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*Has been reviewed informally by an FE representative; his suggestions for change have been incorporated in this document.*

*Eta*

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JUN 1961

MEMORANDUM FOR: Deputy Director/Plans

ATTENTION: Chief, FE

SUBJECT: Transmittal of Paper on the Impact of Continued Tibetan Resistance on the Economy of Communist China

REFERENCE: ORR Papers on the Impact of the Tibetan Campaign on the Economy of Communist China, dated 1 February 1960 and 13 July 1960

The attached paper on the Impact of Continued Tibetan Resistance on the Economy of Communist China, dated 5 June 1961, has been prepared in response to your request of 12 May 1961. This study revises and updates the ORR papers on the same subject, dated 1 February and 13 July 1960.



OTTO E. GUNHE  
Assistant Director  
Research and Reports

(b)(3)  
(b)(6)

Distribution: (S-582A)

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IMPACT OF CONTINUED TIBETAN RESISTANCE

ON THE ECONOMY OF COMMUNIST CHINA

5 June 1961

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IMPACT OF CONTINUED TIBETAN RESISTANCE ON THE  
ECONOMY OF COMMUNIST CHINA

Summary and Conclusions

Chinese Communist military forces, currently deployed in the Tibet Military District, number about 106,900 men. They require an estimated maximum of 376 tons of military supplies per day. Because there is ample capacity on the roads leading to Tibet, only small amounts of these supplies are believed currently to be transported by aircraft.

The capacity of the supply routes leading to Tibet is adequate to support at the present level of activity more than double the present number of Chinese troops stationed there. However, the development of extended operations by the Chinese either against the Tibetan rebels or against Nepal, Hunan, or India, from Tibet might require the use of a supplementary airlift depending on the scale of activity. A modest military airlift of supplies could support over 80 percent of the 62,000 troops presently stationed in the Lhasa-Zhikatsé-Nagchhu Dzong area. The maximum tonnage that can be delivered to the military forces in Tibet by both air and road transport is about 1,200 tons per day, an amount capable of supporting about 3 times as many troops as are presently stationed in the area.

The principal items employed jointly in Tibet by the military and civilian sectors of the economy, which must be supplied from China, are trucks, petroleum, and food. The only significant item exported from Tibet to China is barax.

Approximately 5,400 trucks are needed to supply military units in Tibet under present conditions. If each of the 3 main supply routes were used to maximum capability, about 11,900 trucks would be required, or 5 percent of the combined civilian and military truck park of the country. The increased requirement for trucks would be equivalent to about 3 months' output of the Chinese truck industry. In the Tibet/Tsinghai/Sinkiang area the Chinese presently have available at least 32,800 civilian-military trucks. This total is about 6 times the number required for supply of military units under present conditions, and 2.8 times the number necessary to utilize the supply routes at maximum capability.

The maximum military and civilian requirement for motor gasoline under present conditions is slightly less than 10 percent of the gasoline and diesel fuel expected to be produced by the refineries at Tu-nan, Lan-chou, and in the Tsaidam Basin in 1961. If the main supply routes are used at full capacity the fuel requirement could run as high as 19 percent of the supplies immediately available in Western China, but only 3.2 percent of all petroleum products available nationally. If a supplementary airlift were undertaken, fuel requirements for the transport aircraft would represent 10 percent of the aviation fuel planned to be available in 1961.

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The maximum food requirement for the troops now stationed in Tibet is estimated at about 65,000 tons per year. In 1960, for the first time, both Chinese civilian and military personnel in Tibet were expected to produce most of their own food supplies. Agricultural production did not recover from the disorganization that followed the 1959 rebellion, however, and famine conditions have been widespread, in spite of a strict system of food rationing. Even if the total amount required for Chinese military and civilian personnel were shipped from China, it would be a negligible portion of total grain produced by the government in 1960.

The military daily supply requirements used in this study are for garrison activities only but they may be of a magnitude considerably in excess of what the troops in Tibet are actually utilizing. The observed military truck traffic using the supply routes into Tibet is considerably below the level needed to satisfy the daily requirements estimated above. This is particularly true in the case of known shipments of motor gasoline and food.

At the moment, Tibetan resistance activities appear to be having a negligible effect on Chinese activities in or related to Tibet. If anything, the Chinese have relaxed somewhat their pressure on the Tibetans, due in part perhaps to the general nationwide food shortage and in part to the other difficulties in which the Chinese found themselves in 1960. Some construction activities have apparently also been curtailed, although expansion of the road net in the border areas appears to be proceeding with considerable speed.

