

valley from Pichan to Lukchun. The twenty miles' ride down the broad bed in which the stream of Pichan soon completely lost itself acquainted me with two striking features of the Turfan depression. On the right we had the barren hill chain of red sandstone which divides the lower portion of the basin from the great gravel glacis sloping down from the snow-capped mountains northward. On the left there extended huge ridges of dunes, recalling the sand-covered foot-hills of Tun-huang, and evidently like the latter heaped up by the desert winds from the alluvium which the high range sent down.

The contrast with these barren surroundings presented by the rich fields and orchards of Lukchun farther on was most noticeable. The substantial dwellings and the crowds seen along mere village lanes at once gave an idea of the prosperity brought here by intensive cultivation. As elsewhere throughout the district, cotton is the most paying crop, and where adequate water is available, this is followed by cereals like maize, which was then just being gathered. Fruits of all sorts abound, and in the big country house of the Beg, which offered me shelter for the night, I found a year's provision of vegetables drying on the flat roofs.

As far as this point irrigation was derived from the stream of Lamjin, which, itself fed by springs at the foot of the great gravel glacis, breaks through the outer chain in a cañon-like gorge at the head of the Lukchun oasis. But proceeding next morning over the steadily sinking plain to the south-west, we left behind this area of old cultivation after a couple of miles and entered ground where the Karez was now the chief feature. On right and left we could see the lines of these underground channels marked on the bare clay surface by the little circular heaps of earth which the diggers had thrown up mole-like at the mouth of each successive well. Starting at ground level from the area to be irrigated, a low, narrow channel is tunnelled from well to well up the natural slope of the basin, but at a gradient less inclined than its surface, until a sufficient supply of water is tapped. The wells were said to range here to depths of over fifty feet; but the diggers are so expert that, working