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39. **Diet:** Staple is maize prepared in different ways; wheat bread and pasta are on the increase; some rice is consumed, mainly in Asuncion and in the East of the country. Cassava, in bread form, eaten in rural areas, as well as increasing amounts of sweet potato and potato (eaten fresh). Bananas are an important starchy complement to the diet.
Meat is a common item in the diet, not merely a luxury; mainly beef, also pork, horse and fowl. It should be noted that pulses, including dried beans, dries peas and cowpeas are less popular for daily consumption. Animal fats and milk and milk products widely consumed. But various vegetable oils are also commonly used in food preparation. groundnut, soybean, cottonseed and palm-nut.
Vegetables consumed in moderation; mainly onions and tomatoes as condiments, also squash, cabbage, garlic and carrots. Fruits eaten occasionally, according to season; citrus, papaya, mango and pineapple. Sugar cane much used in beverages. Some concumption of groundnuts. Very little fish eaten.
Variations amongst minority ethnic or religious groups consist in the proportions of the above foods eaten rather than in the consumption of separate kinds of food. Food avoidances exist (e.g. eggs, bananas and black honey by pregnant women) but are not of significante.

40. **Nutritional deficiencies:** PEM + in children less than five years old; a problem of medium importance, with under 10 % of children affected (according to a 1973 survey) and less than 1 % exhibiting signs of severe malnutrition.
Goiter an important through declining national problem. Salt is now iodized. Nutrition surveys give some suggestion of vitamin A deficiency, though no conclusive evidence. There is clearer evidence of widespread anaemia, considered to be due mainly to intestinal parasites.

41. **Medical supplies:** Responsible government agency: Ministerio de Salud Publica y Bienestar Social, Pettirossi y Brasil, Asuncion, tel.: 20,001 to 20.005. There is no standardized list of drugs at the moment. There is a network of private pharmacies both in town and country, and importation of medicines is authorized through private channels. Directions for use should be in Spanish.

42. **Health services:** The health sector comprises 3 subsectors: the public subsector made up of the Ministry of Health, the Army Medical Corps, the Police Medical Corps, the University, the Municipal Health Services and the Corporacion de Obras Sanitarias; the semiofficial subsector consisting of the Instituto de Prevision Social; and the private subsector consisting of private institutions.

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The country is divided into 9 regions for health purposes, each headed by a Chief Medical Officer. The country is relatively well covered with 400 health establishments offering inpatient facilities (total over 5,000 beds). There are about 200 posts for primary health care, 90 health centres for basic health care, 9 regional hospitals (410 beds) and 38 specialized hospitals (2.500 beds). There is some concentration of hospitals, including all the specialized hospitals, in the area of the capital. In the rural areas the resources of the health system are often limited to health posts, and only the health centres have resident doctors. There is a large network of mobile units for malaria and leprosy control. Private practice is virtually confined to the urban centres, and therefore to the East of the country. Traditional healers, on the other hand, are important in the West.

43. Capacity for handling refrigerated

There are no cold storage facilities at the international airport. There are three locations in Asuncion which mantain cold storage facilities: The National Freezer - 72 m3. The Ministry of Health - 22 m3. The Division of Epidemiology (under the Ministry of Health) - less than 1 m3.
Dry ice is not available.
All regional capitals and 75 % of the health centres have commercial-type freezers but these are unable to maintain a temperature of 4^{0} C. There is no operational cold chain.

44. Common illnesses:

Gastroenteritis is amongst the most important diseases, particularly in infants, with a peak in incidence during the summer months and a special intensity on the Plateau. Measles occurs in roughly 4-year epidemic cycles, particularly in the summer.
TB is a countrywide but slowly declining problem.
Leprosy, though declining, is still a significant problem, especially in the Eastern part of the country. Rabies in animals; a potential threat in humans. Venereal diseases apparently on the increase. Perinatal tetanus, poliomyelitis and whooping cough important though declining problems.
Malaria now confined to a few cases around the country, transmission mainly October to May.
An increasing countrywide problem is Chagas disease, although it is subject to a control programme.

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39. Diet: Wheat in various preparations (bread and pasta) a basic staple over much of the country, with maize as an important secondary staple (consumed in semolina, flour or toasted forms). In the Sierra, potatoes - especially dried form - are a basic staple, and in the High Plateau dried frozen potatoes are particularly important. Other local tubers also consumed, and other cereals, notably barley in gruel form in the Sierra. At lower altitudes, plantains and cassava are widely consumed, and sweet potatoes are common elsewhere also. Rice consumption is on the increase, although still expensive as a staple.
The chief accompanying dishes are leguminous: kidney beans, horse beans, dry beans and peas (field varieties), chick peas, lentils, castor beans. Oil is mostly vegetables in origin (cottonseed, sunflower, soybean), butter slightly consumed, and on the coast some fish oil.
Greatest consumption of leafy vegetables in the Sierra, although a wide variety of vegetables in season eaten over most of the country: tomatoes, cabbage, pumpkins. Fruits most plentiful in the Sierra region.
Coastal and riverine areas notable for higher milk and fish concumption. Otherwise dairy products a small part of the diet, and meat is a luxury or eaten in small quantities in soups and other dishes: chiefly beef, also pork and goat-meat. The highlands provide particularly little meat, although local products occasionally consumed are llama-meat, alpaces and guinea-pigs. Forest Indians complement their domestically produced food with the occasional meat from hunting.
Condiments include a wide variety of spices (esp. chillies) and garlic and onions.

40. Nutritional deficiencies: PEM ++ especially in infants, with incidence rising from the metropolitan area (lowest incidence) through the coast, the Sierra and the forest zone (highest incidence over 60% of children under six years of age suffering some degree of malnutrition).
Vitamin A deficiency and associated xerophthalmia considered a serious problem in the coastal and Sierra regions.
Anaemia due both to helminthiasis and iron deficiency in diet, a widespread problem, forest zone especially.
Goiter: overall approximately 20% incidence, with a regional pattern apparantly similar to that of malnutrition, though older children and adolescents most affected. There is a long established salt iodization programme.

