

## **ELECTRICITY CONSUMPTION AND SUPPLY**

### **Grid System**

The main feeder to Swat District is a 132 kV transmission line from Dargai via Chakdara to Saidu. Another 66 kV transmission line extends to Dagher. There are grid stations at Saidu and Dagher. The Saidu Station has four transformers with a total capacity of 11,645 MWh, while the Dagher Station has only one transformer with a capacity of 1,655 MWh. There is no generation capacity in the grid system. Overall, there are 1,317 villages/*mauzas* in Swat District (excluding 109 uninhabited *mauzas*/villages) out of which only 246 (19%) are electrified by the grid system.

The sectoral electricity consumption and the total connections in the rural and urban areas of the district are shown in Table 3.1. The major consumer of electricity in the rural areas is the household sector that uses two-thirds of the total consumption. It is followed by the industrial sector which uses about a quarter of the share. The agricultural sector uses only 4 per cent of the total consumption, primarily for tubewells and lift irrigation.

By the end of 1987, the rural areas of Swat had 44,878 electricity connections from the grid, out of which almost 92 per cent were domestic (Table 4). Despite this, the domestic connections covered only about a fourth of the rural households. Commercial connections were second in number but they consisted mostly of small consumers such as shopkeepers. The agricultural connections surpassed industrial connections in rural areas and their share in electricity consumption was six times that of industrial consumers.

Supplying electricity from the grid poses a number of problems to a hill district like Swat. In many cases the remoteness of villages, small populations, and the lack of income-generating activities contributed to making rural electrification through grid extension uneconomical. The cost of electrifying a village in the hilly areas through the main grid is around Rs 800,000. Maintenance of the lines and wiring on the consumer's premises is also very difficult because of the lack of trained manpower willing to serve in the remote areas. Non-availability of components and parts adds to the maintenance problem.

### **Decentralised System**

Besides grid electricity, another source for providing electricity to rural areas in Swat District has been small hydropower plants. Currently three such plants are functioning at Kalam (200 kW) in Swat Sub-division and Damori (100 kW) and Karora (200 kW) in Alपुरi Sub-division. A fourth small hydel scheme of 400 kW is being implemented at Ushoran in Swat Sub-division and this will be completed by the end of 1988. All these projects were undertaken by the Irrigation Department of the Government of the North West Frontier Province (NWFP). The department has recently established a Small Hydel Development Organisation (SHYDO) to promote small hydel schemes in hill districts where potential hydropower can be used quite extensively. In Swat District alone, seventeen projects have already been identified with a total energy potential of more than 100 Giga Watt hours annually.

In addition to small hydels, the Irrigation Department of the Government of the NWFP has also installed eight micro-hydel plants in collaboration with the University of Engineering of the NWFP, and these range from 15 to 20 kW in installed capacity.