

INSTITUTE OF CURRENT WORLD AFFAIRS

CHGO-19
Hong Kong's Continuing Water Problem

27 Lugard Road,
The Peak,
Hong Kong.

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Mr. R. H. Nolte,
Institute of Current World Affairs,
366 Madison Avenue,
New York 17, N.Y..

Dear Mr. Nolte,

On Monday evening, October 8, His Excellency Sir Robert Black, Governor of Hong Kong, spoke to the Colony on radio and television. His principal message was that the present water rationing of four hours every fourth day would continue until next summer's rainy season arrives. In a brief speech he reviewed the development of the water crisis from last winter's exceptional drought until the present day. He explained the measures the Government has adopted to cope with the emergency, and gave the civil servants involved a pat on the back for coping so well. He acknowledged the help from the authorities in the neighbouring Chinese Province of Kuandung, praised the resourcefulness of industry, and paid tribute to the people of Hong Kong for responding to the challenge with resolution and good humour. He pledged that the Government would strive in the future to provide a twenty-four hour daily supply, and finished his talk with an exhortation for continued economy in the use of water. "Be economical to the point of parsimony," he said.

Thus Hong Kong must now reckon on putting up with stringent water rationing for a total period of at least a year. The significance of the shortage can be appreciated by comparing Hong Kong's daily per capita consumption of water with that of the United States.



Hours before water time, assorted containers stake their owner's place in the queue for water.

At the present time Hong Kong's consumption is roughly 10 gallons per person per day (at one time last June it was only 7 gallons). This is the total consumption including that of industry. The comparable United States figure is between 100 and 200 gallons per person per day.

When we first came to Hong Kong two years ago, water was rationed to ten hours a day, and to us newcomers even that seemed inconvenient. In January 1962 I wrote a newsletter (CHGO-6) in which I discussed the water situation, explained the historical background, and reviewed the alternative methods for improving the situation. In fact the situation continued as it was then for about fifteen months. Work continued on the Shek Pic Reservoir but no decision was announced on the schemes to dam two inlets of the sea (Plover Cove and Hebe Haven) to create huge fresh water reservoirs.

The 1962-63 winter was the driest on record. And as April passed into May and the urgently needed summer rains failed to arrive to replenish the rapidly dwindling reserves, the situation began to look serious. On May 1, the Chinese authorities in Kuangung Province agreed to extend the 5,000 million gallons normally supplied each year from China's Sham Chun Reservoir, by a further 700 million gallons. But even with this it was decided to reduce the ration on May 2, to three hours a day, and twelve days later with only six weeks supply in the reservoirs, it was cut again, to four hours on alternate days. An average May produces about ten inches of rain, but this year it produced only 0.22 of an inch.

Hong Kong residents suddenly realized the far reaching implications of the lack of water. There was not only the question of having sufficient to drink, but also the effects on industry, and the problems of flushing and consequent dangers to health. Also, without water the power companies could not operate, and without power everything would come to a standstill. As a consequence of this realization, a great variety of projects were undertaken to produce rain (as well as to economize in the use of water). The Government formed an emergency committee to consider all aspects of the problem. Taoists released hundreds of birds, fish and tortoise. Bhuddists formed a 3,000-strong procession to pray for twelve hours. Christian churches held special services. Scientists attempted to produce rain by cloud seeding. But all to no avail.

The fact that the Hong Kong Government made no announcement of any plans it had for coping with the problem throughout most of May did not help to allay the general anxiety. Even the formation of the emergency committee was not announced for several weeks. To the residents of Hong Kong the only Government action appeared to be the imposition of increasingly severe rationing. The Government had been looking into the feasibility of chartering tankers for several weeks, and this fact should have been made public -- as it undoubtedly would have been by a more democratic form of government. One of the more irritating features of living under the type of "benevolent dictatorship" that exists in Hong Kong is that it is assumed (by those in power) that "Government knows best". All official references to the Government drop the article,

and this serves to strengthen the "Big Brother" feeling. For example, it is surprising how the announcement "Government has decided to charter ten tankers" can sound so much more benevolent than "The Government has decided to charter ten tankers".