41. Medical supplies: Responsible agency:"Ministerio de Salud, Ave. Salaverry s/n, Lima, tel.: 32-3535, telex: 20433". There is an established standardized drugs reference list available from the above address. Importation of drugs through private channels is authorized, and the private sector includes also the manufacture in commercial establishments of drugs and their distribution through town and rural pharmacies and private and public clinics. Directions should be written in Spanish.

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42. **Health Services:** The country is divided into 10 Health Regions and 56 "Hospital areas" which have a hospital with a physician, health centres and health posts with nurses and auxiliaries as well as medical personnel from a corps of compulsory Civil Service (SEGIGRA). Regional hospitals have all specialities, surgery, X-ray and laboratory facilities. Specialist facilities and hospitals are considerably concentrated in the metropolitan and other urban areas. 33% of the population do not have effective access to health facilities, although in the Indian areas there is heavy dependance on local healers. The Ministry of Health is responsible of all health centres and most health posts but less than one-third of the hospitals. Other organisations providing health services are Social Security, charitable societies and cooperatives.
Overall there are 31,438 hospital beds (2.1 per 1,000 people,, 332 hospitals (mostly meaning simply some in-patient facilities and a qualified physician), 415 Health centres and 935 health posts (dressing stations). Per 10,000 inhabitants there were 5.9 physicians, 1.9 dentists, 3.7 nurses and 10.3 auxiliaries as of 1972.

43. **Capacity for handling refrigerated drugs:** No facilities at the national airport. There are cold storage facilities in Lima, in the "Institutos Nacionales de Salud, Calle Capac Yupanqui No. 1400, Apartado No. 451, telephone: 71-9920, or 71-7443".
Dry ice is available in Lima at commercial establishments, but not guaranteed elsewhere in the country.
Hospitals around the country with more than 150 beds maintain cold-rooms. Health centres and some health posts have refrigerators, but it is not evident that they function to the required standard. Nor is it evident that any effective cold-chain for in-country shipment exists, but the Ministry of Health should be approached for current status inquiries.

44. **Common illnesses:** Chief causes of mortality in infants, are communicable, infectious and parasitic diseases. Particular nationwide problems are gastro-enteritis, whooping-cough, measles and tetanus. TB is considered the sixth on the list of diseases causing death. Aedes aegypti is considered eradicated, but triatomic infection is quite widespread. The Northwestern region remains a focus of plague; the Eastern region one of leprosy. Typhoid, paratyphoid and other salmonellosis are also important problems. Acute respiratory diseases also very important.
Malaria eradication began in 1957, and transmission has been interrupted in areas for a total of 73% of the population originally threatened. But incidence of malaria has risen steeply in the 1970's, and the eradication programme is expanding. Poliomyelitis remains a very moderate problem, leishmaniasis, hepatitis, brucellosis and yellow fever are subject to outbreaks in limited geographical areas.

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39. Diet: Rice (boiled, noodles, cakes) constitutes the basis of the diet, the more so as socio-economic level decreases. Corn (corn grits, white corns, green and sweet corn) also an important staple food, especially in low income groups. Wheat products (bread, noodles, cakes) consumed more in high-income groups but acceptable to all groups. Other staples include sweet potatoes, cassaves, taros. Beans of various kinds, peas and onions also part of the usual diet.
Animal protein intake very low; meat is mainly pork and beef, but in many areas consumed only on special occasions. Other sources include canned meat, eggs, fish (fresh, frozen, dried, smoked) shellfish, canned fish, acceptable to all groups (especially canned fish), but commonly consumed in much larger amounts by higher income groups. Pork is proscribed in Muslim groups (Mindanao and other islands in the South).
A large variety of vegetables and leaves, camote, cabbage, and other local species. Fruits an important addition to diet, include citrus, bananas, and nuts (coconuts). Main source of oil is coconut. Sugar widely consumed.

40. Nutritional deficiencies: Beri-beri major contributing cause of death, due to diet based on highly polished rice, low acceptability of brown rice and enriched varieties, and inadequate cooking habits.
PEM an associate cause of high mortality in children, especially in populations going through cultural changes (urban migration and poor weaning habits). Deficiencies in other vitamins and minerals reported with large variations according to localities: vitamin A (North), riboflavin, vitamin C, iron. Goiter prevalent and wide-spread throughout in the country.

41. Medical supplies: Local production of many common drugs. Import through private medical channels is authorized. Not standard list of drugs. Directions should be written in English or Pilipino. Many private pharmacies and drugstores in urban and rural areas. Also community pharmacies in the villages (botica barrios), with limited supply of common drugs.

42. Health Services: Department of Health under Secretary of Health directs government health services which include amongst others: Preventable Diseases, Environmental Sanitation, Maternal and Child Health, Nutrition, Food and Drug Administration. The country is divided in 12 regional health offices, with regional laboratories, training responsibilities, and supervision of field projects. Care in rural areas is based on Rural Health Units, theoretically staffed by a rural health physician, a public health nurse, a midwife, and a sanitary inspector; activities include communicable disease control, collection of statistics, environmental sanitation, MCH, health education, nursing services, and medical care.
Vertical programs do also exist for tuberculosis, filariasis and malaria control.

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A large number of government hospitals (25-50 beds), have been built; the necessity of these has been questioned; bed occupancy is low.
Private health sector (hospitals and practitioners) is well developed, mainly in cities, and caters for the needs of high-income population groups.
In 1972, there were 738 hospitals of which one third are government, total 22,000 beds. Private facilities are concentrated in cities, and most especially in Metro Manila.

43. **Capacity for handling refrigerated drugs:** Cold storage facilities maintain in Manila Airport by forwarding companies. Also facilities in Manila, Cebu, Davao. In the periphery kerosene refrigerators are occasionally found in health centres, but not standardly provided; also ice depot for commercialization of fish. Dry-ice available in Manila, Cebu, Davao and cities where outlet branches of ice-cream. No cold chain at the Ministry of Health.

