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REPORT OF THE PREPARATORY COMMITTEE on the Principles governing the Organisation of Medical Assistance, the Public Health Services and Sanitation in Rural Districts. (C.H.1045.) (Ser. L.O.N. P. 1931.III.7) ... 2/- \$0.50

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Volume III, No. 2 (Fly-free Manure-heaps). (Fly Control in Denmark.)

Volume V, No. 2 (The Fly Problem in Rural Hygiene. A series of four articles.)

Intergovernmental Conference of Far-Eastern Countries on Rural Hygiene

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**INTERGOVERNMENTAL CONFERENCE
OF FAR-EASTERN COUNTRIES
ON RURAL HYGIENE**

**Preparatory Papers :
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INTRODUCTION.

With a view to preparing for the Intergovernmental Conference of Far-Eastern Countries on Rural Hygiene convened by the Council of the League of Nations at Bandoeng (Java) for August 3rd, 1937, the various countries invited to attend have been asked to draft national reports dealing with the various questions on the agenda of the Conference.

Herewith is the Japanese report, prepared by the Japanese Health Authorities.

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**INTERGOVERNMENTAL CONFERENCE
OF FAR-EASTERN COUNTRIES
ON RURAL HYGIENE**

(Bandoeng (Java), August 3rd, 1937.)

JAPANESE REPORT

I. HEALTH AND MEDICAL SERVICES.

I. PRINCIPLES GOVERNING THEIR ORGANISATION.

In Japan, the official health services are administered as follows : general public health, by the Central Sanitary Bureau of the Department of Home Affairs ; industrial hygiene, by the Bureau of Social Affairs of the Department of Home Affairs ; school hygiene, by the Department of Education ; military hygiene, by the Army and Navy Ministries.

Administrative organisation of public health :

Central Organisation for Public Health.

(a) *Central Administrative Organisation.*

The Minister of Home Affairs controls public health administration in general.

The Central Sanitary Bureau, which forms part of the Department of Home Affairs, is divided into the four following sections :

- (i) Health preservation ;
- (ii) Chronic diseases prevention ;
- (iii) Acute infectious diseases prevention ;
- (iv) Medical.

(b) *Advisory Councils.*

The Advisory Councils, all of which are under the supervision of the Minister of Home Affairs, consist of the following :

The Central Board of Health. — Acts as an advisory organisation to the competent Ministers of State on public health and veterinary matters.

Board for the Investigation of Japanese Pharmacopœia. — Investigates matters relating to the revision of pharmacopœia.

Board for the Investigation of National Hygiene. — Acts as a body for the investigation of national health.

National Parks Commission. — An advisory organ on matters concerning national parks.

Opium Commission. — An advisory organ on opium and other dangerous drugs.

(c) *Laboratories.*

The laboratories include :

Government Hygienic Institute, under the administration of the Minister of Home Affairs, is an establishment for the examination of medicines and other products.

Government Institute for Infectious Diseases: under the joint administration of the Ministers of Home Affairs and Education and attached to the Tokio Imperial University; undertakes the investigation of infectious diseases.

Government Institute of Nutrition: established under the control of the Minister of Home Affairs for research in national nutrition.

(d) *Examining Bodies.*

These include Commissions for the examination of medical practitioners, dental surgeons and pharmacists. 7

(e) *Medical Relief Establishments.*

National leprosaria : establishments for treating and assisting leprosy patients.

A scheme for the establishment of national tuberculosis sanatoria is being prepared.

Moreover, it is intended to provide facilities for supplementary education of the personnel of the public health services in the National Institute of Public Health.

Local Organisations for Public Health Administration.

(a) *Chief Provincial Officials.*

The Governor of Hokkaido, the Inspector-General of the Metropolitan Police Board and the prefectural governors are the chief provincial administrative officials, and public health administration naturally comes under their control. Under the governors there are police departments, comprising health sections in charge of health matters.

In the Tokio Prefecture, public health administration is under the joint responsibility of the Prefectural Governor and the Inspector-General of the Metropolitan Police Board, through the prefectural Department of Education and the Health Department respectively.

To each of these provincial offices are attached bacteriological, as well as hygienic, laboratories staffed with experts in various fields.

(b) *Chiefs of Police.*

The chiefs of police supervise public health affairs in districts under their jurisdiction in accordance with instructions received from the Governor of Hokkaido, the Inspector-General of the Metropolitan Police Board and the prefectural governors, to whom they are directly responsible.

(c) *Cities, Towns and Villages.*

Cities, towns and villages also have public health responsibilities of their own under laws and regulations. In large cities, there are also health departments with bacteriological, as well as hygienic, laboratories.

(d) *Quarantine Organisation.*

Quarantine is regularly carried out at the principal ports open to foreign trade—namely, Osaka, Kobe, Moji, Nagasaki, Tsuruga, etc. In these ports, the Customs authorities take charge of quarantine procedure and a harbour-master's office is provided in each Customs house for the purpose. In addition, there are quarantine stations under the supervision of local prefectural governors in the following ports : Hakodate, Karatsu, Nagoya, etc.

(e) *Medical Relief Establishments.*

Hospitals, sanatoria and dispensaries are established by prefectures, cities, towns and villages for the treatment and prevention of trachoma, venereal diseases, mental diseases, leprosy, tuberculosis and acute infectious diseases.

In Japan, medical practice and public services in general are not carried out by the same personnel. Private medical practice forms the basis of the Japanese medical system. This system has for many years answered the needs of the people and a relationship of mutual confidence has been built up between physician and patient, as is shown by the history and conditions of the country.

However, in order to supplement the system of private practice, Japanese laws sanction the establishment of institutions for medical treatment by agents other than individual physicians. There are a number of governmental and public organisations for medical treatment, non-profit-making dispensaries, organs for medical relief work, sanatoria, as well as dispensaries, for specific purposes, such as infectious diseases, tuberculosis, leprosy, venereal and mental diseases, as well as dispensaries attached to certain industries. In response to the demands of the times, medical treatment unions have been formed in connection with co-operative societies and other medical aid associations. The Government has, to a certain extent, adopted a system of sickness insurance, and compulsory health insurance legislation for workmen has subsequently been introduced, together with health centres for those insured through postal life insurance. In addition, a system of national health insurance is at present being contemplated.