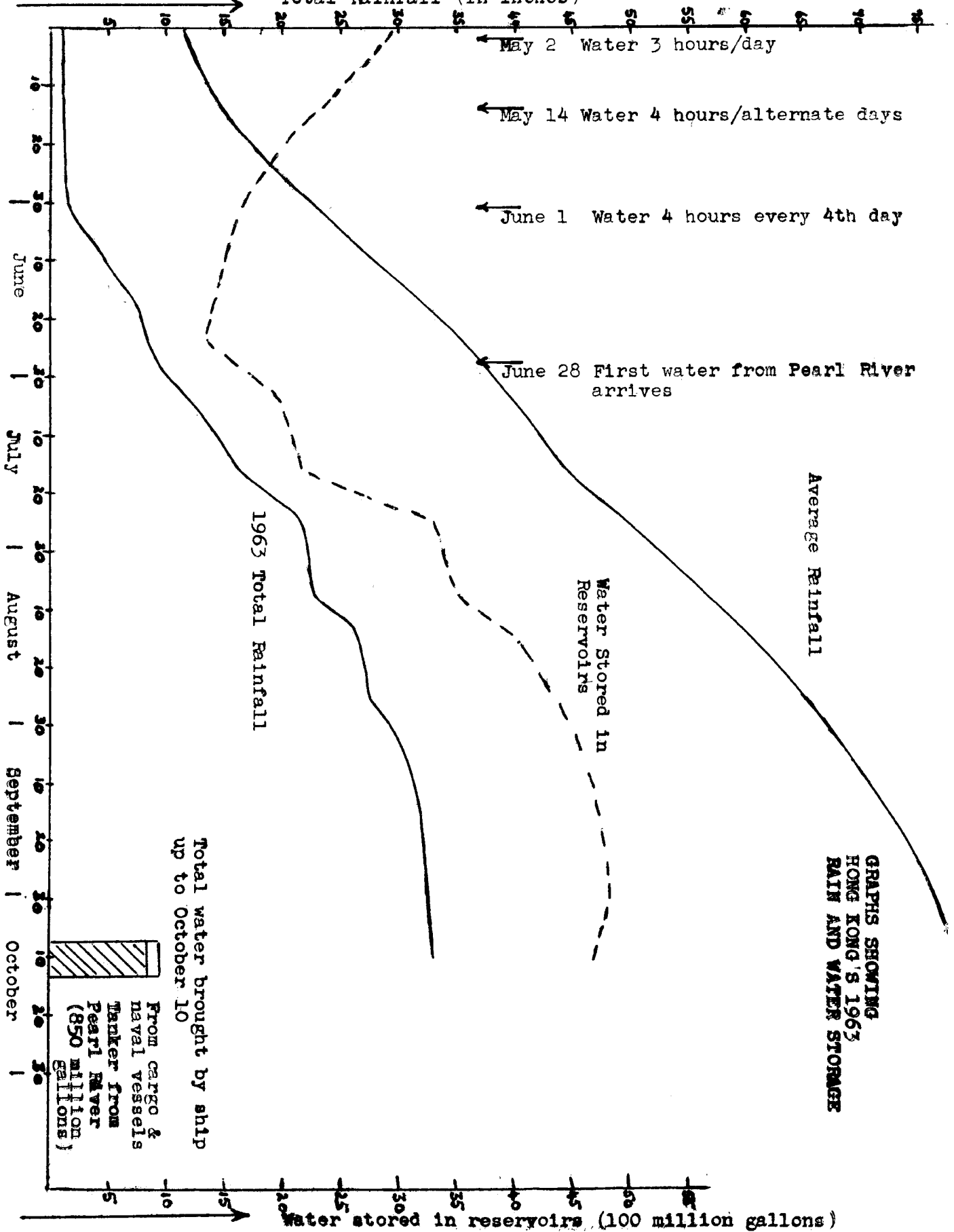
The emergency was not without its lighter side. For example, a woman who poured a bucket of water over a policeman who was attempting to stop a fight between three women at a water queue, was fined HK \$10 -- for wasting water. An American consular official had the water turned off in his house and a stand-pipe installed at the bottom of his driveway when his servant was discovered pouring half a bucket of dirty bath water over flowers in his garden. This gesture and other similar ones were given wide publicity, and were obviously done to demonstrate that the rationing and restrictions applied to all. Cocktail parties and official receptions were cancelled, including the opening party for the new Hilton Hotel. It even became the "done thing" to wear dirty clothes, it must be the first time anywhere that a smelly citizen was a good citizen. Even one Shanghai newspaper reported sarcastically that the usually attractive Hong Kong girls were being avoided by the men for obvious reasons.

