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COMMISSION ON NARCOTIC DRUGS

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LIMITATION OF THE PRODUCTION OF RAW MATERIALS

Note by the Assistant Secretary-General in charge of the Department of Social Affairs

The Assistant Secretary-General in charge of the Department of Social Affairs has the honour to communicate to the members of the Commission on Narcotic Drugs the answer of the Supreme Commander for the Allied Powers in Japan to the Questionnaire on the Limitation and the Control of the Cultivation and Harvesting of the Coca Leaf (document E/CN.7/105) transmitted by a letter dated 11 May 1948, from the Acting Commissioner of Narcotics, Treasury Department of the United States Government.

/REPORT ON

REPORT ON COCA LEAF PRODUCTION IN JAPAN FROM 1937 TO 1946

TABLE A

STATISTICS ON THE CULTIVATION OF THE COCA PLANT AND THE PRODUCTION AND USE OF THE COCA LEAVES

1	2	3	4	5	6			
Year	Area under cultivation (1)	Quantity of coca leaves harvested (2) from plants under cultivation (3)	Quantity of coca leaves, if any, harvested from plants not under cultivation	Total quantity of coca leaves exported	Quantity of coca leaves used in the country			
					(a) For chewing purposes (4)	(b) For the preparation of drinks made from coca leaves or for making extracts for use in such drinks (5)	(c) For medical preparations made direct from the coca leaf (tinctures, extracts, &c.)	(d) For the extraction or manufacture of crude or pure cocaine or ecgonine (6) and (7)
	Hectares	Kg.	Kg.	Kg.	Kg.	Kg.	Kg.	Kg.
1937	'E' 344	'E' 186372	Nil	Nil	Nil	Nil	Nil	211477
1938	'E' 344	'E' 158279	Nil	Nil	Nil	Nil	Nil	158190
1939	'E' 344	'E' 146206	Nil	Nil	Nil	Nil	Nil	144568
1940	'E' 344	'E' 119550	Nil	Nil	Nil	Nil	Nil	120727
1941	'E' 344	'E' 193774	Nil	Nil	Nil	Nil	Nil	160556
1942	'E' 344	'E' 188753	Nil	'E' 15000	Nil	Nil	Nil	145027
1943	'E' 344	'E' 120856	Nil	Nil	Nil	Nil	Nil	101783
1944	'E' 344	'E' 132705	Nil	'E' 20000	Nil	Nil	Nil	104224
1945	'E' 344	Nil	Nil	Nil	Nil	Nil	Nil	'E' 14516
1946	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

/TABLE A (Continued)

TABLE A (Continued)

	7	8		
	Stocks of coca leaves at the end of the year in the hands of wholesalers or of the Government	Quantity of drugs manufactured (expressed in terms of the alkaloid)		
		(a) Crude cocaine (8)	(b) Ecgonine (8)	(c) Pure cocaine and salts of cocaine (8)
	Kg.	Kg.	Kg.	Kg.
1937	967	'E' 696	Nil	'E' 1084
1938	863	'E' 112	Nil	'E' 1689
1939	2907	'E' 162	Nil	'E' 1062
1940	785	Nil	Nil	'E' 1080
1941	5213	'E' 286	Nil	'E' 2086
1942	16334	'E' 194	Nil	'E' 905
1943	25675	'E' 25	Nil	'E' 797
1944	13494	'E' 170	Nil	'E' 662
1945	14675	Nil	Nil	'E' 140
1946	Nil	Nil	Nil	Nil

/(1) The area

(1) The area cultivated was ascertained by reports received from Takeda Pharmaceutical Industries, Ltd.; Hoshi Pharmaceutical Company; Koto Pharmaceutical Company; and Formosan Crude Drug Company.

(2) The quantity harvested was ascertained from records of the above-mentioned companies and are as follows:

Quantity of Coca Leaves Harvested from Plants Under Cultivation

	Iwo Island	Okinawa Island	Formosa
	Kg.	Kg.	Kg.
1937	52,559	14,000	119,813
1938	53,383	22,598	82,298
1939	52,550	23,555	70,101
1940	52,850	22,050	44,650
1941	82,300	24,200	87,274
1942	85,275	32,440	71,038
1943	39,025	32,440	49,391
1944	26,062	28,350	78,293
1945	Nil	Nil	Nil
1946	Nil	Nil	Nil

(3) Alkaloidal content.

