

lons per capita per day. Of this, 41 percent is attributable to domestic use, 18 percent to commercial use, 24 percent to industrial use, and 17 percent to public use.¹

Population growth and increased per capita consumption will push water use even higher in the future. In urban areas, more people, a higher standard of living, new household devices, and industrial developments are likely to boost per capita consumption 25 percent in the next 20 years and perhaps by as much as 60 percent by 2000. Before the end of the century, it is estimated that daily consumption for all purposes will exceed the usable supply.

These projections do not necessarily foretell a national water crisis. By itself, the prospect of demand outrunning total quantity is no cause for alarm, since an increasing amount of water is used more than once. Although some water uses, especially agricultural irrigation, severely deplete water supply, municipal and industrial water uses are not particularly consumptive.

Most of the water used in urban areas serves as a solvent, cleanser, or coolant. These uses affect quality much more than quantity. Except for the seaboard cities which secure their water from virgin sources and discharge it after use into the ocean, municipalities obtain their water from rivers or other fresh water sources which serve other urban areas both upstream or downstream. Pending such technological developments as economical desalinization, which would increase greatly the total quantity of usable water, most of the projected increase in water requirements will be met through reuse.²

These national figures and projections conceal tremendous variations in the supplies of adequate water, as well as in the costs of developing, storing, distributing, and treating it, for particular places and uses. The 30 inches of annual rainfall are not equally distributed across the Nation and available supplies are not adequate in all regions. Even proximity to abundant water sources does not guarantee an adequate supply if storage or distribution facilities are deficient or pollution is severe. Further, in urban areas throughout the country water problems tend to be more serious in the new suburbs than in the denser, older sections of the cities.

The requirements for water vary greatly in different parts of the country. There are striking differences in the uses of water in the Western States, where irrigation is the greatest need, as compared with those in the East, where industrial and municipal uses predominate. There is also considerable variation in urban water use. Some cities use as little as 100 gallons per capita daily, others as much as 250 gallons per person per day. In general, municipal per capita consumption is higher for larger, more industrial, hotter, and drier cities.³

¹ U.S. Congress, Senate, Select Committee on National Water Resources, *Water Resource Activities in the United States: Future Water Requirements for Municipal Use*, 86th Cong., 2d sess., 1960, Committee Print No. 7, p. 9.

² At present, it appears unlikely that research on desalinization techniques will reduce costs in the foreseeable future to the point where desalting will be economically competitive in most urban areas with the development of fresh water sources or the reuse of river or lake water. In some urban areas, particularly in the arid West, natural sources are saline or development and transportation costs for water are far above average. In these cases, desalinization promises a feasible, although comparatively expensive, alternative to more conventional water supply methods.

³ U.S. Congress, Senate, Select Committee on National Water Resources, *Water Resource Activities in the United States: Future Water Requirements for Municipal Use*, op. cit., p. 9.