44. **Common illnesses:** Communicable diseases still the main health problem, accountings for nearly one half of deaths. Diseases of the respiratory tract, including pulmonary tuberculosis (a large problem) the first cause of death. Poliomyelitis still transmitted. Beriberi (a nutritional deficiency) highly prevalent and a leading cause of death. Rabies. Typhoid reported.
Intestinal capillariasis (verminosis) endemic, with epidemic proportion in Luzon over last decade, high fatality rates.
Malaria: 80% of population at risk; transmission year round; no risk above 600 m.; Bohol, Catanduanes, Cebu, Leyte free; localized insect resistance of mosquitoes to some insecticides.
Schistosomiasis (japonicum) prevalent in eastern Vizayas (Leyte); filaria important cause of disability in Bicol Peninsula and Masbate. Dengue Hemorrhagic Fever rampant in Manila as well as provincial towns. Cholera, about 500 cases in 1977.

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39. Diet:

Staple food according to region:
- Mountains: pulses (dry beans and peas) and potatoes. Main cereals are maize and to a lesser extent millet and sorghum.
- Lowlands: pulses (beans), sweet potatoes, cassava and plantains.

Diet is poor in fat. Sauce made with peanut oil and green leaves, vegetables (Inyabutongo, Ibisusa).
Meat and dried fish rarely consumed.
Beer quite common beverage.

40. Nutritional deficiencies:

PEM ++ everywhere, especially in overpopulated areas (kwashiorkor and marasmus).
Anaemia + in children and women.
Vitamin A deficiency frequent.
Ariboflavinosis and rickets reported.
Goiter in remote highlands areas (Shangungu and Gisenyi prefectures).

41. Medical supplies:

Governmental organization for importation and distribution: OPHAR (Office Pharmaceutique Rwandais) Kigali, phone: 53.96.
Authorization to be obtained from Ministry for importation through private channels.
No reference list of medicaments or drug preparations.
Directions: French.
Private pharmacies in cities.

42. Health services:

Country divided in 10 health regions, each headed by physicians. 24 hospitals with total about 4,000 beds (main hospitals in Butara, Kabgayi, Kigali, Ruhengeri), 60 health centres and 178 dispensaries, 1 physician for 39,000 population; 1 medical assistant for 21,000; 1 nurse and auxiliary for 47,000. Missionary health services of various kinds coordinated within special organizations (Bufmar). NGO supported leprosy mobile service is well developed. No private practice.
Traditional medicine important.

43. Capacity for handling refrigerated drugs :

Cold storage facilities with limited capacity in airport. Cold storage for drugs in OPHAR and university laboratories in Butare (check first if operational). Cold storage facilities in the field available in a number of missions.
No dry ice. No cold chain.

MEDICO-NUTRITIONAL INFORMATION (Cont'd)

44. Common illnesses:

Dysentary and enteric parasitic diseases +. Large number of cases of typhoid fever reported.
Viral hepatitis +, large number of cases reported over recent years. Measles + especially in dry season (vaccination programme not very popular).
Tuberculosis (declining with BCG vaccination) and respiratory diseases +, venereal diseases + especially in towns.

Malaria ++ (75 % population at risk), year round
Sporadic cases of viral encephalitis.
Louse-borne typhus an important problem; scattered over the country; no seasonal variations. Schistosomiasis mansoni.
Relapsing fever (tick-borne) highly endemic, especially in Butare, Gikongoro and Kibungo.

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39. Diet: Staple foods: millet and rice (local and imported). Other foods consumer according to ethnic groups, areas, or seasons: maize, sorghum, sweet potatoes and wheat (as bread in urban areas). Additional foods: groundnuts, beans (niébés), yams, green leaves and vegetables (tomatoes, onions). Large use of peanut oil. Milk and milk products consumed mainly by pastoralists and eastern rural populations. Meat consumed more in urban areas, and depending on availability and economic level.
Fish (dried or smoked) in rural areas. Pork not admissible for Moslems. Low acceptance of canned meat.

40. Nutritional deficiencies: PEM more prevalent in rural areas, also common amongst recent urban migrants in shanty-towns around cities. Kwashiorkor uncommon among milk drinking nomadic population. Localized surveys have revealed clinical signs of deficiencies in vitamin A and B2 in infants. Anaemia common (rare in adult males). Scurvy said to be rare, although dietary intake of vitamin C reported marginal. Beri-beri found in Dakar amongst recent migrants from Basse Casamance.
Goiter limited to certain areas (Sine-Saloum, Tambacounda, Casamance).

41. Medical supplies: Importation of medical supplies by the Ministry of Public Health in Dakar, phone: 503.22). Private importation by Senepharma (Pharmacie Nationale d'Approvisionnement) with authorization of the Ministry.
Basic drugs available in Dakar at S.I.P.O.A. (local production). List of common drugs available from Ministry of Health. Directions written in French. Village pharmacies (25) recently established. Private pharmacies in towns, local drugstores in villages.

42. Health services: The country is divided into 7 regions with hospitals (approximately 5,800 beds), with a quater in Dakar's three well staffed and well equipped hospitals; 27 "departments" with primary health centres (34 for entire country) headed in principle by a physician; 85 "arrondissements" with a total of 428 secondary health stations (5,785 beds) staffed by auxiliaries (nurses, sanitarians, mid-wives). Also some 60 maternity clinics throughout the country. Local units generally have very limited capabilities. Health coverage consideres as inadequate: it is reported that only 20 % of the population is covered. Institutional care is at times supposed to be supplemented by mobile teams (generally operative for leprosy control). Demonstration health centres are operating in Fatick, Pikine, Khombole.
Physicians number approximately 300, 75 % in Dakar, 5 % only in cities with population under 20.000. Private sector does exist but is not of major importance, it includes 1 hospital in Dakar, about 80 dispensaries, and approximately 60 physicians.

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43. Capacity for handling refrigerated drugs: Cold chain is inadequate. Many difficulties in replenishing containers.

