

served by the city. The postwar booms—in jobs, building, credit, babies, automobiles, and highways—changed the picture entirely. Development soon outran the provision of central city utility services. The demand for land plus the development of seemingly reliable home water and disposal facilities furthered the development of low-cost land which lacked water or sewer systems. Where ground water was readily available and septic tanks could be inexpensively installed, suburban development spread out and leapfrogged. As the process accelerated, it became increasingly difficult for central utility services to provide the newer areas, for the very patterns of development induced by reliance on individual facilities are uneconomic for community systems. The large lots required by suburban regulations in order to provide adequate drainage fields for septic tanks, make community utility development extremely expensive, particularly for sewers.

Individual systems have caused problems in almost every area where they have been employed. About 25 percent of all municipal water is from ground sources; most of this is consumed in the suburbs. Ground water depletion caused by an excess of withdrawal over recharge has caused wells to dry up in a number of suburban areas. Chicago's suburbs, for example, have been extracting 20 percent more ground water than is being replaced through natural processes. Septic tanks have been installed where lot sizes or soil conditions insure that they will fail in a relatively short time. In suburban Lake County, in the Chicago metropolitan area, there is a heavy reliance on septic tanks although 75 percent of the soil in the county is unsuitable for individual sewage disposal systems. When septic tanks fail they can pollute the shallow ground water sources tapped by individual wells. Since 80 percent of all ground water is used without treatment, this process can and does—as in New York's Nassau County, the Virginia suburbs of Washington, D.C., and the outlying portions of the Twin Cities metropolitan area—cause well pollution and serious public health problems. On-site sewage disposal under excessive population densities or inadequate soil conditions also poses threats to water tables tapped by the deeper wells of public and private community systems.

For the homeowner, individual systems usually are a source of inconvenience and expense. Initial installation costs, in a development of any size, are generally higher than those of either a rudimentary community system or a connection to a central system. Upkeep, particularly for septic tanks, is higher than normal sewer use charges, ranging from \$40 to \$100 a year in most areas. As the system begins to fail, maintenance charges rise sharply. Fire insurance costs reflect the lessened protection available with individual water supply systems. And in most areas, the resale value of a home with individual systems is lower than one with community water and sewer service. Additional outlays inevitably are necessary when wells run dry or become polluted, or when the septic tank no longer works.

Since the homeowner generally is unaware that his original water and waste facilities are temporary, he resists proposals to build a community system until the hazards produce a crisis. Then the inclination is to take the cheapest alternative, usually a small, inefficient community system. Thus the homeowner pays twice for his