By the end of May it was clear that water must be brought in from outside the Colony as it had been before, in 1929. There was talk of bringing it from Japan or Taiwan, but in fact negotiations with the Chinese authorities showed that in principle it could be obtained from much nearer at hand. The Chinese offered to supply as much water as needed from the Pearl River estuary about fifty miles away. Hong Kong Government scientists, in conjunction with Chinese officials, made a salinity survey of the proposed area at different states of the tide. For four days they worked almost



"Water time" at a public stand-pipe

Total Rainfall (in inches)



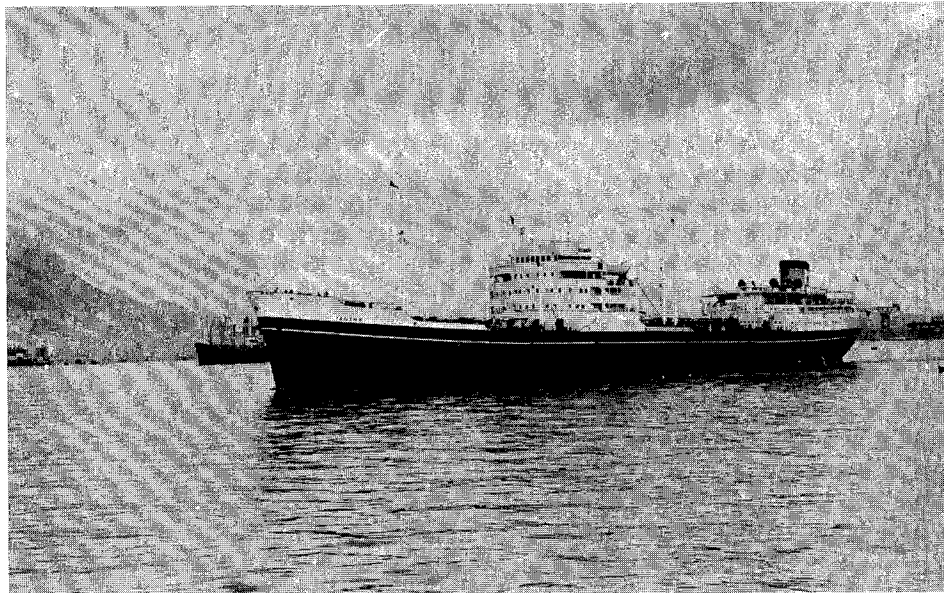
twenty hours a day. One Shanghai newspaper I read, reported this joint scientific survey and commented on the friendly co-operation between British and Chinese officials. It was discovered that conditions were suitable and on June 28, the first of ten chartered tankers brought in its cargo of Pearl River water.

By this time water was rationed to four hours every fourth day, although boat people and squatters whose water is supplied from public stand-pipes, were given water on alternate days. Finally the monsoon winds brought rain and, as the graph I have plotted shows, by the end of June the depletion of the reservoirs was finally halted. Everybody watched anxiously and hopefully as several typhoons came near, only to veer away without releasing their much needed rain. August and September were both dry months and by October 1, the end of the rainy season, only 33 inches of rain had fallen compared with an average of 76 inches. Reservoirs were little more than half full and once again the total water stored began to decrease. October 1, was also the date when the new supply from China's Sham Chun Reservoir was due to begin. The usual annual supply is 5,000 million gallons which normally is all drawn during the dry winter months. In the past it has accounted for half of Hong Kong's winter water supply. But when the agreement to supply this water was signed in 1960, provision was made for renegotiation in times of drought. It has just been announced (October 17) that rainfall over Sham Chun catchment area has been even less than over Hong Kong, and the total storage in that reservoir is now only 1,700 million gallons. The Chinese have consequently cut the 1963-64 Hong Kong supply to 1,400 million gallons -- only 28% of the usual 5,000 million gallons.

As the summer rains finished and the flow of fresh water from the Pearl River declined, a new though anticipated, difficulty arose. Salinity of the water at the lower tanker anchorages in the river estuary increased. The obvious solution was to move further upstream but here there are insufficient available anchorages to cope with the ten tankers now operating. This problem is partially solved at the moment by mixing the Pearl River water with fresh water in the reservoirs, but if the salinity continues to increase this problem could become serious. By October 8, the tankers had brought 850 million gallons to the Colony and this was augmented by a further 10 million gallons of potable water off-loaded from regular cargo vessels and naval ships using the harbour.

