday 167 people had been hospitalized. Children accounted for 90 percent of this total. The city authorities have already closed and quarantined the secondary school and rural vocational and technical school where the source of the illness was exposed.

Donetsk Region Reports Dysentery Outbreak

LD2910085491 Moscow TASS in English 1951 GMT 28 Oct 91

[Text] Yenakiyevo, the Donetsk Region, October 28 TASS—125 dysentery cases, the majority of them children, have been reported from the miners town of Yenakiyevo, the Donetsk region.

A headquarters on the emergency situation has been set up in the town. Specialists have found out that the disease outbreak was caused by products of the local dairy factory. Infection carriers were 20 factory workers.

The outbreak has been localized, anti-epidemic measures have been taken.

FRANCE

New Flu Vaccine Readied for Vaccination Campaign

92WE0021A Paris LE FIGARO in French 28-29 Sep 91 p 10

[Article by Dr. Martine Perez: "A Vaccine for the Flu of 1991-92"]

[Text] Monaco—Everything is in place to meet the onslaught of the flu virus which, as it does every year, only awaits the first breath of winter to launch its offensive in our regions. In Monaco, the flu research and information team has just presented the results of its latest studies, while the Primary Health Insurance Fund has launched its national campaign to encourage people to get their flu shots.

It is a campaign justified by the figures: In 1989, flu was the direct cause of 4,000 deaths and related to another 16,000. A total of 7,400 hospitalizations, 17 million working days, and 7 million days of school were lost, costing 2.5 billion francs paid for health insurance and 17 billion in terms of the price to society, a heavy bottom line for what is generally considered a "benign" disease. Flu strikes 8 to 10 million persons a year and remains the second cause of death due to infectious disease, after tuberculosis.

Flu shots must be repeated every year. Actually, viruses responsible for the disease are constantly evolving, so that the human organism cannot protect itself against new strains, even when already immunized against other types of viruses. This property alone explains the suddenness and speed with which epidemics spread.

For the winter of 1991-92, the composition of the vaccine will be as follows: A/Singapore/86 (H1N1); B/ Beijing/353/89 (H3N2); B/Yamagata/16/88. The names of the cities attributed to the different strains of the virus correspond to the location of the virology laboratories that isolated the strain for the first time, which does not prove that they did not start elsewhere, given the speed with which flu viruses travel round the world. The year the virus was isolated is also given: 1986-1989-1988.

The vaccine traditionally contains three strains because several types of viruses often go around at the same time. The new vaccine is very similar to last year's except that the 1989 Guizhou strain was replaced by the Beijing. Composition of the vaccine is determined by the most frequent strains in circulation, as determined by a world survey network.

"We have been fortunate so far," explains Prof Michele Aymard (Claude-Bernard University in Lyon). "To date, strains that actually went around in the wintertime have always been included in the vaccine. Studies done in institutions for the elderly have found complete effectiveness of the vaccination in 65 to 80 percent of all cases. In 15 to 25 percent of the remaining cases, the vaccine clearly attenuated flu symptoms."

The vaccine is made from several flu viruses reproduced in the laboratory on fertilized chicken eggs, then killed chemically and finally purified. It takes two eggs to make one dose of the vaccine. Several million doses are manufactured every year, requiring substantial egg production!

All persons over the age of 70 and a certain number of persons suffering from chronic illnesses (such as diabetes, respiratory ailments, AIDS patients, muscular dystrophy, or heart patients) are reimbursed 100 percent for their shots. However, vaccination is also advised for anyone who might transmit the virus (teachers, doctors, pediatricians, nurses), or anyone living in a group situation, so as to reduce the risk of contagion (retirement homes, military barracks, and so on).

A poll was conducted in May 1991 by SOFRES [French Opinion Polling Company] at the request of the flu research and information team aimed at learning the opinion of those over 65 on flu shots, using a representative sampling of persons 65 and over. When compared with results for polls done in previous years, it showed that the percentage of those over the age of 65 who had their shots rose 15 percent from 1986 to 1991, meaning that the group's rate of cover went from 60 to 74 percent.