44. Common illnesses: Typhoid has been identified in main cities (Dakar, Saint-Louis, Ziguinchor, Kaolack). Measles a major cause of death in children. Vaccination hampered by lack of an adequate cold chain. Leprosy +, Tuberculosis said to be declining, but this static is possibly an artefact due to insufficient reporting. Poliomyelitis a real problem in recent years (over 500 cases in 1974-76); poor or no vaccination. Tetanus occurs in newborn children (in 90 % of cases it is fatal), but declining in cities because of immunization; also occuring in adults in some ethnic groups (Toucouleur). Diphteria still a problem. Gonorrhea highly prevalent. Trachoma a cause of blindness.

Malaria endemic throughout country. 75 % of population not covered by control measures; said to be increasing; transmission year round. From January to June no risk in Dakar and decreased risk in Cap-Vert. Schistosomiasis (vesical) common with large numbers affected in some areas (Eastern part of country) until recently. Yaws . still occurring (Casamance). Endemic syphilis in Fleuve region. High transmission of onchocerciasis in Senegal Oriental, East and South of Tambacounda.
Foci of sleeping sickness (Cap-Vert Province, around Rufisque and Lake Tanna, along Somone river, in the Gambia river basin, in Haute and Basse Casamance, and near Tambacounda). Sporadic epidemics of cerebro-spinal meningitis (February to April).
Last major outbreak of yellow fever 1965.
Cholera outbreaks in 1971-72.

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39. Diet:

Staple foods are sorghum and maize, and to lesser extent rice, cassava and wheat (pasta).
Nomads' basic diet is milk, supplemented by sorghum especially during dry season. Meat is eaten regularly. Also Rice, dates, tea and coffee. Sedentary villagers subsist on maize and sorghum, beans and small quantities of fruit and vegetables. Animal products are available. Fresh and dried fish sometimes eaten by minority in the coastal towns.
Urban population depends on domestic and imported foods sold in markets. Adequacy of diet closely correlated with income and education levels.
Fats are sesame oil (preferred) and ghee.
Pork not admissible amongst Moslems.

40. Nutritional deficiencies:

PEM ++: infants and children.
Vitamin A deficiency: except along S.W. border.
Iron deficiency anaemia.
Goiter: North.

41. Medical supplies:

All drugs and medical supplies are imported through a Ministry of Health department (ASPIMA), and distributed to the government health institutions and to private cooperative pharmacies.

42. Health services:

Country is divided in 14 health areas, each headed by Regional Medical Officer, and subdivided into districts. Mobility of population raises special problem; up to 75 % of total population is nomadic and constantly moving. Facilities include an ultra large hospital and 3 others (1 general, 1 TB and psychiatry, 1 pediatries and gynaecology) in Mogadishu, regional hospitals (100-200 beds with surgery, X-ray and limited laboratory facilities), district hospitals (30-40 beds) run by junior medical officers or senior medical assistants, and village dispensaries with nurses in charge. Several recently established regional and district hospitals not yet fully staffed.
Maternal and child health centres and also public health sanitary officers in the provincial towns.
Central TB control unit in Mogadishu (7 provinces have TB hospitals). Special unit for malaria control in each region. Central laboratory in Mogadishu. Traditional healers play an important role in remote areas, especially for treatment of fractures.
No private practice allowed. All non-governmental institutions, including missionary, have been taken over by government.

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43. Capacity for handling refrigerated drugs: All regional and district towns have electricity supplies. Refrigerators available in regional and district hospitals, either electric or gas run. Rural dispensaries: usually no refrigerators.

44. Common illnesses: Bacillary dysentery frequent; entero-parasitic mostly in South. Polio + (no or little vaccination). TB widespread. Leprosy +. Skin, eye and venereal diseases highly prevalent in nomads. Liver tumors (South). Gastro-duodenal ulcers are frequent cause of complaints.

Malaria: particularly prevalent in South; whole country at risk except Mogadishu where risk minimal; year round transmission; but seasonal transmission in the nomadic areas of North; some control measures for more than 15 years. Schistosomiasis (hematobium) along Juba and Shabelle rivers, a major problem for relocated population. Typhus, relapsing fever, (tick-born) onchocerciasis, visceral leishmaniasis, yaws are reported.

Cholera outbreak in 1977.

Among non-communicable diseases, liver tumours (South) and gastro-duodenal ulcers are frequent complaints.

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39. Diet: Main staples: rice; wheat (wholly imported) increasingly consumed, especially in urban areas. Millet, sorghum and maize also consumed, particularly in rural areas, but to a much lesser extent. Tubers and yams (manioc, sweet potatoes) used only as supplement, except when there is food shortage. Coconut, important source of calories, also as coconut oil. Rice and wheat products consumed with vegetable and small quantities of meat or fish (when available) in curries. Dried fish popular but expensive. Fruits are consumed in quantity during their seasons. Pork not acceptable to Muslims (7 % of the population). Beef not consumed by orthodox Hindus. "Triposha', a pre-cooked fortified weaning food mainly composed of wheat-soy blend.

40. Nutritional deficiencies: PEM ++ especially in urban poors, rural workers, mothers and pre-school children, worst during prolonged periods of drought.
Anaemia ++ (mainly an iron deficiency) in pregnant women, pre-school children, adult from lower socio-economic groups (iron and folate widely distributed). Vitamin A deficiency + (megadose program in Kegalle and Matara; also distribution of liver oil capsules throughout the country). Goiter endemic along S.W. coast (70 % population of the country); mild manifestations.

41. Medical supplies: Agencies responsible for import of medical supplies are:

1. The State Pharmaceuticals Corporation
   Sri Barar Jayatilleke Mawatha
   Colombo 1 - phone 203356
2. The Civil Medical Stores
   335 Deans Road
   Colombo 10 - phone 94113

Import through private channels not autohrized but changes to present regulations under discussion. Directions in English. List of medicaments for common use available from National Formulary Committee. Dept. of Pharmacology, Faculty of Medicine, Kynsey Road, Colombo 10. Commercialization of drugs through private pharmacies coexists with distribution by government channels, hospitals and dispensaries.

