

At the head of the Persian Gulf I sanctioned the linking of Tanooma, on the Shatt El Arab opposite Basra with Khorramshahr, the terminus of the Persian Railway system. This railway link will facilitate the transfer of stores and munitions between the Iraq base at Shaiba and the Persian bases as the military situation demands.

The construction of a new deep-water port at Safaga on the western shore of the Red Sea and of a railway and a road to connect it with the Nile Valley railway at Qena progressed steadily. The development of a port at Aqaba and of communications thence northward to Maan on the Hedjaz railway continued. Two deep-water berths were developed at Basra, and twelve more half finished at Suez, Safaga and Adabiya Bay. One and a half miles of lighter wharfs were constructed on various sites.

The desert route from Haifa to Baghdad was developed, and staging posts were established along it. Supplies sufficient to enable it to be used at short notice by one division were put in place. In conjunction with the India Command, from whom the suggestion emanated, an overland reinforcement route from Baluchistan through Persia to Iraq was reconnoitred, and stocking of the route begun.

A thousand miles of bitumen roads and an equivalent area of bitumen aerodromes were laid. Two thousand five hundred miles of gravel and desert roads were completed. Some three hundred bridges were strengthened to take tank-transporters. A bridge was thrown over the Euphrates at Raqqa and a lifting bridge over the Suez Canal at Ismailia.

The stocking of bases and the development of base installations went on without intermission. In Syria we began, early in 1942, to establish advanced bases to hold thirty days' supplies for the garrisons of the fortified areas and for the whole of the Ninth Army at full strength. This work was nearly completed by the 15th August 1942. The construction and stocking of the Persia-Iraq base with stores and munitions sufficient for ninety days for three armoured and fifteen infantry divisions continued.

Workshops, base depots, ammunition depots and hospitals erected during these ten months covered an area of twelve million square feet. Ten cold stores were constructed and two ships fitted with cold storage. Four hundred electric generating plants of varying sizes were installed, and sixty miles of high tension and a hundred and fifty miles of low tension cable laid. A hundred and twenty deep-well pumps, fifteen water-filtering plants producing 32,000 tons of water daily, and fifty-two reservoirs each to hold 35,000 tons were constructed.

Extensive defensive lines were fortified in Syria, Iraq, Palestine and Egypt. Among the many anti-aircraft gun emplacements prepared was an artificial island in Suez Bay, weighing 30,000 tons, to take a four-gun battery.

A million tons of cement and six million tons of concrete were mixed and eighty million bricks burnt and laid in the construction of defence works and base installations during these ten months.

The successful execution of these great undertakings was due very largely to the skilful planning and energetic direction of my Engineer-in-Chief, Major-General H. B. W. Hughes, and my Director of Works, Major-General E. F. Tickell.

*American Aid.*—Under the auspices of the United States Government, American civil firms began to erect workshops where aircraft, motor vehicles and armoured vehicles will be assembled and repaired. These workshops are being built in several parts of the Command, and some, notably those in Eritrea, are already working. In Persia and Iraq, besides erecting and operating assembly plants, American firms took a large share in the development of ports and communications.

*Preparations in Turkey.*—Much useful work was done to prepare Turkey as a theatre of operations for our land and air forces, in case we should be called on to help repel an Axis invasion. Activities, however, were restricted by the natural desire of the Turkish Government to avoid making preparations obviously hostile to the Axis Powers.

*Supplies and Transport.*—In order to save shipping, a reduction was made in the scales of rations issued to the troops in May, 1942. By this reduction and by using more local produce about a thousand tons a month were saved. The average amount of Royal Army Service Corps supplies imported during the summer of 1942 was 50,000 tons a month, of which 10 per cent. came from the United Kingdom, 30 per cent. from Canada and the United States, and 60 per cent. from India and elsewhere.

The arrangements for storing and delivering petrol were greatly improved during the ten months under review. The leakage which occurs when the standard four-gallon cans are used gave rise to a very serious problem: losses might amount to as much as fifteen per cent. even in normal conditions, and in the desert where the Eighth Army, by far the largest consumer, half of whose maintenance tonnage consists of petrol and lubricants, was operating, losses were often as much as thirty per cent. To arrange bulk storage and delivery was no easy matter in a Command where seventeen million gallons are used monthly. Nevertheless bulk storage capacity was increased by 345 per cent. against an increase of 250 per cent. in the amount packed in cans; and by July 1942 in Egypt, Palestine, and Syria, which were the principal consumer areas, no less than ninety per cent. was being delivered in bulk. This represented a saving of 2,000 tons of imported tinplate a month, of £140,000 on production costs and an incalculable amount in petrol and transport.

Operations in Cyrenaica made extremely heavy demands on transport resources. When the 13th Corps were operating round Agedabia and El Agheila twenty-four general transport companies were required to supply that corps alone. Even when the remainder of the Command had been allotted the very smallest amount of transport possible, the Eighth Army often had less than its operations demanded. The period under review, however, saw a gradual improvement in the situation, so that by the end of August there were altogether seventy-two general transport companies. To find sufficient drivers was a difficult problem and every source of man-power was tapped to provide them. The ten-ton diesel lorry proved its worth in the desert, being much more economical both in fuel and man-power than the commoner three-ton lorry. More of these vehicles would have been welcome.