Such a small forest cover itself poses problems of land erosion. Moreover, Pakistan's rainfall is dominated by the southeasterly monsoon which brings 80% of its rains during an eight-week period. Although some winter rains provide relief, by and large most of Pakistan experiences dry spells extending as long as 12-14 weeks. In addition, traditional grazing and indiscriminate felling of trees for commercial and domestic consumption are further eroding the grasslands and forest lands.

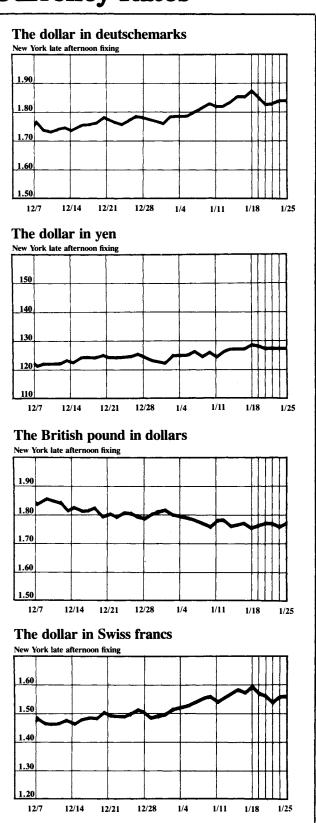
Man-made scourge

Particularly since the Soviet invasion of Afghanistan in 1979, millions of Afghan refugees have come to settle in makeshift camps in the ecologically delicate border areas of NWFP and Baluchistan. Reports of armed gangs of Afghan refugees cutting down trees while the forest guards look the other way have become routine. An official memorandum recently presented to the Aid Pakistan consortium of donors said that while the direct financial cost to Pakistan of taking care of the refugees over the past eight years adds up to \$1.5 billion, "there is no way of computing the [indirect] cost in the form of environmental deterioration, economic damage to the rangeland, forests and pastures of vital watershed areas, the consequential water run-off and soil eroion, the resulting reduced productivity, pressure on infrastructure like irrigation channels, roads, etc." The government of the NWFP has estimated that it will cost \$195 billion for initial rehabilitation of physical and social infrastructure in the province, following the return of the refugees to Afghanistan. Of that nearly one-third would go to forestry and pastureland restoration.

Such ecological stress has resulted in large-scale land erosion. According to hydrological studies, 280-300 tons of soil per hectare are eroded annually, partly as a result of deforestation and overgrazing. The eroded soil washes into the vast irrigation network in the plains. The irrigation network carries some of the silt to the large-scale dam-reservoirs filling up the dams—the main source of electrical power and a steady supply of water to the farmgates—and deposits the rest, raising the riverbeds. It is estimated that the capacity of Tarbela, Pakistan's largest dam, will be reduced by one-third by the year 2000 unless measures are undertaken on a warfooting.

Another distortion seriously affecting Pakistan's agrodevelopment is the continuation of feudalism in the form of landowning elites. In Pakistan, 74% of the farmer-landholders share a small 34% of the total farm area. Seventy percent of the tubewells are installed on the lands of farmers having more than 10 hectares, while 4% of the tubewells are for those having less than 5 hectares, though this group contains 74% of the cultivators in the country. Most of the impact of the green revolution has gone unnoticed by the small-plot owning farmers. Lack of financial capability to acquire the necessary inputs has left a large number of small plots of land unproductive and low-yielding.

Currency Rates



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