	Formosa	Okinawa Island	Iwo Island
	%	%	%
1937	0.90	1.80	1.66
1938	0.86	1.80	1.46
1939	0.85	1.80	1.45
1940	0.83	1.45	1.55
1941	0.85	1.45	1.50
1942	0.83	1.21	1.41
1943	0.74	1.30	1.49
1944	-	1.30	1.31
1945	-	1.04	-
1946	-	-	-

Method of Quantitative Analysis of Cocaine in Coca Leaves

Put 20 grams of powdered sample in a beaker. Add 20 cc of 2 N-Na_2CO_3, make muddy by mixing and stirring half an hour. Infuse with Soxhlet infusion battery for eight hours. Pour into separating funnel. Add 20 cc of $\frac{N}{10}$ HCL (until it shows acid reaction if it does not show acid reaction). Shake vigorously for one minute. Separate the hydrochloric acid solution. Repeat this operation two or three times. Make alkaline the hydrochloric acid solution by means of adding 5.5 cc of N-Na CO. Add 30 cc of ether. Shake for one minute; separate this alkaline solution; repeat this operation three times, and put together these ether solutions in low temperature; dissolve in 5 cc of neutral 95 per cent alcohol, and add two drops of methyl-orange. Titrate with $\frac{N}{10}$ HCL (When it shows orange-yellow, add 50 cc of distilled water, then titrate until it shows red).

/$\frac{N}{10}$ HCL

$\frac{N}{10}$- HCL 1cc = Cocaine 0.0303 gram

$\frac{N}{10}$- HCL 1cc = Ecgonine 0.0185 gram

(4) None

(5) None

(6)

Company (Prior to 1945)	Products
Hoshi Pharmaceutical Company - #326 1-chome Mishiosaki Shinagawa-ku, Tokyo-To.	Cocaine
Shinagawa plant of Sankyo Company - #888 1-chome, Nishi-shinagawa, Shinagawa-ku, Tokyo-To.	Cocaine
Fuji plant of Koto Pharmaceutical Company - Yoshiwara city, Shizuoka prefecture	Crude cocaine, Ecgonine Cocaine
Osaka plant of Takeda Pharmaceutical Ind. - #54 4-chome, Juso Nishino-machi, Higashi-yodogawa-ku, Osaka city.	Crude cocaine, Ecgonine Cocaine
Plant of Taiwan Shoyaku Company - Okobyo, Shineigai Tainan-shu, Formosa.	Crude cocaine, Ecgonine Cocaine
Yodogawa plant of Shionogi Pharmaceutical Company - #49 Ebie Shimo 3-chome, Fukushima-ku, Osaka city.	Cocaine

(7) and (8) All figures are in terms of the basic anhydrous alkaloid.

The quantity of crude cocaine is probably not exact, since the records of Taiwan Shoyaku Company seem to be imperfect.

The quantity of crude cocaine manufactured by Taiwan Shoyaku Company is shown in Table 1. The quantity of crude cocaine brought into Japan proper is shown in Table 2. The quantity of pure cocaine and salts of cocaine manufactured by Taiwan Shoyaku Company are shown in Table 3. The quantities of cocaine and its salts manufactured are shown in Table 4.

Table 1

1937	696 Kg.
1938	112 "
1939	162 "
1940	Nil
1941	286 Kg.
1942	194 "
1943	25 "
1944	170 "
1945	Nil
1946	Nil

/Table 2

Table 2

	Takeda	Shiono	Sankyo	Total
1937	95 Kg.	56 Kg.	120 Kg.	271 Kg.
1938	35 "	50 "	120 "	205 "
1939	42 "	50 "	120 "	212 "
1940	40 "	74 "	120 "	234 "
1941	40 "	53 "	280 "	373 "
1942	80 "	53 "	120 "	253 "
1943	80 "	54 "	120 "	254 "
1944	Nil	54 "	120 "	174 "
1945	Nil	Nil	Nil	Nil
1946	Nil	Nil	Nil	Nil

Table 3

1937	22 Kg.
1938	627 "
1939	Nil
1940	Nil
1941	826 Kg.
1942	3 "
1943	Nil
1944	41 Kg.
1945	95 "
1946	Nil