42. Health services: Country divided into 16 health divisions, SHS Divisions (Superintendent of Health Services in charge) subdivided into Health Units (Medical Officers in charge) responsible inter alia for communicable disease control and environmental sanitation. Primary health care delivered through peripheral units, central dispensaries, maternity homes and rural hospitals, about 185 in total, average bed capacity 20, no X-ray or laboratory facilities, staffed by auxiliaries. Referral facilities in ascending order of importance include district hospitals (110), bed capacity 100, manned by trained medical officers, some laboratory facilities available in about one fifth of them, base hospitals (20), capacity 300 and provincial hospitals (10),

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capacity 600, laboratory and X-ray facilities, and consultants. Specialized institutions (chest, eye) in Colombo. Specialized non integrated services include malaria, filaria, VD, TB, leprosy. Several non-governmental agencies maintain health services. Private general practice allowed. Practitioners concentrated in towns; private institutions only in largest cities. Traditional medicine (ayurvedic) most important throughout island, including urban areas, and much patronized.

43. Capacity for handling refrigerated drugs: Cold storage facilities at (a) the General Hospital, Colombo; (b) civil medical stores: Medical Research Institute, Colombo (approximate total capacity: 8,000 cu.ft.). At the periphery: domestic refrigerators either electric or kerosene. Operational cold chain at the Ministry of Health (contact: Epidemiology Unit, 385 Deans Road, Colombo 10, phone: 95112).

44. Common illnesses: Diarrheal diseases responsible for 14 % of all deaths; epidemics of bacillary dysentery spreading over island in recent years, a serious problem in agricultural estates; typhoid widespread (especially in Colombo, Vavuniya, Jaffna, Ratnapura, Kandy, Anuradhapura, Badulla); hepatitis, particularly in the South West of the island, and increasingly recognized problem; poliomyelitis a continuing risk. Food poisining. Tuberculosis considered as a declining problem, higher risks in older age-groupes. Tetanus a continuing problem. Rabies in humans a paramount problem; dog main but not exclusive reservoirs.

Considerable malaria upsurge in recent years, with possibly close to 1 million cases per year, all over the country, except Jaffna, South West coastal belt (including Colombo, Galle, Kalutara), and central highlands above 800 m. Encephalitis (arborvirus) in children. Filariasis along South West coast. Cholera introduced in 1973; peak incidence 1975. Typhus of unspecified form reported. Non-communicable diseases (IHD, malignancies, hypertension) are increasing causes of mortality. Accidents a growing concern.

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39. **Diet:** Chief staple is sorghum ("dura") which is widely grown. Pennisetummillet ("dukhn") important on sandy soils (especially in Western part of central rainlands). Also some wheat (in Northern irrigated areas) and rice (in Southern irrigated areas).
Southern Sudan has relatively good rainfall and a variety of cereals and tubers; cassava an important local staple but sweet potatoes, maize, eleusine millet, sorghum millet and yams also eaten. Wheat bread is increasingly consumed in towns. Millet prepared as thick porridge and also as thin fermented pancakes/flat bread. Staple is served with a sauce or stew made from fresh green vegetables, tomatoes, onions, okra (dried as "wayka"), sour milk, meat (or occasionally fish or eggs) as circumstances and income permit. Sesame and groundnuts (on light soils) are the main oilseeds used for cooking oil and snacks. Condiments include salt, cayenne pepper and potash. Sweet tea and, to lesser extent coffee, are stimulants. Millet beer ("merissa") mainly in West and South. Fruits (mangoes and citrus, including limes) are popular minor dietary items; dates important in North.
Moslems, mainly in the North, do not eat pork or non-ritually slaughtered meat. Consumption of beef by cattle-owning nomads is restricted by social custom and ritual. Mutton is the most widely consumed meat. Milk is from cattle and, more commonly, from household goats. Note that all Sudan's nomads eat millet; they are not totally dependent on animal products.

40. **Nutritional deficiencies:** PEM: likely to be common but cases not commonly seen in hospitals. Anaemia common, especially in nomads in East. Goiter common in West Sudan, also in Azande area (along Zaire border). Scurvey, rickets, beri-beri, vitamin A deficiency and ariboflavinosis possibly exist but insufficient information.

41. **Medical supplies:** All supplies obtained from the Central Medical Stores in Khartoum; supplies for dispensaries and dressing stations purchased by each province; each hospital has a standard list of drugs; shortages are very usual. Distribution has to take place during dry season, especially in some parts of Southern and Western Sudan. Import of foreign drugs through Government channels.

42. **Health services:** Administrative structure of health services in provinces consists of several levels: provincial (with Assistant Commissioner for Health, responsible for preventive services), district (with Medical Inspector), subdistrict (with Senior Medical Officer), and at the periphery, dispensaries, dressing stations and health centres with auxilieries in charge.

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In Southern Sudan: 3 provincial hospitals have extensive facilities including X-ray, surgery, laboratory and blood bank. 21 hospitals have limited laboratory facilities. Regional laboratory in Juba. A few districts and sub-districts have rural hospitals, dispensaries and/or health centres.
In Northern Sudan: 105 hospitals, 159 health centres, 580 dispensaries and 1,380 dressing stations. All types of specialized hospitals in Khartoum where are also many specialist facilities. Special programmes for schistosomiasis and malaria in Gezira and Kassala Provinces.

Leprosy, onchocerciasis, sleeping sickness and kala-azar under separate services. Private practice is allowed for all Sudanese doctors. They can open private clinics during their free time. They also can resign from Government work and have full-time private practice. All mission hospitals were closed in the South during recent war. Traditional healers popular in rural areas and among Moslem tribes of the Western Sudan.

43. **Capacity for handling refrigerated drugs:** General Medical Stores: 4 rooms of $4m^2$ each. All provincial hospitals have cold storage facilities. District hospitals, rural hospitals, some health centres and a few large dispensaries have kerosene refrigerators (check first if operating). Provincial hospitals can get their drugs by plane from Khartoum. Ice boxes and thermos flasks for within-province delivery generally in very short supply. "Expanded programme of immunization" (EPI) uses cold boxes for vaccines.