2. PERSONNEL.

(a) *Doctors.*

In order to become a practitioner, a physician must obtain a licence from the Minister of Home Affairs, after having qualified under one of the following headings :

(a) He must have studied medicine at a university established under the Universities Ordinance and have acquired the title of “Gakushi”, or have completed a course in a higher medical school, either governmental, public or private, recognised by the Minister of Education ; or

(b) He must have passed the medical practitioners' examination ; or

(c) Obtained a diploma in a foreign medical school or a medical licence in a foreign country, and be deemed to have qualified for the profession by the Minister of Home Affairs.

Training Centres for Medical Practitioners.

The number of medical schools is as follows (1937) :

(i) *Universities under the Universities Ordinance :*

Governmental	13
Prefectural	3
Private	3

(ii) *Medical colleges :*

Private	9
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Physicians' Associations.

Physicians' associations are public corporations established under the laws for practitioners and aim at the improvement and development of medicine and public health. They consist of three classes—namely, the Nihon Ishikai (Association of Japanese Physicians), the Prefectural Association of Physicians, and the Country, City or Ward Association of Physicians. The Nihon Ishikai has as members all the prefectural medical

associations of the country. The Prefectural Association of Physicians has as members country, city or ward associations, while the Country, City or Ward Association of Physicians is composed of physicians engaged in medical practice at public or private institutions in the district concerned.

Number and Distribution of Medical Practitioners (1936).

	Total number of physicians	Number of physicians engaged in medical practice	Population per medical practitioner	Number of medical practitioners per 10,000 population	Average number of medical practitioners per municipality
City districts . .	34,234	30,878	734	13.62	239.00
Rural districts:					
Towns	11,783	10,748	1,295	7.72	6.29
Villages . . .	12,494	11,750	2,780	3.59	1.21
Total . .	24,277	22,498	2,071	4.83	1.98 ¹ 35.70 ²
Grand total . .	58,511	53,376	1,297	7.71	

¹ Average for town and village.

² Average for country.

Distribution of Practitioners in Remote Districts.

In those localities where there is a dearth of medical practitioners, the Government has organised a service whereby doctors may be sent to such districts both in times of emergency and on regular visits. The Government has also adopted a policy of subsidising practitioners in towns and villages, and of encouraging independent medical institutions in towns and villages, as well as medical dispensaries attached to co-operative societies. Furthermore, the Government is considering the establishment of dispensaries among 1,400 villages where medical attention is lacking, through subsidies to the prefectural offices.

In the dental profession, the system is to license dental surgeons for the treatment of dental diseases and mouth diseases arising therefrom, and for the practice of dental surgery. This system is, on the whole, similar to that for medical practitioners.

Training-institutions for Dental Surgeons.

The number of dental schools is as follows (1937) :

Governmental dental colleges	1
Private dental colleges	7

Number and Distribution of Dental Surgeons (1935).

	Total	Number of dental surgeons engaged in practice	Number of dental surgeons per 10,000 population
Cities	—	10,982	4.85
Rural districts :			
Towns	—	5,052	} 1.60
Villages	—	2,394	
Total	20,010	18,428	2.66

(b) *Auxiliary Staff.*

(1) *Midwives.*

A midwife in Japan must be over 20 years of age and must have (a) passed the usual examination for midwives, or (b) completed a course at a school or training-institute recognised by the Minister of Home Affairs.

Number and Distribution of Midwives (1935).

	Total number of midwives	Number of midwives per 10,000 population
Cities	25,981	11.46
Rural districts :		
Towns	12,833	} 7.21
Villages	20,746	
Total	59,560	8.60

(2) *Nurses.*

A nurse must be a woman over 18 years of age and must have (a) passed the usual examination for nurses, or (b) completed

a course in a school or training institute recognised by the local governor.

The total number of nurses in the whole of the country at the end of 1935 was 16,857.

(3) *Public Health Nurses.*

Public health nurses must receive a special course of training. About 5,000 are engaged in schools, factories and child welfare centres.

(4) *Persons engaged in Massage, Acupuncture and "Moxacauterisation".*

A special licence is required for the practice of massage, acupuncture and "moxa-cauterisation".

Number and Distribution of Each of the Foregoing Divisions (1935).

		Practitioners engaged in :				Total
		Acupuncture and "moxacauterisation"	Acupuncture and massage	"Moxacauterisation" and massage	Acupuncture, "moxacauterisation" and massage	
Persons engaged in acupuncture.....	5,005	10,542	4,418	—	11,393	31,358
Persons engaged in "moxacauterisation"	4,930	10,542	—	1,190	11,393	28,055
Persons engaged in massage	36,210	—	4,418	1,190	11,393	53,211

3. CURATIVE AND PREVENTIVE ACTIVITIES.

In the rural districts, health services are administered by the police-stations, the town and village authorities and health unions under the guidance and supervision of the central and

prefectural Governments. As regards preventive medicine, the towns and villages establish hospitals for infectious diseases, isolation wards, dispensaries for trachoma and venereal diseases, while hospitals and sanatoria for patients suffering from tuberculosis, leprosy and mental diseases are established by the central and prefectural Governments.

Medical treatment is administered by the practitioners; but, where these are lacking, the prefectures, towns and cities set up their own dispensaries, or the prefectures grant subsidies for the establishment of dispensaries. Medical rounds and special visits by physicians are also organised by prefectures, towns and villages.

Realising that the state of the national health necessitates the setting-up of a more complete health organisation, the Government is contemplating the following measures :

(1) The entire country will be divided into districts of 120,000 or 130,000 inhabitants, each having a *health centre* equipped with physicians, pharmacists, health officers and nurses for the purpose of educating the people in promoting health and preventing sickness ;

(2) Beds in the tuberculosis sanatoria will be increased to 40,000 and those in the leprosaria to 10,000 ;

(3) Practitioners will be stationed in 1,400 towns and villages where medical attention is lacking ;

(4) A system of national health insurance is to be set up in rural districts for the provision of benefits in the event of disease, injury or childbirth.