Table 4

QUANTITY OF DRUGS MANUFACTURED

	Crude Cocaine	Pure Cocaine and Its Salts	
	Formosa	Formosa	Japan Proper
1937	696 Kg.	22 Kg.	1,062 Kg.
1938	112 "	627 "	1,062 "
1939	162 "	Nil	1,062 "
1940	Nil	Nil	1,080 "
1941	286 Kg.	826 Kg.	1,260 "
1942	194 "	3 "	902 "
1943	25 "	Nil	797 "
1944	170 "	41 Kg.	621 "
1945	Nil	95 "	60 "
1946	Nil	Nil	Nil

/TABLE B

TABLE B

EXPORTS OF COCA LEAVES

Countries to which exported	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946
	Kg.	Kg.	Kg.	Kg.	Kg.	Kg.	Kg.	Kg.	Kg.	Kg.
Germany	Nil	Nil	Nil	Nil	Nil	'E'15000	Nil	'E'20000*	Nil	Nil

* Unconfirmed information has been obtained that a portion of this item was shipped to Germany via submarine.

/TABLE C

TABLE C

EXPORT OF MANUFACTURED PRODUCTS DERIVED FROM THE COCA LEAF

Countries to which exported		Coca drinks not containing cocaine	Extracts for making such drinks	Medical preparations made direct from the coca leaf (tinctures, extracts, etc.)	Crude cocaine	Ecgonine	Pure cocaine and salts of cocaine
		Kg.	Kg.	Kg.	Kg.	Kg.	Kg.
China	1937	Nil	Nil	Nil	Nil	Nil	'E' 50
	1938	"	"	"	"	"	'E' 37
	1939	"	"	"	"	"	'E' 7
	1940	"	"	"	"	"	Nil
	1941	"	"	"	"	"	Nil
	1942	"	"	"	"	"	'E' 99
	1943	"	"	"	"	"	'E' 8
	1944	"	"	"	"	"	'E' 21
	1945	"	"	"	"	"	4
	1946	"	"	"	"	"	Nil
Hong-kong	1937	Nil	Nil	Nil	Nil	Nil	Nil
	1938	"	"	"	"	"	"
	1939	"	"	"	"	"	"
	1940	"	"	"	"	"	"
	1941	"	"	"	"	"	"
	1942	"	"	"	"	"	1
	1943	"	"	"	"	"	Nil
	1944	"	"	"	"	"	"
	1945	"	"	"	"	"	"
	1946	"	"	"	"	"	"

/TABLE C (Continued)

TABLE C (Continued)

EXPORT OF MANUFACTURED PRODUCTS DERIVED FROM THE COCA LEAF

Countries to which exported		Coca drinks not containing cocaine	Extracts for making such drinks	Medical preparations made direct from the coca leaf (tinctures, extracts, etc.)	Crude cocaine	Ecgonine	Pure cocaine and salts of cocaine
		Kg.	Kg.	Kg.	Kg.	Kg.	Kg.
Dutch East Indies	1937	Nil	Nil	Nil	Nil	Nil	Nil
	1938	"	"	"	"	"	"
	1939	"	"	"	"	"	"
	1940	"	"	"	"	"	"
	1941	"	"	"	"	"	"
	1942	"	"	"	"	"	"
	1943	"	"	"	"	"	"
	1944	"	"	"	"	"	14
	1945	"	"	"	"	"	1
	1946	"	"	"	"	"	Nil
Philippines	1937	Nil	Nil	Nil	Nil	Nil	Nil
	1938	"	"	"	"	"	"
	1939	"	"	"	"	"	"
	1940	"	"	"	"	"	"
	1941	"	"	"	"	"	"
	1942	"	"	"	"	"	"
	1943	"	"	"	"	"	"
	1944	"	"	"	"	"	1
	1945	"	"	"	"	"	Nil
	1946	"	"	"	"	"	"

PART TWO

GENERAL DESCRIPTION OF THE INDUSTRY AND PROBLEM OF CROP SUBSTITUTION

1. Prior to 1945 cocaine was processed in Japan from coca leaves produced in Formosa, Iwo Jima, and Okinawa. The areas were as follows: Formosa, 230 hectares; Iwo Jima, 100 hectares; Okinawa, 14 hectares.