44. **Common illnesses:** Enteric infections ubiquitous: amebiasis +; hepatitis (high fatality rate). TB especially prevalent in pastoral people of Eastern and Western Sudan. Leprosy: high prevalence in Nuba Mountains, Kordofan and Southern provinces. Trachoma highly prevalent in Nile provinces. Very large number of cases of poliomyelitis reported in recent years. Cerebro-spinal meningitis outbreaks occur in dry season; endemic in Kapoeta area. Kala-azar in Upper Nile Province. Malaria: whole population at risk, year round, including urban areas; significant part of malaria areas with resistance to common insecticides; schistosomiasis (vesical): Aweil, Gogrial, Bentiu, Fangak and Bor areas; schistosomiasis (intestinal) most common in Bor areas, Malaria and schistosomiasis is endemic and important in irrigated areas of El Gezira and Kassala Province. Onchocerciasis: along Jur river and Raga, Wau, Tonj, Rumbek and Yirol areas. Sleeping sickness on both banks of the Nile in Equatoria Province and Southern regions. Relapsing fever: Upper Nile Province (Jonglei area). Echinococcosis: very common in Pioot Post and Kapoeta among nomadic groups. Dramatically lethal outbreak of highly contagious viral haemorragic fever in 1976 in Maridi and Nzara, Western Equatoria.

MEDICO-NUTRITIONAL INFORMATION

39. Diet: Staple food for the majority is wheat eaten as bread, also barley, sorghum and millet; in many villages maize is the staple for the farmers. Rice is universally popular. Staple food is accompagnied by pulses:lentils, chick peas, broad beans and dried beans.
Vegetable oils is used (from olives, sesame cottrn, sunflowers and groundnuts) and so are animal fats (clarified butter).
Amount of vegetables consumed depends on the region and the season: principally tomatoes, cucumbers, pumpkings and eggplants. A variety of fruit. Olives are part of the regular diet.
Fresh milk not popular but milk products widely used (sour milk, cheese). A variety of nuts largely consumed.
Very low consumption of meat (mutton is most popular) especially in rural areas. (Meat is eaten as a ceremonial food).
Little fish eaten, only in riverine areas and along the coast. Sugar used in beverages (tea and coffee).
Pork not admissible.

40. Nutritional deficiencies: PEM ++, especially in rural areas and among nomads.
Anaemia ++, an important problem, especially iron deficiency type.
Rickets is reported in urban areas and vitamin C deficiency in children. Vitamin A deficiency is a declining problem.

41. Medical supplies: Import through the Health Ministry in Damas;private channels are not authorized. List of common drugs available at the Ministry of Health.
In towns, there are private pharmacies. Directions to be written in Arabic and the language of the exporter.

42. Health services: Health services provided by the Ministry of Health are based on 34 hospitals, 278 health centres, 42 dispensaries and 25 centres for malaria and tuberculosis, together with maternity and child welfare centres. There are 34 hospitals and sanatoria with 5,400 beds and 65 private hospitals with 1,350 beds; giving a ratio of 1 bed for every 1,040 people. There is 1 dispensary to approximately 30,000 people and 1 maternity and child welfare centre to about 110,000.
In 1973, the total number of physicians in the country was 2,371. The ratio of physicians to population for the whole country was considered to be 1/2,900. The distribution is uneven, ranging from approximately 1/1,000 in Damascus to 1/11,000 in one of the more remote provinces.

MEDICO-NUTRITIONAL INFORMATION (Cont'd)

43.	Capacity for handling refrigerated drugs:	No facilities at the airport. Some cold storage facilities belonging to the Ministry of Health in the capital. Nothing at the periphery. UNICEF plans to install cold storage facilities, as part of a vaccination program.
44.	Common illnesses:	Entero-parasitic widespread even in cities; very high prevalence of amoebiasis. Tuberculosis a problem especially among pastoral populations in Eastern part of the country. Fasciolopsiasis widespread and apparently an increasing problem. Malaria still transmitted; mostly May to October; no risk above 600 m; no risk in urban areas. Trachoma prevalent. Cholera outbreaks a threat in summertime.

MEDICO-NUTRITIONAL INFORMATION

39. Diet: The basic staple food is maize as a stiff porridge, bananas (Cooked plantains), rice (in the coastal region) and cassava. Also commonly eaten: sweet potatoes and millet. Staple food is eaten with beans, green vegetable, oil (mostly vegetable). Scarce amount of meat; fruits in coastal region during their season; wheat consumed as bread in urban areas; dried fish (coastal region). Pastoral people in Tabora region drink sour milk. Pork not acceptable for about 50% of the population who are Moslems.

40. Nutritional deficiencies: PEM important on a national scale. About 10% of children under 5 years age have been found with PEM of various degrees. Vitamin A deficiency is found in the dry central plateau of the country. Anaemia due to hookworm and other causes is common along the coastal belt. Foci of goiter in mountaneous areas of Kigoma, West Lake and Mbeya regions.

41. Medical supplies: The "Central Medical Store, P.O. Box Dar es Salaam" and the "National pharmaceutical company, P.O. Box Dar es Salaam" are responsible for import and distribution of drugs and medical supplies. Private hospitals are authorized to import medical supplies. Private pharmacies operate in cities but not in rural areas. A list of drugs in common use is available. Directions should be in Swahili language and also in English.

42. Health Services: Health structure is divided into 95 health districts corresponding to the political districts. Each district is headed by a Medical Officer responsible for preventive and curative services. There are 120 hospitals (with surgery, X-ray and limited laboratory facilities); at least one in each district, with at least one resident junior doctor. Specialists in general surgery, gynaecology, medicine and paediatrics are available in 3 hospitals: Muhimbili Medical Centre, Bugando and KCMC. In rural areas about 200 health centres with resident medical assistant or rural medical aid provide some hospitalization ward.

43. Capacity for handling refrigerated drugs:

44. Common illnesses: Gastro-enteritis +; everywhere; also typhoid reported. Tuberculosis highly prevalent all over the country (but more in urban areas); national control programme started in 1977. Measles still a problem, in spite of vaccination. Scabies+. Leprosy+; mostly in Southern. Malaria++; endemic except in the mountains areas. Schistosomiasis++ in lake Victoria basin, the Rufiji river basin and in coastal areas. Ankylostomiasis and hookworms++ in coastal areas and Kigoma region. Certification of smallpox eradication on March 1978. Outbreak of cholera in 1977.