4. BUDGETS.

The following is a summary of expenditure for health services incurred by the central, prefectural, city, town and village authorities. In the case of the central health organisation acting as a principal organ of public health, the figures represent the expenditure of the Central Sanitary Bureau of the Home Ministry only.

Central (1934).

Budget for health services	29,660,850 yen ¹
Percentage of the health budget of the Central Sanitary Bureau against the budget of the entire Ministry	15.64%
Budget for health services <i>per capita</i> . . .	0.434 yen

Annual Budgets for Prefectural Health Services.

Year	1930	1931	1932	1933	1934
Total sum (yen) . . .	9,511,131	9,284,793	8,655,044	9,645,711	10,721,938
Percentage of health budget against entire prefectural budget	2.37	2.16	2.01	1.95	2.18
<i>Per capita</i> (yen) . . .	0.148	0.142	0.131	0.143	0.157

Annual Budgets for City, Town and Village Health Services.

Year	1930	1931	1932	1933	1934
Expenses for cities :					
Total (yen)	74,180,555	69,324,497	59,294,260	77,813,096	87,103,160
Percentage of health budget against entire city budgets . .	10.81	11.02	10.04	9.63	10.37
<i>Per capita</i> (yen) .	4.803	4.326	3.581	3.726	4.030
Expenses for towns and villages :					
Total (yen) .	26,802,369	24,913,872	25,339,548	14,260,184	16,503,158
Percentage of health budget against entire town and village budgets	5.65	5.69	5.61	3.16	3.59
<i>Per capita</i> (yen) .	0.547	0.505	0.505	0.308	0.354

¹ 1 yen = 0.9 gold franc = £0.059 (average rate of exchange, 1934).

II. RURAL RECONSTRUCTION AND COLLABORATION OF THE POPULATION.

In cities, towns and villages there are health unions which, in co-operation with the authorities, act on their own initiative in health matters, in addition to their usual work of medical relief and prevention of infectious diseases. At present, these unions number 64,960.

In view of the rural depression, the Government established, in 1932, a five-year plan for the rehabilitation of rural economy by promoting local industry and reassuring public opinion, thereby improving conditions in the mountainous districts and fishing regions. Under this plan, 6,599 districts have been designated for five years as towns and villages of economic rehabilitation. In these districts, definite plans for the solution of problems relating to industry, economy, education and social work are to be devised and put into practice for a few years. From these towns and villages, certain districts have been chosen since 1936 as model towns and villages to which special assistance is being given for the rapid realisation of economic plans, thus enabling other towns and villages to follow suit as circumstances permit. While enforcing these plans, the local authorities are also endeavouring to adopt schemes for health and sanitation. Considerable progress in the latter field has been noted in the most advanced districts.

Since the adoption of these measures, the co-operative societies have strengthened their position, and, consequently, there has been continual establishment of rural dispensaries and hospitals attached to the societies. In 1935, these institutions numbered 154. In large localities, there are also associations for medical treatment, including a central hospital and a dispensary in each district.

The co-operative societies are economic bodies established in the spirit of mutual aid and the town and village authorities co-operate in their economic rehabilitation plans. When collaborating with agricultural associations and industrial bodies, schools, shrines, temples, youths' associations, women's clubs and other educational bodies, as well as health groups,

such as physicians' associations, these co-operative societies exert considerable influence on rural rehabilitation.

When the system of health centres and national health insurance, now planned by the Government, comes into effect, rural sanitation will be reorganised by educating the inhabitants in health matters and by re-adapting the conditions of their clothing, food and shelter to modern standards of hygiene.

III. SANITATION AND SANITARY ENGINEERING.

I. HOUSING.

Geographically, Japan is a long and narrow island lying between northern latitudes 50 degrees and 25 degrees. In the northern part of the country the winters are cold with much snow, but in the southern part, especially in Okinawa prefecture, the climate is always warm, like that of the subtropical zone. In the northern districts, therefore, rural housing requires measures of protection from the cold, while in the southern districts protection from the heat is needed. Besides improvement in rural housing, agricultural conditions in Japan should also be considered.

Rural housing in Japan has followed the customs and living conditions of ancient times, and there have been no radical changes. This has been the most difficult obstacle to improvement, both from the hygienic and practical points of view.

In each prefecture, measures are being taken to improve housing conditions according to local circumstances. At present, the Tohoku Koshinkai (Society for the Rehabilitation of North-Eastern Territories), representing the Government, supervises the improvement in rural housing in these territories with the help of an annual subsidy of 30,000 yen from the central Government. In addition, the Nihon Gakujutsu Shinkokai (the Japanese Society for the Encouragement of Arts and Sciences), founded with imperial donations, has been endeavouring, in co-operation with the Dojunkai (an agency for housing grants), to study rural housing conditions in those districts where winter is severe. At the same time it is

attempting to educate the inhabitants in rural housing by holding competitions with prizes for model farmhouses.

Moreover, the prefectural authorities are taking similar steps with the co-operation of the health and social sections of the prefectural Governments. In order to educate the inhabitants in housing matters, model houses have been set up in the rural high schools as well as in the agricultural schools.

In certain districts where greater attention is given to the problem of rural housing, prize competitions for the construction of model houses are held under the auspices of the health and social sections of the prefecture, and the plans thus selected are submitted to the inhabitants or to the authorities of towns and villages, carpenters and contractors, for their use, while courses in the construction of model houses are given with a view to educating public opinion and stimulating interest in housing.

There are also certain districts where officials in charge of rural housing reform are appointed to investigate and advise on the various problems.

A few localities are also granted low-interest loans by the prefectural authorities for their building funds and an amount corresponding to half the interest on the loan is set aside for the builder.

When an investigation reveals faulty construction, the chief of police of the district is ordered to consult with the owner, administrator or occupant with a view to rebuilding the house. Local authorities are considering suggestions for the improvement of rural kitchens, having regard to local conditions. These kitchens have hitherto had insufficient lighting and inadequate ovens. Since 1927, in parts of the Shimane prefecture, ten to thirty housewives in every village have been trying, under the voluntary leadership of women's clubs, to improve their kitchens by mutual agreement. The expenses incurred are defrayed by the clubs in turn. Improvement in lighting, ventilation, boarding of ceiling, equipment of shelves, water supply, and the addition of a clock, mirror and a new oven have received attention.