As for the reasons given by vaccine supporters, pressure from the doctor remains the most important factor, while 18 percent say they received a voucher from the National Health Insurance Fund. Finally, 46 percent say they get their shots every year. Among those not vaccinated, 38 percent cite carelessness or the fact that it is not part of their routine, while 37 percent say the flu shot does not matter to them because they are in good health, and 17 percent fear complications. In contrast, compared with previous years, the effectiveness of the vaccine is no longer questioned. There is a single counterindication: allergy to the albumin contained in eggs. The shot will cost about 60 francs this year.

UNITED KINGHDOM

Improvement in Hospital Service Seen

92WE0015 London THE DAILY TELEGRAPH in English 20 Sep 91 p 6

[Article by David Fletcher: "Hospital Waiting List Is Slashed by 38,000"]

[Text] The biggest drop in the number of patients waiting long periods for treatment was announced yesterday.

Mr. Waldegrave, the Health Secretary, said the list of people waiting more than a year had been cut by 38,000—18 percent—and the number waiting more than two years had been reduced by 30,000 or 37 percent.

"This is the biggest recorded fall since waiting time figures were first collected in 1976," said Mr. Waldegrave. It had been achieved through the £33 million waiting list fund.

He said he wanted to end the scandal of two-year waits for hospital treatment by building a guarantee into the forthcoming Patients' Charter.

One region—Mersey—had cleared its two-year list and hoped by next year that there would be nobody on their list who had waited more than a year.

But the achievements were attacked by Mr. Cook, Shadow Health Secretary, who accused the Government of "massaging" the figures.

He said the lists had been "bounding up" since March at the rate of more than 1,000 extra patients a week.

"The real total of patients on waiting lists is more than 900,000 for only the second time in the history of the Health Service.

"Mr. Waldegrave knows very well that the modest cut in total numbers he announced today has been wiped out in the first quarter of his new reformed NHS."

Government figures showed there were 692,900 patients on the "ordinary" hospital admission list last March, a drop of 17,400—two percent—compared with a year ago.

But the number of patients waiting for day case treatment rose by 4,700 to 207,200, an increase of two percent. Taking both lists together, numbers dropped by 12,700, a fall of one percent.

Government spokesmen were anxious to point out that waiting times for hospital treatment are a more important index than numbers on a waiting list.

They said half of all patients were admitted immediately without having to wait. Of those admitted from the waiting lists, half were admitted within five weeks and 80 percent within six months.

If no new patients were added to the waiting lists it would take 21 weeks to clear the list for ordinary admissions and 11 weeks for day admissions.

The College of Health, the patients' watchdog body which runs the national waiting list helpline, welcomed the announcement.

-Men who were underweight as babies are up to five times more likely to die of lung disease, researchers say today.

The study, by the Medical Research Council's epidemiology unit at Southampton University, is the latest in a series of investigations showing that developments in the womb can influence health in the individual 50 years later.

Mad Cow Disease Declining

91WE0547 London THE DAILY TELEGRAPH in English 3 Sep 91 p 6

[Article by David Brown: "Mad Cow Disease on the Way Out"]

[Text] Mad Cow disease (BSE), which has wiped out more than 35,000 cattle in Britain is expected to decline rapidly next year, Mr. Keith Meldrum, the government's chief veterinary officer, said yesterday.

The disease has cost the taxpayer about £20 million in compensation to farmers and has seriously damaged meat and cattle export markets.

At a conference in London on prion diseases in humans and animals, Mr. Meldrum said a number of findings have given hope that BSE was on the wane.

Prions are the rogue proteins accredited with causing BSE and similar diseases in animals and humans.

While some results of multi-million pound research would not be known for some time, he said, the weight of evidence so far supported suspicions by ministry scientists that BSE was caused by cattle rations containing the contaminated remains of sheep afflicted by a similar disease called scrapie.