Under these circumstances it was not surprising that the Government announced on October 8, that both rationing and tankers would continue until next year's rains, and the Governor deemed it necessary to explain the bad news to the people of Hong Kong. But included in the announcement was a clear statement of the Government's future policy with respect to water.

In the first place it is now a policy to provide a 24 hour daily supply. This is an important advance. I have frequently heard it stated in the past that since Hong Kong had managed quite well on an 8 or 10 hour supply there was no need for a 24 hour supply.



Two of the tankers chartered to bring water from the Pearl River
(Photographs courtesy of the South China Morning Post)

Secondly, the Government agreed in principle that ten to twenty million gallons a day of fresh water should be produced by desalination -- even at the relatively high cost of HK\$5 for 1,000 gallons. The two power companies are to look into the feasibility of this. This will provide emergency supply in time of drought and augment reservoir supply in normal times. The heat from huge new incinerators to be built next year to dispose of the Colony's refuse is also to be used as a source of power for desalination. It is anticipated that a million gallons a day can be produced at a cost of HK\$1.50 per 1,000 gallons.

Thirdly, a new scheme calculated to yield 1,700 million gallons a year is proposed. This is to pump water from the Indus River (a river in the northern part of the New Territories) at times of flood, into the existing reservoirs. Special care has to be taken with this scheme not to rob the irrigation supply which the Indus supplies during non-flood conditions.

Earlier, the Government had announced its intention to go ahead with the Plover Cove scheme, and to look into the possibility of finding underground water in the New Territories.

Noticeably missing from this Government statement is any mention of another scheme discussed earlier in the year for building a pipe line from Hong Kong to China's East River, a distance of 45 miles. Apparently this scheme is still being negotiated with the Chinese.

In addition to the inconvenience and hardship caused by the shortage there remains the more serious problem of the effect on the Colony's economy. Actually it is still too early to determine this effect accurately because some industries were able to fulfill orders from stock, and the severe rationing may not yet be reflected in export statistics. But the indications are that the shortage has caused surprisingly little disruption to the Colony's industries. For example, the total value of exports in May, June, and July, actually rose by about 12% over the corresponding period last year. A report in the August 22, issue of the Far Eastern Economic Review described the results of a survey which this magazine conducted to assess the impact of the water shortage. It was found that the textile industry had been hardest hit, with one of the largest companies operating at about 70% capacity. The same company reported that orders had been fulfilled, but not always on time and that the quality of their products had suffered. The large canning companies also reported a reduction in output, but there had been no dismissals in either industry. Undoubtedly many workers are on short time and their already meagre earnings reduced. It is these people who are suffering most by the shortage.

The tourist industry, which is Hong Kong's second largest earner of foreign exchange, does not seem to have suffered appreciably. Despite a few misconceptions among tourists which resulted in one group from Japan bringing their own water, the number of tourists for May, June, and July, showed an increase over last year's figures for the same months. Most hotels have storage tanks and provide their own rationing system, usually one hour per day.

These facts form a background to the Governor's speech. His comments were appropriate. The Government civil servants have done a good job. Kuandung authorities are co-operative (despite some minor friction). Industry is resourceful and by and large the public are putting up with the inconvenience with good humour. But although the Government cannot be held responsible for this year's drought, it cannot go completely without criticism.

The policy decisions announced last week could and should have been made several years ago. If they had been, the high cost of chartering tankers for at least a year, and the extreme rationing, could have been avoided. (The actual cost of water brought by tanker has not been announced, but estimates put it as high as \$15 to \$20 per 1,000 gallons. Compare this with \$5 or \$6 per 1,000 gallons for desalination and \$1 per 1,000 gallons which is the actual amount charged in Hong Kong.)

The second criticism is that the Government should have kept the public better informed of the emergency measures it was considering -- especially during the critical month of May.

A third criticism is that the Government did not make the best use of the Colony's scientific talents. In previous letters I have mentioned the existence of the Committee for Scientific Co-ordination, which was set up last year by the Colonial Secretary. According to its terms of reference, one of its functions is to advise the Governor on scientific matters, if called upon to do so. The Committee was never called upon for advice, nor consulted on any of several scientific problems which were related to the water emergency.

Yours sincerely,

C.H.G. Oldham

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