In other districts, credit societies aiming at kitchen reform and mutual credit societies have been organised on the initiative of

women's clubs. These credit societies subscribe in units of from 10 to 30 yen. By means of monthly tenders, these subscriptions are utilised for improvements. The aim of these institutions is almost identical with that in the Shimane prefecture. There are also places where subsidies are given by the prefectural authorities for kitchen reform. This type of reform is now popular throughout the country.

2. WATER SUPPLIES.

Efforts are being made to develop the water supplies in the cities, towns and villages of Japan. Although waterworks, as a rule, are constructed and maintained by the public authorities concerned, in accordance with the stipulations of the Waterworks Law, the actual construction is carried out under the management of prefectural authorities, town and village associations and private guilds.

Permission from the Minister of Home Affairs is required before waterworks can be constructed. The permit is given only after a careful examination of the sanitary aspects of the project as well as of health requirements. With a view to encouraging this construction work, the State may issue grants from the National Treasury. Such grants make up one-fourth of the total expenditure for this item. As waterworks construction is very expensive, the work has not made much headway in the rural districts, although more than 80% of all the cities have by now completed their water-supply programme. According to the latest investigation, almost all the urban districts are provided with waterworks, while in rural districts about 1,000 towns and villages have their own water-supply equipment.

In rural districts, the quality of drinking-water is generally good and the supply abundant. Detailed information is to be given concerning the choice of sites and the construction of wells, most of which can produce pure water with the help of comparatively few protective measures. In the mountainous districts, good drinking-water may be obtained from mountain streams by a simple filter equipment, so that reform of the "sanitary well" has been encouraged as regards the wells of

those rural districts where no waterworks are available. The adoption of filter equipment in the home is also encouraged.

In rural districts where the construction of waterworks stipulated by law is difficult, the prefectural authorities generally encourage the adoption of simplified waterworks on a smaller scale and the improvement of wells by granting prefectural subsidies, accompanied by instructions as to the best methods. At present, thirty-nine prefectures make grants for this purpose. The grants amount to about one-fifth to one-half of the total expenditure. For the improvement of wells in rural districts, the plan shown in Figure 1 is recommended as a model.

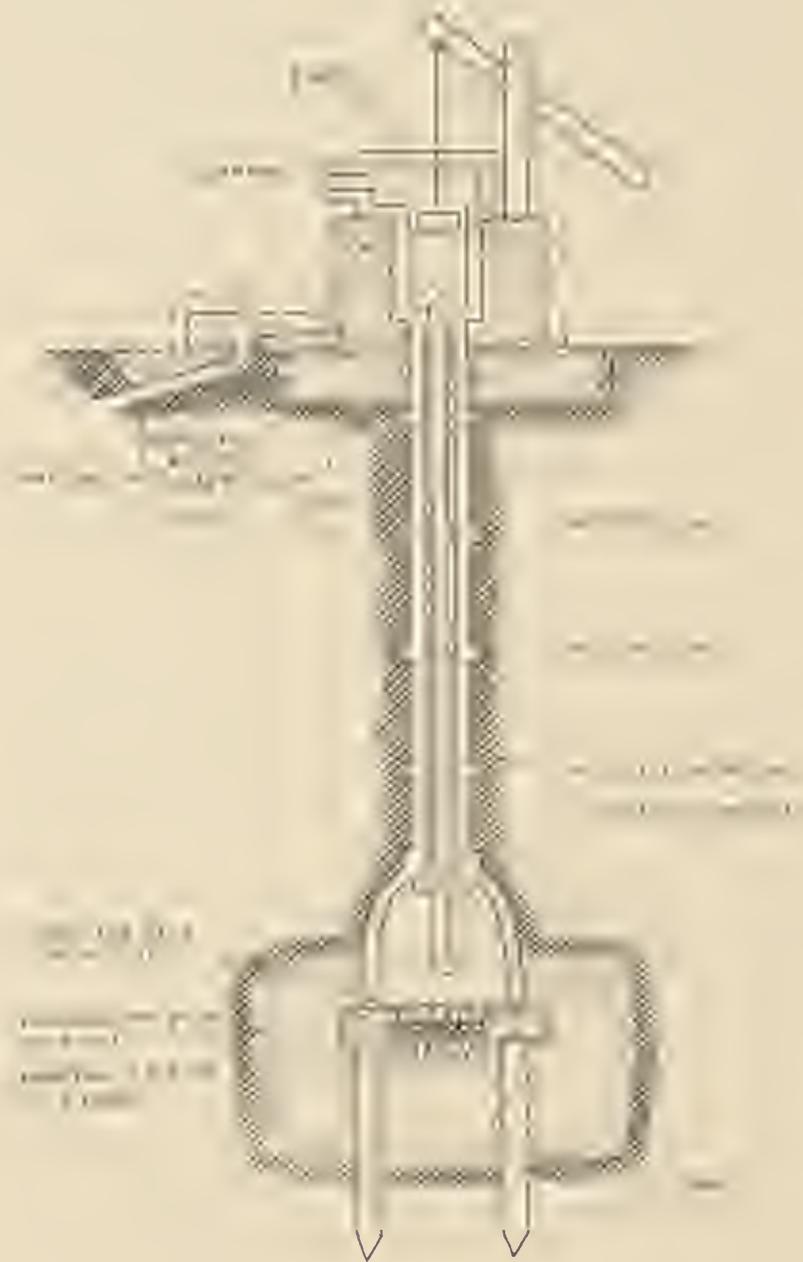
3. DISPOSAL OF REFUSE.

The disposal of refuse in Japan is regulated by a law, the provisions of which apply only to the cities. Towns and villages may, if they so desire, enforce the measure with the necessary modifications, but only a few of them do so. Most of the refuse in rural districts is used as fertiliser by the farmers. It is also burned or used as fuel.

