

Table 1. Assets of private U.S. philanthropic foundations in relation to relevant economic aggregates.

Year	Foundation assets (estimated)		
	Market value (\$ billions)	As percentage of U.S. debt and equity	As percentage of gross national product
1938	1.4	0.54	1.7
1943	1.8	0.46	0.9
1948	3.5	0.65	1.4
1953	6.5	0.85	1.8
1958	12.5	1.05	2.8
1963	17.5	1.05	3.0
1968	21.0	0.84	2.4

released by the Foundation Center last year.

In connection with the current Securities and Exchange Commission study of institutional investors in the stock market, the National Bureau of Economic Research has developed alternative data of the assets for all foundations from 1953 through 1968. These data, not yet published by NBER and the SEC, are expected to show a similar pattern: a moderate increase in foundation assets relative to U.S. economic aggregates until the early 1960's, but a moderate decline since then. Because the Tax Reform Act of 1969 materially

discourages the establishment of new foundations, it is entirely possible that the relative withering of the foundations' economic role in American life will intensify in the years ahead. Incidentally, no longer is it appropriate to label private foundations as "tax exempt" since the Tax Reform Act of 1969 also imposes a federal levy on the investment income of private foundations.

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Ganges Plain: Irrigation Potential

At first glance, India's Ganges Plain does appear to be a suitable area for the "technological fix" suggested by Weinberg ("In defense of science," 9 Jan., p. 141). It is underlain by a tremendous groundwater reservoir—perhaps the largest on earth, and the plain is the site of increasing pumpage from irrigation wells. Because electric power production has not kept up with de-

mand, power lines are often powerless and burned out motors on irrigation wells are commonplace. Certainly there is room for improvement, but to say that the missing element is energy—to be provided by a "network of large power plants, probably nuclear, to supply electricity for the pumps . . ." is to promote a single quick "fix" rather than a comprehensive program for optimum utilization of the water resources available to the Ganges Plain.

The current pumpage in the Ganges Plain is probably as great as that in the Central Valley of California, which has the largest groundwater development in the United States. The two areas are similar in several respects: each year there is a rainy season of 3 or 4 months, a freshet from melting snow in mountain headwaters, and a long dry season when stream flow dwindles to the minimum for the year; each has large underground storage but no natural surface storage of water. In the Central Valley "technological fixes" have been undertaken for placer mining, navigation, irrigation, surface storage and regulation, hydropower, municipal supply, salinity control, groundwater depletion, transport to areas of deficiency, and artificial recharge. Some of these have been countermeasures to others.

The Ganges River has an annual flow nearly ten times as great as the streams of the Central Valley. Its flow varies greatly from season to season, and many of its tributaries dwindle to very low flows in the dry season; but even so, as much as 15 million acres may be irrigated in a good year. The groundwater reservoir beneath the plain is recharged by seepage from streams, canals, and irrigated lands, and any sustained pumping must be matched by equivalent recharge, sooner or later, to avoid progressive depletion of supplies. To provide irrigation water for three-crop agriculture on a major part of the plain will require development of all the water resources to the point of optimum sustainable yield. This may require major stream diversions, flow allocations, regulation, and long-distance transport of surface water, disproportionate local withdrawal and transport of groundwater, and conjunctive use of surface and groundwater supplies. Commitment to a single "technological fix" to the exclusion of other alternatives should be avoided.

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