The government banned the use of animal protein in cattle food in July 1988.

The disease might also be passed on from mother to offspring.

But, he said, there had only been one case of this, which was reported in March this year. Three more cases were being investigated and he dismissed this as relatively insignificant.

Referring to last year's scare when a BSE-like disease was discovered in a cat, Mr. Meldrum said that a total of 19 cats had been confirmed with similar symptoms but he again dismissed this as a public danger and applauded the safety precautions taken by pet food manufacturers.

He said it was encouraging that only one pig had succumbed to BSE after a massive dose of the disease was injected directly into the brain. Other pigs in experiments had shown no signs of being affected.

Blue Ear Curbs Movement of Yorkshire Pigs

92WE0017 London THE DAILY TELEGRAPH in English 21 Sep 91 p 14

[Text] Pig movement curbs in North Yorkshire were extended by seven miles yesterday after another suspected case of blue ear disease was reported near Thirsk.

NTIS ATTN PROCESS 103 5285 PORT ROYAL RO SPRINGFIELD VA

This is a U.S. Government publication. Its contents in no way represent the policies, views, or attitudes of the U.S. Government. Users of this publication may cite FBIS or JPRS provided they do so in a manner clearly identifying them as the secondary source.

Foreign Broadcast Information Service (FBIS) and Joint Publications Research Service (JPRS) publications contain political, military, economic, environmental, and sociological news, commentary, and other information, as well as scientific and technical data and reports. All information has been obtained from foreign radio and television broadcasts, news agency transmissions, newspapers, books, and periodicals. Items generally are processed from the first or best available sources. It should not be inferred that they have been disseminated only in the medium, in the language, or to the area indicated. Items from foreign language sources are translated; those from English-language sources are transcribed. Except for excluding certain diacritics, FBIS renders personal and place-names in accordance with the romanization systems approved for U.S. Government publications by the U.S. Board of Geographic Names.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by FBIS/JPRS. Processing indicators such as [Text] or [Excerpts] in the first line of each item indicate how the information was processed from the original. Unfamiliar names rendered phonetically are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear from the original source but have been supplied as appropriate to the context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by the source. Passages in boldface or italics are as published.

SUBSCRIPTION/PROCUREMENT INFORMATION

The FBIS DAILY REPORT contains current news and information and is published Monday through Friday in eight volumes: China, East Europe, Soviet Union, East Asia, Near East & South Asia, Sub-Saharan Africa, Latin America, and West Europe. Supplements to the DAILY REPORTs may also be available periodically and will be distributed to regular DAILY REPORT subscribers. JPRS publications, which include approximately 50 regional, worldwide, and topical reports, generally contain less time-sensitive information and are published periodically.

Current DAILY REPORTs and JPRS publications are listed in *Government Reports Announcements* issued semimonthly by the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161 and the *Monthly Catalog of U.S. Government Publications* issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

The public may subscribe to either hardcover or microfiche versions of the DAILY REPORTs and JPRS publications through NTIS at the above address or by calling (703) 487-4630. Subscription rates will be

provided by NTIS upon request. Subscriptions are available outside the United States from NTIS or appointed foreign dealers. New subscribers should expect a 30-day delay in receipt of the first issue.

U.S. Government offices may obtain subscriptions to the DAILY REPORTs or JPRS publications (hardcover or microfiche) at no charge through their sponsoring organizations. For additional information or assistance, call FBIS, (202) 338-6735,or write to P.O. Box 2604, Washington, D.C. 20013. Department of Defense consumers are required to submit requests through appropriate command validation channels to DIA, RTS-2C, Washington, D.C. 20301. (Telephone: (202) 373-3771, Autovon: 243-3771.)

Back issues or single copies of the DAILY REPORTs and JPRS publications are not available. Both the DAILY REPORTs and the JPRS publications are on file for public reference at the Library of Congress and at many Federal Depository Libraries. Reference copies may also be seen at many public and university libraries throughout the United States.

22161