As night-soil is generally employed as fertiliser by the farmers, the prefectural health sections, with the co-operation of the agricultural authorities, are encouraging a sanitary method of disposal. The Central Sanitary Bureau of the Ministry of Home Affairs is taking the necessary steps to prevent a possible health menace from the use of night-soil fertiliser by recommending that the farmers should adopt as far as possible the "sanitary privy" and build night-soil storage tanks on the farms to ensure complete decomposition. As a result of an investigation on the "sanitary privy" during the five years from 1925 to 1930 in Saitama prefecture, adjoining Tokio, the Central Sanitary Bureau of the Home Ministry confirmed the fact that the eggs of intestinal parasites, such as hook-worm or ascaris, were trapped in this type of privy and eventually killed, while the germs of enteric fever or dysentery were mostly exterminated during their passage through the privy, so that the effluent was practically free from the danger of both parasitic and infectious diseases liable to be carried by the excreta.



Figure 1. — SANITARY WELL.



In this connection, the bureau has succeeded in devising a type of privy for general rural use whereby decomposition of the excreta takes place in three months' time, by passing through from three to five separate portions of a tank during that period. The bureau has given this type of privy the name of "sanitary privy" (Figure 2).

Figure 2. — DESCRIPTION OF "SANITARY PRIVY" DESIGNED BY THE MINISTRY OF HOME AFFAIRS.



1. Ventilator.
2. Depth about one metre.
3. First portion of the tank.
4. One-third metre.
5. Second portion of the tank.
6. Space for the decomposed excreta.
7. Half a metre.
8. Opening for the collection of the decomposed excreta.
9. Opening for cleaning purposes.
10. Glass piece to check worms from climbing up.

The interior is lined with a coating of waterproof mortar about one centimetre thick.

A: Space filled up in three months' time. The size of this space depends upon the number of people in the household.

Recommendation of this privy to the farmers in general has so far resulted in the alteration of 45,000 installations with good effect. In some instances, the whole village or all the farmhouses have adopted it. A few villages have received prefectural or village grants, or the assistance of health unions. This practice is now spreading further afield. On the basis of the foregoing experiments, the Government passed Law No. 59, in April 1931, on the prevention of parasitic diseases. The various prefectures have settled the details of this law to suit their own requirements besides providing for national grants to those cities, towns and villages adopting the sanitary privy.

Furthermore, the proportion of prefectural grants to the expenditure of the cities, towns and villages has been fixed by the above-mentioned law (see text annexed to the section on "Hookworm Diseases"). Twenty-four prefectures have enforced these stipulations. The amount of the grant ranges from one-sixth to half of the total expenditure for the construction of sanitary privies.

4. COMBATING FLIES.

There are no specific regulations regarding the combating of flies in Japan, but such general laws as the Sewage Law, the Law for the Disposal of Refuse and the Law for the Prevention of Acute Infectious Diseases contribute indirectly to the prevention of flies, and considerable results are obtained through the operation of these laws.

Local governments have provisions, not only for the protection of food displayed in shop-windows, but also for the equipment of food factories, commercial kitchens and the like. Food and drink regulations, as fixed by local decree, include these provisions. Moreover, in the law prescribing police punishment for the violation of these preventive measures, a clause has been introduced, the object of which is to protect food and drink from flies.

In towns and villages, measures for destroying breeding-places and for catching flies have been taken by the prefectural authorities officially or voluntarily, in co-operation with the health unions.

At present, the chief measures taken year by year for the prevention of flies in towns and villages are as follows :

- (1) A general cleansing of houses, both inside and outside in spring and autumn ;
- (2) Reconstruction of storehouses for manure, night-soil tanks and cesspools ;
- (3) Reconstruction and cleansing of privies, stables and live-stock pens ;
- (4) Encouragement in fly-catching (“ fly-catching day ”, “ fly-catching week ”, buying of flies) ;
- (5) Encouragement in the distribution of larvicide.
- (6) Various kinds of propaganda for anti-fly schemes.

IV. NUTRITION.

I. COMPOSITION OF FOOD AND METHOD OF PREPARATION.

Rice is the most important item in Japanese diet. In addition, the diet includes barley, wheat, millet, “ kibi ”, “ hie ”, the sweet potato, the Irish potato, and corn used by itself or together with rice.

Vegetables and fruits, fish and meat, besides various sea products, are served with rice. Sea products are relatively more plentiful in Japan than in other countries.

Before consumption, the rice is first polished with a hulling powder. It is then washed several times in water to remove foreign matter, after which it is cooked and eaten. It has recently been found that polishing and washing greatly diminishes the food value of rice, so that the tendency now is for rice to be hulled only to the extent of one-half or seven-tenths.

Experiments conducted at the Government Institute of Nutrition have proved rice hulled to the extent of seven-tenths and without the medium of sand to be the healthiest and most economical. This treatment is now being widely encouraged.

Moreover, on the theory that scientific experimentation in diet planning is absolutely necessary, Dr. SAEKI, Director of the Government Institute of Nutrition, has recently proposed a

“ unit system ” of nutrition units as a basis for diet planning to ensure the best health-giving meals. The Institute has already issued a report on the effect of Japanese methods of cooking on the composition of all types of food.

2. NUTRITIVE VALUE OF THE PRINCIPAL FOODS PECULIAR TO THE EAST.

Japan was the first among Eastern countries to introduce the analysis of the composition of food, and the results are now being applied in practice. The Government Institute of Nutrition has drawn attention to this matter since its establishment. In 1931, it published a “ Survey of Components of Japanese Food ”. For the purpose of this survey, the Institute undertook the chemical analysis of more than a thousand kinds of Japanese food, and since then a great deal of additional information has been obtained. The analysis of more than 200 kinds of food in 1932 and another of some 200 varieties in 1936 gave valuable results.

In this document, the ordinary constituents of food—*viz.*, water, protein, fat, carbohydrate, cellulose, ash, phosphorus, calcium, iron, and salt, as well as the number of calories found in 100 grammes of food, are indicated by figures.

The Institute is also engaged in an enquiry into various vitamins in food of Japanese origin and has published the results of the enquiry in the reports of the Institute from time to time.

3. MINIMUM COST OF ADEQUATE NUTRITION AND ALLOWANCE FOR FOOD IN FAMILY BUDGETS.

The average cost of food per family in the agricultural population of Japan represents 48% of the family budget. The maximum and minimum costs amount to 67% and 24% respectively.