MEDICO-NUTRITIONAL INFORMATION

39. Diet: Staple food: mainly rice (glutinous rice N and NE, ordinary rice South and Central), totaling about 70% of all food consumed. Commonly eaten and important part of diet: wheat, generally in forms of bread of noodles, sweet potatoes, yams. Vegetables, cultivated and also wild.
In rural areas with rice, fish fresh or dried, also meat (usually chicken, beef or pork) but in limited amounts in low income families. Shrimp paste, fish sauce and salt as part of dish or numpla for seasoning. Oil mostly animal, vegetable oils are becoming quite popular among Bangkok and other urban inhabitants. Spices garlic, onions, chilies. Sugar cane and fruits consumed throughout the country. Pork not acceptable by Muslims. Meat prohibited for vegetarians. Restricted diet (rice, dried fish, salt) during pregnancy and post partum.

40. Nutritional deficiencies: PEM ++ 70% of total population have protein and calories intakes less than international standard levels; most pronounced in children below 5 years. Vitamin B1 deficiency ++ about 50% less than normal daily requirements in rural and remote areas, especially North, North East, South.
Vitamin A deficiency + in some areas in Northern and Southern parts of country (shark liver oil distributed in health centres).
Goiter, North (iodization of commercialized salt North, North East).

41. Medical supplies: Government pharmaceutical organisation, Bangkok, is involved in the production of pharmaceuticals and medical supplies (nearly 50% of the supplies used throughout the country).
Import of medical supplies: Medical Supply Purchasing Section Division of provincial hospital - Office of Under Secretary of State Ministry of Public Health, tel.: 2816577
A list of standard medicine is available therefrom. Importation through private channels is authorized with limited control of drug import, sale and distribution.
Private pharmacies in cities and rural areas(1,978 pharmacists in 1976).

42. Health Services: Health services are provided by both private and public sectors. Private sector is predominant in Bangkok and 128 municipalities of the country.
Public sector is concentrated in 71 provincial areas where 267 general hospitals (one-third private) with some 55,000 beds; 33 specialized hospitals (8 private) with 12,500 beds serve people in urban and suburban areas. Hospitals equipped with surgery, X-ray and laboratory facilities in all 71 provincial towns but consultants for specialized matters generally available only in regional hospitals.

MEDICO-NUTRITIONAL INFORMATION (Cont'd)

Provincial health care services (curative and preventive care) are: 380 district health centres with 4,117 beds; 3,640 subdistrict health centres with 17 beds, 1,456 village or midwifery centres with 398 beds. Total personnel in 1976 over 5,000 physicians, some 37,000 other health professionals including health workers, nurses, practical nurses, midwives. Indigenous medical practitioners serve about half of population directly or indirectly; predominant in rural areas where other health services are neither available nor affordable.

43. Capacity for handling refrigerated drugs:

Cold storage facilities in international airport. Thai International Airways terminal (2 rooms of 19m^3 capacity each). Cargo of K.L.M. Terminal (room capacity 9,375 m^3), Cargo of Civic Avichov Department (capacity 60 m^3).
Cold Storage facilities. General communicable diseases Control (capacity 756 ft.^{3}). Seato Research Laboratory (capacity 200 ft.^{3})
Government Pharmaceutical Organisation (2 rooms of 64 m^3 capacity each). University hospitals.
Electric and kerosene refrigerators available at health centres, some district health offices and most dispensaries. Poor cold storage facilities in subdistricts and villages. Refrigerated transport facilities, relatively limited, may be extended by commercial facilities available throughout the country. Dry ice readily obtained at Air Chemical Company Ltd. 2124 New Pech buri Road - Bangkok. Cold chain operating for some particular items at Ministry of Health, Hoechst Thai Ltd - 302 Silom Rd. Bangkok, Tel.: 4652732.

44. Common illnesses:

Cosmopolitan diseases as common to all poor areas, but TB apparently a chief cause of mortality. Acute diarrheas from various causes +; enteroparasitic, mainly hookworms, and in rural areas, especially South and North East of the country. Typhoid fever and salmonellosis an increasing problem in urban areas, with drug-resistant strain identified for typhoid fever. Viral hepatitis (mostly A) +.

Diphteria (still occasional cases), pertussis, tetanus (still a problem) and poliomyelitis (still a significant number of cases over recent years), are being brought under control. Trachoma still endemic in NE regions.
Scrubtyphus, mainly N.E. Rabies a hazard, urban and rural. Malaria still endemic in rural and remote areas (centre of country, northeast, western borders); few areas without risk, except Bangkok. Dengue hemorrhagic fever with explosive outbreaks a serious problem in cities; peak incidence May/October. Significant number of viral encephalitis cases are reported (over 1,500 in 1976). Cholera occasionally occurring in cities and provincial towns, particularly eastern coast Province, up to over 1,000 reported cases per year.

MEDICO-NUTRITIONAL INFORMATION

39. Diet: Existence of district feeding patterns according to regions:
North: Staple food is millet and sorghum, made into thick pasta and mixed with leaves. During periods of shortage yams and sweet potatoes eaten. Foods served with staple: oil from nuts (as a sauce), beans (stirred into meal) and cowpeas. Meat occasionally eaten.
Central part: Staple food consists partly of cereals (millet and, in lesser, amounts, maize) and partly of roots (yams). Sauce prepated with small amounts of palm oil, groundnuts, some beans, green leafy vegetables, peppers. Meat eaten occasionally.
South: Staple food is cassava cooked as white porridge. Sauces made with palm oil, legumes, fermented beans, pumpkin seeds, green vegetables, chillies and some coconuts. Fish often eaten. Meat is occasionally eaten.

40. Nutritional deficiencies: PEM++. Vitamin A deficiency is reported in the North. Scurvy reported in Mabas and Cabreses. Goiter widespread.