If Tibetan resistance activities were to increase at this time the necessary countermeasures would probably have little immediate effect on the Chinese economy. Prolonged resistance activities, however, might lead China to expand even further the construction of roads and airfields in and around Tibet. These construction activities would not require significant reallocations within the Chinese economy, since the roads and airfields would be constructed primarily from local materials and with military or local labor. If unrest were to develop in other parts of China because of the present food situation, Tibetan resistance on a large scale might cause considerable embarrassment to the Chinese in their attempts to supply their civilian and military units in the area.

In addition to the effects discussed above, there may be certain other effects resulting from the initiation of large-scale and sustained resistance activities which cannot be measured quantitatively at this time. These effects would stem from the destruction of trucks, roads, bridges, and supplies by resistance forces, and from the diversion of a large portion of the military air transport capability from normal employment to employment in the remote and difficult-to-supply region of Tibet. Such activities would require decisions regarding the allocation of resources which might be difficult for the Chinese Communists in view of the many priority demands upon resources already existing.

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## I. Supply of Troops in Tibet

The Chinese Communists rely chiefly on motor truck transport to supply their troops in Tibet. Air transport is also used to supplement truck transport, particularly for high priority cargo, and to supply troops in remote areas. The length of the supply lines precludes the use of native transport except for the redistribution of supplies from major depots. No railroads exist in Tibet, although a rail route to Lhasa is under survey; inland water transport is almost non-existent.

### A. Troop Dispositions

Chinese Communist military forces in the Tibet Military Region currently total about 106,900 men. The major concentrations of troops are located in eastern Tibet at Ch'ang-tu (43,400), in the vicinity of Lhasa (42,300), and further west at Zhikatsze (18,300). Small detachments are also stationed north of Lhasa at Nagchhu Dzong (1,300), and in extreme western Tibet at Gartok (1,600). Since the summer of 1960 the total number of troops in Tibet may possibly have decreased slightly, although more troops probably are now stationed west of Lhasa in the Zhikatsze area and along the Nepal border. Troops located in the Lan-chou Military Region include units deployed along the Tsinghai-Tibet highway north of the Tibet border and a large concentration of troops at Yu-shu in southern Tsinghai. The major mission of both these groups is to prevent further Tibetan dissident activity.

### B. Overland Supply

Military units in Nagchhu Dzong, Lhasa, and Zhikatsze are supplied over the Tsinghai-Tibet highway, as are units deployed along the road north of the Tibet border. If the Tsinghai-Tibet highway is utilized at capacity the Chinese can deliver about 520 tons of supplies daily to Lhasa, compared with a daily supply requirement of 235 tons for military units dependent on the road. Units in the Ch'ang-tu area are supplied by the Szechwan-Tibet highway, over which the Chinese can deliver about 440 tons per day to Ch'ang-tu, compared with a troop daily supply requirement of 126 tons. Although the Szechwan-Tibet highway is open to traffic all the way to Lhasa, and could be used to supplement the movement of supplies trucked in over the Tsinghai-Tibet highway, it is unlikely that any appreciable amount of traffic moves from Ch'ang-tu to Lhasa along this route. Military units around Gartok are supplied over the Sinkiang-Tibet highway which has a capacity more than adequate to fulfill the daily supply requirement of the small number of troops in the area.

The redistribution of supplies from the major depots at Lhasa and Ch'ang-tu probably is accomplished in part by motor transport and in part by

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native transport.\* Moreover, a number of troops are supplied enroute to the major depots--for example, some of the troops listed at Lhasa are actually deployed along the Tsinghai-Tibet highway north of Nagchku Dzung. For the support of troops in Tibet, therefore, the supplies dropped off enroute to the major depots probably compensate for that portion of the redistribution from the depots not accomplished by native transport. Trucks carrying supplies for the troops located around Zhikatsae are probably diverted at Yangpa-ching directly toward their destination making the total distance about 75 miles greater than the distance to Lhasa. The branch of the Tsinghai-Tibet highway leading to Zhikatsae is estimated to have the same capacity as the branch into Lhasa.

In addition to the three major supply routes leading into Tibet, the Chinese Communists have upgraded some existing roads within Tibet and have also constructed a number of new roads approaching the China/Nepal/India/Bhutan border areas. Most of these new border approach roads have been constructed south of the Lhasa-Zhikatsae-Saka road. The quality of these miscellaneous routes varies from completely motorable two-lane roads to one-lane tracks of limited motorability, but lack of data makes it impossible to calculate precise road capabilities. It is apparent, however, that the Chinese Communists have improved substantially their logistic capability in the border areas during the past two years.