The consumption of nutritive food has gradually increased in recent years with the development of the science of nutrition. Experiments show that, as the nutritive value increases, the cost of food can be lowered.

4. DIET AND HEALTH : DEFICIENCY DISEASES.

It is well known that ill-health and disease are caused directly or indirectly by diets deficient in nutritive value.

In Japan, malnutrition is responsible for eye diseases, beriberi, scurvy, Möller-Barlow's disease, rickets, "Mehlnährschaden" (Czerny-Keller) and underweight. The prevalence of beriberi is due to rice being the main item of food in Japanese diet. However, cases of this disease have decreased in recent years in places where standard rice (seven-tenths pounded and without the use of sand) is commonly consumed.

In addition, the rationalisation of nutrition has had remarkable effects, not only on the foregoing diseases, but also on the general state of health.

5. PLANS FOR A CO-ORDINATED NUTRITION POLICY BASED ON THE COLLABORATION OF THE HEALTH, EDUCATIONAL AND AGRICULTURAL SERVICES.

The Government Institute of Nutrition in Japan was established in 1920. This Institute has carried out various enquiries on nutrition and has contributed to the development of this science and to the increase in the general well-being of the people.

Furthermore, in the practical field, the Institute has appointed experts, trained in the theory of nutrition and the technique of cooking, as advisers and leaders in matters of diet. They give advice on the improvement of nutrition in local governments, factories, schools, rural districts, hospitals and other institutions.

V. MEASURES FOR COMBATING CERTAIN DISEASES IN RURAL DISTRICTS.

I. MALARIA.

Malaria in Japan is of the tertian fever variety. Cases with quartan fever are found only in the Yaeyama Islands, Okinawa prefecture. The number of deaths from malaria in 1934 totalled fifty-three, of which twenty-nine were in Okinawa prefecture,

while only one or two occurred in each of the other prefectures. Owing to the Okinawa prefecture's tropical climate and to the fact that tropical malaria prevails in the Yaeyama Islands, the greatest annual number of deaths occurs in this prefecture. In recent years, the number of deaths has decreased considerably, even in Okinawa prefecture, on account of the development of various anti-malaria measures.

The actual number of deaths from malaria in Japan from 1912 to 1934 is as follows :

Chronological Data comparing Annual Deaths from Malaria.

Year	Male	Female	Total
1912.	184	143	327
1913.	178	152	330
1914.	160	124	284
1915.	185	145	330
1916.	175	121	296
1917.	217	195	412
1918.	209	144	353
1919.	166	117	283
1920.	144	99	243
1921.	136	83	219
1922.	104	87	191
1923.	31	15	46
1924.	25	10	35
1925.	24	19	43
1926.	73	44	117
1927.	71	60	131
1928.	64	42	106
1929.	34	16	50
1930.	17	13	30
1931.	31	11	42
1932.	27	17	44
1933.	32	13	45
1934.	37	16	53

The anti-malaria campaign in Japan consists of the elimination of mosquitoes, use of quinine, distribution of drugs for the extermination of mosquito larvæ, discovery of malaria carriers by the blood test, distribution of preventive drugs ("Yenkigan"), reconstruction and dredging of pools and drains and weeding.

The success of these activities in Shiga prefecture can be seen from the following table.

Year	Percentage of patients
1926.	5.03
1927.	2.87
1928.	1.75
1929.	1.01
1930.	0.73
1931.	0.75

2. PLAGUE.

In Japan proper there have been several plague epidemics since November 1899. In recent years, however, only a few cases have occurred in the cities of Osaka, Kobe and Yokohama, (1926 and 1929). At present, Japan is free from plague. This disease is invariably introduced into the ports by ships engaged in foreign trade, and from thence spreads into the rural districts. Epidemics, however, are insignificant and few and far between.

Port quarantine procedure checks the entrance into Japan of plague patients and plague-infected rats. Measures are taken to prevent infection arising from the constant destruction of rats in the principal ports in contact with countries where plague is prevalent; efforts are also made to discover plague-infected rats. Port quarantine procedure has revealed a number of plague cases and the presence of infected rats, and the necessary preventive measures have been applied.

It is gratifying to note that, up to the present, Japan has had few plague epidemics. When one has occurred, it has been suppressed quickly by means of the procedure already described. The following is a brief summary of the quarantine measures generally taken for the prevention of plague.

(1) Vessels are required to carry out fumigation and other measures for the extermination of rats. According to the regulations, vessels coming from foreign ports must do this once every six months.

(2) In Treaty Ports or important districts, such as Yokohama, Kobe, Osaka, Nagoya, Moji, Nagasaki and Tokio, such preventive measures as encouragement for the building of rat-proof structures, rat-hunts, the purchase of rats, and the microscopic examination of captured rats are employed.

(3) Countries where plague is prevalent are listed according to the degree of infection, and strict quarantine is normally enforced for vessels coming from these countries. In recent years, however, no steps have been taken to carry out this procedure.

(4) In cities, such as Yokohama, Kobe, Osaka and Tokio, sudden deaths are followed by post-mortem examination if there is any suspicion of plague being the cause of death.

3. ANKYLOSTOMIASIS.

Hookworm disease is very rare in Japan, and there are practically no serious cases such as are frequently encountered in the tropical zone. The number of persons infected by hookworm disease has diminished considerably in recent years. The infectivity of carriers is insignificant and they are allowed to carry on their ordinary daily work.

Carriers of Hookworm Eggs.

Table compiled by the Central Sanitary Bureau on the basis of the annual reports submitted by all the prefectural authorities after an examination of fæces of the general population.

Year	Number of persons examined	Number of carries of hookworm eggs	%
1928.	502,403	68,987	13.73
1929.	554,258	72,807	13.14
1930.	516,986	67,505	13.06
1931.	598,443	72,412	12.10
1932.	555,609	60,629	10.91
1933.	591,658	66,199	11.18
1934.	662,884	78,215	11.80
1935.	609,331	70,573	11.58

A comparison of the yearly deaths from hookworm disease shows a gradual decrease in the figures. In cities with a population of more than 100,000, the death rate is 0.01 per 10,000; while in other cities, towns and villages the rate is 0.06.