2. In 1945 Formosa reverted to China and the conditions there at the present time are unknown. The plantations on Okinawa and Iwo Jima were destroyed during the war and cultivation is presently prohibited. With the emphasis which has been placed on production of food crops, it is logical to assume that the areas in the latter two places have substituted food crops for the coca shrubs.

3. As far as Japan is concerned, the coca shrub was never cultivated on the four islands which now comprise Japan. In 1945 the planting, cultivation or growth of narcotic seeds and plants were prohibited.

(a) Agricultural and commercial aspects. None of the various species and botanical varieties of the coca leaves of the genus Erythroxylon belonging to the family of Erythroxylaceae are cultivated or grow wild in Japan. Since coca leaves have never been produced in Japan, further information with regard to cultivation or substitution of other crops is not available or applicable.

(b) Social aspects. Information desired in regard to the social aspects of cultivation of the coca shrub are not applicable in Japan.

(c) Economic and financial aspects.

(1) Because of climatic conditions, the cultivation of the coca shrub in Japan is considered impossible; however, as stated above, such cultivation is prohibited. No statistics are available for the amount of revenue derived from the cultivation of the coca leaf in Formosa, Iwo Jima and Okinawa during the period 1937 to 1945.

(2) Prior to 1945, the Taiwan Shoyaku (Formosan Crude Drug Company) cultivated 130 hectares of coca shrub in Formosa. The Hoshi Pharmaceutical Company cultivated 100 hectares of coca shrubs in Formosa. The Takeda Pharmaceutical Industries, Ltd., cultivated 14 hectares

/of coca shrubs

of coca shrubs in Okinawa. These areas were owned by the above companies who did not, therefore, purchase the coca leaves. In Iwo Island, farmers cultivated 100 hectares of the coca shrubs and sold the raw coca leaves to Ioto Takushoku (Ioto Development Company) who in turn sold the dried coca leaves to Koto Pharmaceutical Company in Japan at the following prices:

Year	Price per Ton
	Yens
1937	1400
1938	1725
1939	1725
1940	2100
1941	2100
1942	2100
1943	2100
1944	2350
1945	-
1946	-

The price which farmers actually received in Iwo Island is unknown. The following are estimated prices paid for the raw coca leaves:

Year	Price per Ton
	Yens
1937	174
1944	334

The export price of the leaves is unknown.

(3) Control.

(a) Since the cultivation of the coca leaf is prohibited in Japan, the prevention of clandestine cultivation is the responsibility and duty of narcotic agents working under the direction of the Minister of Welfare. There have been no instances of clandestine cultivation discovered in Japan and no information received regarding any national or international illicit trade in coca leaves.

(b) As an interim measure to provide narcotics for the medicinal needs for the Japanese people, the prohibition against the manufacture of narcotics in

/Japan was

Japan was amended in 1947. No narcotics were manufactured but Takeda Pharmaceutical Industries, Ltd., #54 4-chome, Nishino-machi, Juso, Higashi-yodogawa-ku, Osaka, has been licensed to process ecgonine from the stocks of dried coca leaves which had been taken into custody in 1945 to prevent further deterioration of the coca leaves and to further process tropacocaine.

(c) Narcotic agents will inspect the plant at least once a month verifying the quantity of leaves processed and the quantities of narcotics on hand. The plant is under the supervision and surveillance of Narcotic Control Officers, Public Health and Welfare Section, General Headquarters, Supreme Commander for the Allied Powers. The manufacturer is required, before beginning processing, to receive the authorization of the Minister of Welfare for a definite quantity to be processed quarterly. In addition, monthly reports are required of the amount of raw material on hand, the amount in process and the amount of finished products.

(d) There have been no cases of any suspected clandestine manufacture of these drugs.

(e) There have been no difficulties encountered in the application of the system of control now in effect in Japan. The security of the plant is considered outstanding and the records maintained during the manufacturing process are complete and accurate. A narcotic law will be submitted to the Diet in April 1948 which will incorporate into law the ordinance issued in 1945, prohibiting the planting, cultivation or growth of narcotic seeds or plants. The law also sets up a classification of narcotic manufacturers among narcotic dealers and establishes complete control over all narcotics beginning with the raw material and continuing to the final receipt of the narcotics by patients for medical treatment only. A copy of this law will be furnished upon enactment by the Diet.