### C. Supply by Airlift

Although the supply routes leading to Tibet have adequate capacity to support more than double the present number of Chinese troops stationed there, the development of extended operations either against the Tibetan rebels or against Nepal, Bhutan, or India, might require the use of a supplementary airlift. Communist China is probably sufficiently well equipped with military transport aircraft to provide this additional support without the diversion of transport aircraft normally used in civil aviation. Because of severe restrictions in the supply of petroleum products, a sustained airlift would constitute a substantial drain on the available supplies of aviation gasoline and jet fuel.

If the entire park of Chinese military transport aircraft, less 30 Li-2 aircraft not suitable for this operation, were treated as a unit, its total lifting capacity per single trip to Lhasa from airfields at Ch'ang-tu, Hsi-ning, Lan-chou, Sian, Yu-shu, and Ka-erh-shu, would be about 508 short tons. On a sustained basis, if each plane made a trip every third day, or 10 trips per month, an average of about 196 tons per day could be delivered to Lhasa, an amount large enough to support 83 percent of the troops presently stationed in the Lhasa area. If any transport aircraft were diverted

\* Animal-drawn carts, packhorses, and human packers.

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for airdrops to isolated troop units, or for supply of forward airfields at Tingri Dzong, Gartok, or Rudog, the daily lift capacity to Lhasa would be reduced accordingly.

## II. Impact of Tibetan Resistance on the Economy

### A. Truck Park

Approximately 5,400 trucks are needed to supply military units in Tibet under present conditions. If each of the 3 main supply routes were used to maximum capability, about 11,900 trucks would be required, or 5 percent of the combined civilian and military truck park of the country (239,000 trucks). In Tibet there are at present an estimated 4,000 civilian and 3,800 military trucks, including the 16th Motor Transport Regiment at Lhasa. If the need arose, the Chinese could also utilize some of the 20,000 civilian and 5,000 military trucks now in the adjacent provinces of Tsinghai and Sinkiang in addition to trucks from Szechwan province. Of particular interest in this respect are the 6 motor transport regiments in the Lan-chou military region. The 3rd Motor Transport Regiment is probably now being used to transport supplies between Hsin-tung and Lhasa. The 9th, 35th, and 76th Motor Transport Regiments are engaged in transport of supplies from Hsi-ning to Yu-shu and Ka-erh-sai (Golmo). The 1st and 12th Regiments are at Ka-erh-sai and could be used to support troops in Tibet if necessary. The Chinese Communists thus have at least 32,800 civilian-military trucks in the Tibet/Tsinghai/Sinkiang area, or more than 14 percent of the trucks in China, available if the military situation warranted their use. This total is about 6 times the number required for supply of military units under present conditions, and 2.8 times the number necessary to utilize the supply routes at maximum capability. Since the Chinese are also currently producing trucks at the rate of about 2,000 per month, any trucks destroyed by rebel activity in Tibet would quickly be replaced by new trucks or by trucks imported from other countries of the Soviet Bloc.

### B. Petroleum

Present motor gasoline requirements to supply the needs of 106,900 troops and the road transport of military supplies into Tibet are estimated at 354 tons per day or 129,200 tons per year. The planned allocation of gasoline for the civilian economy in Tibet in 1961 is 28,600 short tons making a total of about 158,000 tons required. This total is slightly less than 10 percent of the 1.65 million tons of gasoline or diesel fuel expected to be produced by the refineries at Ta-men and Lan-chou in Kansu Province and in the Tsaidam Basin in Tsinghai Province during 1961.

If the main supply routes into Tibet are used at full capacity, the supply trucks and troop units would consume gasoline at an annual rate of

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about 278,500 tons, or 307,000 tons if the allocation for the civilian economy is included. A supplementary airlift would add 60,000 tons for a grand total of 367,000 tons required. The motor truck requirement for gasoline could run as high as 19 percent of available gasoline supplies or 3.2 percent of total national availability of petroleum products, if the roads are used at full capacity. If the Tibet operation is increased to the extent that aircraft are used to supplement road transport, fuel requirements for the operations of the transport aircraft would represent 10 percent of the aviation fuel available in 1961, assuming that 1961 imports are about equal to those of 1960. The actual availability of aviation fuel in 1961, however, will depend upon the demand for it as it is nearly all imported.

### C. Food

In 1960 food grain production in China is estimated to have been only 200 to 210 million short tons, little if any larger than in 1957--at which time there were about 50 million fewer Chinese to feed. Against a background of severe food shortages and bare subsistence diet throughout the China mainland, lack of food in Tibet is reported in the Indian press as even more stringent. In the past Tibet has produced almost all the food and clothing requirements of the Tibetan people. In 1960, however, it appears that agricultural production did not recover from the disorganization that followed the 1959 rebellion, and famine conditions have resulted, in spite of a strict system of food rationing.