Table showing the Comparative Figures of Deaths from Hookworm Disease in Cities with a Population of more than 100,000 and in Other Cities, Towns and Villages.

Year	Cities with more than 100,000 population		Other cities, towns and villages		The whole country	
	Actual figures	Number of deaths per 10,000	Actual figures	Number of deaths per 10,000	Actual figures	Number of deaths per 10,000
1912	26	0.04	993	0.22	1,019	0.20
1913	19	0.03	904	0.20	923	0.17
1914	23	0.03	813	0.18	836	0.16
1915	36	0.05	815	0.17	851	0.16
1916	19	0.02	845	0.18	864	0.16
1917	25	0.03	863	0.18	888	0.16
1918	28	0.03	934	0.20	962	0.17
1919	12	0.02	633	0.13	645	0.11
1920	15	0.02	644	0.13	659	0.12
1921	10	0.01	646	0.13	656	0.12
1922	12	0.02	505	0.10	517	0.09
1923	9	0.01	495	0.10	504	0.09
1924	7	0.01	405	0.08	412	0.07
1925	8	0.01	434	0.08	442	0.07
1926	8	0.01	353	0.07	361	0.06
1927	13	0.01	372	0.07	385	0.06
1928	11	0.01	369	0.07	380	0.06
1929	12	0.01	369	0.07	381	0.06
1930	7	0.01	311	0.06	318	0.05
1931	7	0.01	298	0.06	305	0.05
1932	11	0.01	328	0.06	339	0.05
1933	12	0.01	363	0.07	375	0.06
1934	15	0.01	304	0.06	319	0.05

Note. — In the column " Cities with more than 100,000 population ", the figures relate also to cities with more than 50,000 population for the period from 1912 to 1918.

Though, as already stated, hookworm disease is rare in Japan, the round worm is fairly prevalent and the central Government is taking measures for its suppression and prevention. Local authorities, as well as health organisations, have been urged to take the necessary steps in this connection, with a view to establishing the following :

(1) A rural information service on the prevention of infection by hookworm and other parasites.

With this end in view, the prefectural authorities, with the co-operation of towns and villages and health unions under

their jurisdiction, are educating the public by organising courses and lectures and the showing of films, etc.

(2) Construction of privies and tanks for night-soil, and the provision of suitable places for cleaning vegetables.

The adoption of the "sanitary privy" is being encouraged.

Encouragement is also being given to the disposal of night-soil in tanks placed in open fields, so as to ensure thorough decomposition. Efforts are also being made to provide suitable places where vegetables may be washed, in order to prevent the possibility of round-worm eggs being left adhering to the vegetables.

(3) Enactment of a law for the prevention of parasitic diseases.

This law was passed in 1931, and the prefectural authorities, in accordance with its provisions, are endeavouring to extend the use of sanitary privies by granting prefectural subsidies for this purpose.

* * *

THE LAW FOR THE PREVENTION OF PARASITIC DISEASES.

Law No. 59, of April 2nd, 1931, for the Prevention of Parasitic Diseases reads as follows :

Article 1.

The term "parasitic diseases" in the present law is understood to include ascaridosis, ankylostomiasis, necatoriasis, schistosomiasis, chronorchiasis and any other parasitic diseases designated by the competent Minister.

Article 2.

The local governor may enforce health or excreta examinations as a measure of prevention of parasitic diseases.

The cost of the examinations shall be borne by the prefecture concerned or by the local budget of the Hokkaido.

Article 3.

The local governor may issue orders relative to the disposal of excreta and other matter and articles liable to cause the spread of parasitic diseases.

Article 4.

Cities, towns and villages or other public bodies in those localities where town or village organisation is not in operation shall, under the direction of the local governor, provide facilities for the prevention and treatment of parasitic diseases.

Article 5.

The budget of the local Hokkaido, or prefectural Government, shall provide for financial assistance being given to cities, towns and villages towards the cost of prevention and treatment of parasitic diseases.

Article 6.

The budget of the local Hokkaido or prefectures shall provide for grants covering the whole or part of the cost to bodies undertaking the removal of excreta and other refuse.

Article 7.

The National Treasury shall make grants-in-aid to the local Hokkaido or prefectures up to one-sixth of the amount paid by them for the purposes mentioned in the two preceding articles, or for the prevention and treatment of parasitic diseases.

Article 8.

Non-observance of an order of, or measures prescribed by, the local governor under Article 3 is punishable by a fine not exceeding 50 yen.

Supplementary Provisions.

The date on which the present Ordinance takes effect shall be determined by Imperial Ordinance.

* * *

4. TUBERCULOSIS.

There were 131,525 deaths from tuberculosis in Japan in 1934 ; of these, 96,951 were from pulmonary tuberculosis and 34,574 from other forms of the disease. The death rate per 10,000 of the population for all forms of the disease was 19.3 ; for pulmonary tuberculosis, 14.2 ; and for other forms, 5.1.

Death Rate from Tuberculosis per 10,000 Population.

	Pulmonary tuberculosis	Other forms of the disease	Total
Cities with a population of more than 50,000 . . .	16.7	6.2	22.9
Other cities, towns and villages	12.9	4.7	17.6

Although the death rate in rural districts has shown a relative decline during the past ten years, the Government is making efforts to reduce its rate further, and has adopted the following measures.

- (1) Enlargement of and increase in the number of tuberculosis sanatoria ;
- (2) Provision of anti-tuberculosis centres throughout the country ;
- (3) National propaganda for the prevention of tuberculosis.

Although the ideal arrangement would be for the number of beds maintained by the sanatoria to correspond to the total annual number of deaths from tuberculosis, budgetary and other considerations make this plan difficult to realise. The Government authorities are, however, planning to provide 40,000 beds—in other words, to add 20,000 to 30,000 beds to those already in public and private institutions.

There are now seventy anti-tuberculosis centres in the country. When the network of health centres now contemplated has been perfected, anti-tuberculosis work will be entrusted to these institutions.

The Government, in co-operation with the Japanese Anti-Tuberculosis Association and other organisations, has been carrying on an anti-tuberculosis campaign. In 1936, a national campaign was conducted and exhibitions held in every part of the country under the auspices of the Home Ministry. At the same time, local authorities were encouraged to organise similar exhibitions. In addition, lectures, round-table meetings and other educational efforts suitable to local conditions have been organised. Further efforts are to be made in this direction.