41. Medical supplies: Import and distribution through government agency, Togopharma ("Office National des Pharmacies"); official pharmacies maintained in Lomé, Sokodé and Lama-Kara; distribution centres throughout country.
Private pharmacies mostly in cities: Lomé, Anecho, Dapango and Palime.

42. Health Services: The health structure is centralized and organized on 4 levels central level (1 reference hospital); regional level (5 healt districts), 1 hospital in each, with surgery, medicine, pediatrics, maternity and opthalmology services and laborator facilities); subregional level (18 hospitals with 3,290 beds, medicine, maternity and pediatric services and some laborator facilities); peripherical level (subdivided into primary Health care units, C.P.S.), 237 secondary health centres (C.S.S.) and 42 mother and infant posts (P.M.I.).
The private sector has 2 mission hospitals (150 beds). There are also some small private clinics in Lomé. There are mobile teams for malaria and leprosy (Service des Grandes Endémies). Health manpower includes some 100 doctors, 45 medical assistants, around 300 nurses and 180 midwives. Traditional healers are important.

43. Capacity for handling refrigerated drugs: No cold storage facilities at Lomé Airport but adequate facilities available in town (Togopharma, Pharmapro, Service des Grandes Endémies and Institut Ernst Rodenwald; also at Service des Pêches and Abattoirs Frigorifiques). In the country side, refrigerators are available at district level (circonscription administrative). It is possible to organize cold transport (ice kits) at the Ministry of Health; also the army has refrigerated trucks. No dry ice available.

MEDICO-NUTRITIONAL INFORMATION (Cont'd)

44. Common illnesses

Enteric diseases are first cause of deaths in hospitals. Hookworm is most important of soil-transmitted parasites; amoebiasis frequent. Incidence of measles said to be declining. Leprosy: estimated to be 30,000 patients; control measures undertaken. Measles still a major problem in children. TB+; largely undetected; no significant wides-scale control measures. Yaws persists. Dracuntiasis in rural areas. Trachoma. Cerebrospinal meningitis occurs near Northern border.
Malaria: entire population at risk including in cities but especially endemic in North; reduced risk in hills above 600 m.; year round transmission; limited control measures. Onchocerciasis. Schistosomiasis (vesical) widespread; mainly Bonga, Mango, Lama-Kara and Sokode; widespread control programme. Trypanosomiasis still an important problem (200 cases in 1976); main foci in North. Yellow fever: no cases reported for a number of years but a persisting risk; vaccination programme. Cholera outbreak in 1977. Last case of smallpox 1969.

MEDICO-NUTRITIONAL INFORMATION

39. Diet: Staple foods: mainly root crops; taro, tapioca and yams progressively replaced by cassava, sweet potatoes, plantains and bananas. Vegetables: taro tops, pele leaves, cabbag spinach, lettuce, tomatoes and onions when in season. Coconut milk used in all cooking. Bread commonly eaten. Meat (beef, mutton, pork and chicken) on Sundays and special feasts when available. Large consumption of seafood. Tinned foods are popular but costly. Tinned milk commonly used (fresh milk not readily available). Fruits (especially bread fruit) eaten in season. Diet is fairly homogeneous throughout islands. No food unacceptable except by small religious (Christian) minorities.

40. Nutritional deficiencies: Not a major problem except in towns, where subsistance is based on processed foods, and in infants aged 8-15 months (weaning) when occasional marasmus is seen.
Anaemia (iron deficiency) in women of child bearing-age.
Goitor + fairly common throughout the country but mostly in young women.

41. Medical supplies: Drugs and medical supplies to be imported through the Ministry of Health, Nuku'Alofa, phone: 200.
Import of drugs by private channels or non-governmental agencie only by permission of the Ministry. List of standard medicines and drugs available from the Ministry. Directions in local language (Tongan) and in English. No private pharmacies; medicaments obtained only from hospital pharmacies and rural dispensaries.

42. Health Services: Country divided into 10 medical and public health district based on the location of 3 hospitals (Vaiola in Nuku Alofa (196 beds), Neiafu (50 beds) and Ha'apai (20 beds) and 7 rural dispensaries (in the outer islands) some of which have in-patient wards. Each hospital is under the charge of Senior Medical Officer and each rural dispensary is under the charge ~~of Medical Officer~~ of Medical Assistant. These personnel are responsible for medical services and also for the public health services in the districts. Hospitals provide outpatient and inpatient services; surgery, medicine, paediatrics, obstetrics, gynaecology, communicable diseases, laboratory and X-ray. Specialist services available only in the main hospital. Dispensaries provide outpatient services; medical consultation and treatment, minor surgery, ante-and post-natal care and home deliveries. Domiciliary services provided only on request. No private medical practitioners. Missions maintain services including MCH mobile clinics in Tongatapu. Traditional medicine (herbs, etc.) has many followers especially in rural areas.

MEDICO-NUTRITIONAL INFORMATION (Cont'd)

43. Capacity for handling refrigerated drugs: No facilities in airport but refrigerated drugs transported fairly quickly in cold boxes to town. Cold storage facilities in hospital and central pharmacy; airlines office (20 cu.ft.). No dry ice. Household refrigerators, mostly kerosene(not too reliable) in the field. No organized cold chain.

44. Common illnesses: Respiratory infections commonest causes of ill-health, particularly among children and in old age (but very low mortality from tuberculosis reported). Skin infection (scabies, boils, carbuncles) very common, also occasional tropical ulcers. Enteric infections: typhoid a positively major problem; immunization against typhoid tends to reduce cases; however tracing of the apparently healthy carriers is a problem. Infectious hepatitis increasing. Poliomyelitis: absent for years but potential danger unless immunization coverage is maintained at high level. Filariasis a major problem (national mass drug treatment launched in 1977); VD's: gonorrhoea common; syphilis identified only recently. Tetanus neonatorum fairly well controlled due to widespread immunization of pregnant mothers. Dengue fever reported in 1973 in Eastern Tongatapu; important outbreak of dengue-like fever in Nuku'Alofa capital city in 1975. Leptospirosis common.