Chinese civilian and military personnel who have been moved into Tibet have presumably been supplied from China for the most part. In the past year, however, they apparently have been expected to join the Tibetans in producing their own food and clothing requirements. It is probably impossible for the borax workers, the truck drivers, and some of the highway maintenance workers, for example, to raise their own food, so some food is being shipped in from the rest of China. In 1960 the planned shipment of rice to the Tibet Food Bureau, however, was only 6,600 tons. Planned monthly shipments to the same bureau ranged between 180 and 730 tons during the first 5 months of 1961. Part of a scheduled shipment of 3,300 tons of rice for Tibet was cancelled in May 1961.

The food requirement for the troops now stationed in Tibet is estimated at about 65,000 tons per year, based on a standard requirement of about 3 pounds per man per day. This is a maximum requirement, however, because the military rations are undoubtedly reduced somewhat as civilian consumption levels decline. The Indian press has even reported deaths from starvation among Chinese officers and men in Tibet. Even if the total amount required for military and civilian use were shipped, however, it would be a negligible portion of either China's total grain production or of total grain collected by the government for distribution to the urban population, to the military, for export, and for redistribution to rural areas.

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### III. Current Supply Movements to Tibet to Support the Civilian Economy

#### A. Shipments Between Hsia-tung and Lhasa

Civilian goods shipped to Lhasa over the Tsinghai-Tibet highway start from the railhead at Hsia-tung in Kansu Province and move in trucks under the control of the Tibet Transport Bureau. The Hsia-tung station of the Tibet Transport Bureau reported shipments of 76,000 tons of supplies to Tibet in 1960, of which more than 16,000 tons were hauled by military vehicles. Of the 1960 shipments, 11,270 tons were moved in December, with military vehicles accounting for 1,580 tons. Military vehicles thus handled 21 percent of total 1960 shipments of civilian goods and 14 percent of December 1960 shipments. The general shortage of gasoline in China in 1960 curtailed civilian transport to Tibet particularly between July and December. Military trucks were used, possibly as a result of the gasoline shortage, although they may be used regularly on an "as needed" basis. The total tonnage shipped to Tibet in 1960, exclusive of gasoline only a part of which moves all the way to Lhasa, was almost equal to the amount of borax moved from the borax producing areas of Tibet to Hsia-tung, reported to be about 77,000 tons. When the Chinese speak of "balanced transport plans," apparently they are referring to plans which equate the amount of goods being shipped each way, of which the movement between Hsia-tung and Lhasa is a good example.

In 1961 the borax shipping plan calls for a total of 110,000 tons from Tibet. During the first quarter, however, only 7,800 tons were observed in shipment, of which 390 tons moved in military trucks. In April about 4,200 tons of borax were shipped to Hsia-tung. During the first quarter of 1961 daily amounts shipped from Hsia-tung to Tibet ranged between 110 and 330 tons. Shipments in the latter part of December 1960, when gasoline became available and there was a large backlog of goods at Hsia-tung, were approximately 550 to 660 tons per day.

During 1960 about 20,000 tons of gasoline were allocated for Tibet although it is doubtful that this amount was actually delivered. During the first half of 1961 about 14,000 tons was allocated or 28,000 tons on an annual basis. Actual shipments appear to be running close to plan. An indication of the distribution of gasoline within Tibet is available from the March 1961 plan: 58 percent to stations north of Tangkulashan along the Tsinghai-Tibet highway in Tsinghai Province; 22 percent to Lhasa, 15 percent to An-to-mai-ma, and 5 percent to Nagohu Dzong and Yang-pa-ching. The gasoline was distributed by trucks which carried a return load of empty gasoline drums, borax, or coal to Kh-erh-mu or Hsia-tung.

#### B. Shipments Between Ch'ang-tu and Ch'ang-tu

The 6th Auto Team of the Tibet Transport Bureau is located at Ch'ang-tu in eastern Tibet. Trucks of this team shuttle between Ch'ang-tu and the railhead located at Ch'ang-tu in Szechuan Province. Observed shipments from

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Ch'ang-tu to Ch'ang-tu in 1960 were as high as 900 tons per month. During 1961 the 6th Auto Team is expected to move nearly 18,000 tons into Tibet. There has been no indication through April 1961 that goods for the civilian economy of Tibet are being transported between Ch'ang-tu and Lhasa.

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