5. PNEUMONIA.

Statistics on the causes of death in Japan show that pneumonia accounted for 124,117 in 1934. Of these, 38,876 were from broncho-pneumonia, 55,834 from lobar pneumonia and 29,407 from unspecified forms of the disease.

The death rate was 18.2 per 10,000 of the population. Deaths from pneumonia occupy the third place in general mortality

statistics. Of the total deaths from this disease, infants under 1 year accounted for 36.8%, while 25.5% of the deaths represented children aged 1 to 5 years. The children under 5 years of age made up 62.3% of the total deaths from pneumonia. Among the other age-groups, the most numerous deaths occurred in that of persons aged 65 and over. In this group, the ages 70-79 produced the highest percentage—*i.e.*, 5.2%.

A study of the death rates from pneumonia in cities and rural districts shows that the rate in those cities with a population of more than 100,000 was 16.7 per 10,000 in 1934, while in other cities, towns or villages the rate for the same year was higher—*i.e.*, 18.6

Better education and greater facilities for the care and treatment of children are no doubt responsible for the lower death rate in large cities.

In Japan, more attention is given to pneumonia occurring among children than among adults.

6. YAWS.

No case of this disease has ever occurred in Japan.

7. LEPROSY.

The number of lepers in Japan, based on an official investigation, was 16,261 in 1919, 15,351 in 1925, 14,263 in 1930 and 15,193 in 1935. The slight increase in 1935 was due to a fuller investigation. In 1921, the death-rate from leprosy was 0.31 per 10,000 of the population. Since then, there has been a tendency for this figure to decrease, and in 1934 the rate was as low as 0.07.

According to data obtained from the medical examination of conscripts since 1897, the number of lepers in Japan was as follows :

Year	Number of lepers	Number of lepers per thousand conscripts
1897.	620	1.54
1907.	431	1.11
1917.	352	0.74
1927.	215	0.30
1933.	71	0.14

The Law for the Prevention of Leprosy was passed in 1907 and has been revised several times since.

The principal points embodied in the present law are the following :

- (1) Compulsory notification of cases to the administrative authorities by the physician ;
- (2) Disinfection of the patient's house or other contaminated houses, and other preventive measures ;
- (3) Accommodation in leprosaria for cases liable to infect others ;
- (4) Establishment of leprosaria ;
- (5) Grants from the National Treasury to prefectures for the prevention of leprosy.

The following is a list of the leprosaria in Japan :

Name	Capacity
<i>Government establishments :</i>	
Nagashima Aisei-yen Leprosarium	1,200
Kuriu Rakusen-yen Leprosarium	300
Hoshizuka Keiai-yen Leprosarium	300
Miyako Sanatorium	100
<i>Prefectural establishments :</i>	
The First District Prefectural " Zensei " Hospital . .	1,100
The Second District Prefectural " Kitabe " Leprosarium	500
The Third District Prefectural " Sotojima " Leprosarium	1,000
The Fourth District Prefectural " Oshima " Leprosarium	510
The Fifth District Prefectural " Kyushu " Leprosarium	1,000
<i>Private establishments :</i>	
Private leprosaria	990
Total	7,000

As there are at present about 10,000 patients whose isolation is considered necessary, the completion of institutions with a capacity for 3,000 additional patients is required. It is expected that these establishments will be completed within three years from 1937.

Under this plan all wandering lepers, as well as diagnosed patients residing with their families, are to be admitted to the leprosaria for isolation. It is expected that after this scheme has been in operation for ten years, lepers will have disappeared from the country.

The Japanese Anti-Leprosy Association was organised in 1931. It has devoted its efforts to the following :

- (1) Spreading of information on, and assistance for, the study of leprosy ;
- (2) Manufacture and distribution of drugs ;
- (3) Welfare work in leprosaria ;
- (4) Establishment of consultation centres ;
- (5) Protection and care of children exposed to leprosy and the establishment of nurseries.

The Government expects that the measures of control described, and the isolation and treatment of all lepers in leprosaria, will eradicate the disease from Japan in the near future.

8. MENTAL DISEASES AND DRUG ADDICTION.

Cases of insanity in Japan are comparatively rare and numbered 83,365 (12.04 per 10,000 population) at the end of 1935.

Insane persons needing supervision are kept in their homes or sent to hospitals, in accordance with the provisions of the Law on the Protection of Insane Persons, enacted in 1900. The Insane Asylum Law of 1919 provides for more extended asylum treatment for the insane. The number of cases dealt with under this law in 1935 totalled 18,000.

Efforts are also being made to check syphilis and drug addiction, both of which are causes of mental disease. Furthermore, the desirability of enacting a law preventing reproduction among persons suffering from hereditary insanity and for the protection of insane persons is now being considered. With the co-operation of the Mental Health Association of Japan and the Japanese Mental Asylums Association, propaganda relating to mental hygiene is being considered.

General Situation concerning Addiction to Opium and Other Dangerous Drugs and the Suppression of these Drugs.

A strict control of opium for smoking and raw medicinal opium has been carried out since before the Meiji Restoration, while in Japan proper the Opium Law has been in effect since 1897.

Opium addiction has now been done away with entirely, both in the cities and rural districts. Nor is the use of medicinal opium abused, as measures regulating its purchase and the control of its use are strictly carried out. Chronic addicts have hitherto formed a very small proportion of the number of cases caused by carelessness in the treatment of chronic diseases. In recent times, addicts have been found in the cities, and particularly amongst persons coming from Korea. The Law of 1935 prescribes that practitioners treating patients for chronic addiction shall notify each case to the authorities concerned.

Cases of chronic addiction are now found chiefly in cities and only rarely in rural districts. This is thought to be due mainly to the varying degrees of difficulty in obtaining opium. In 1935, the number of patients was about 3,000. The prefectural Governments are taking strict measures for the supervision of these cases. In co-operation with local practitioners' associations, the local authorities are concentrating their efforts on prevention. The prefectural authorities are endeavouring, in collaboration with social relief organisations, to admit as many homeless addicts as possible to mental asylums and to give them proper treatment.

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