

PROBLEMS RELATED TO ENVIRONMENTAL HEALTH MANPOWER
PRODUCTION AND UTILIZATION

by
Larry J. Gordon, M.S., M.P.H., Director
Environmental Services Division
Health and Social Services Department
Santa Fe

Scientists, political leaders, conservationists and citizens have identified environmental health problems as one of the major issues of this decade. The fact that the Nation and the World are facing an environmental crisis has been well documented with relationship to the various environmental problems of air, water, wastes, land, radiation, food, injuries, population, conservation, and housing. Coupled with this documented crisis, environmental protection agencies are faced with a serious manpower shortage resulting in numerous unfilled or improperly filled positions at a time when nearly all federal, state, and local environmental protection agencies are being allowed additional funding for increased positions. Perhaps this environmental manpower problem can be best discussed under a number of headings, as follows:

1. As related to federal efforts and financial aid.

In 1968, 18% of the graduate level trainees supported from federal health manpower training funds were environmentalists. We now have a projected increase in environmental health workers from the current 252,000 to a need for 537,000 in 1980, leaving a

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deficit of some 35% generally and 75% for professional positions. We have had less federal authorization for graduate environmental education since 1967 due to an overall decrease in Section 309 funding. We are faced with grossly insufficient funding under the Allied Health Professions personnel act of 1966, to offer necessary support for sanitarian traineeships.

All the foregoing points relating to federal efforts and aid are further compounded and confused by the lack of a valid priority system for allocating funds. Such federal efforts continue to be largely medically directed and pure "health" oriented, at a time when the public is more interested in the total environment, and objectives other than simply "health".

2. As related to state registration.

Various state registration and licensing acts for environmentalists were probably useful and at least thought to be highly necessary at the time they were enacted. They are now frequently restrictive and overly stringent in certain requirements, thus frequently resulting in creating problems of properly relating manpower to job tasks. It is questionable that such licensing acts still aid the profession and it is even more questionable if they are in the public interest. These registration and licensing acts also provide knotty problems of reciprocity, thus frequently preventing the necessary free movement of

professional environmental personnel from one state to another.

3. As related to Professional Measures and Recommendations.

I personally believe that the various certification programs such as that offered by the American Inter-Society Academy for the Certification of Sanitarians and the Environmental Engineering Certification Board, have been useful to date. Likewise, the accreditation efforts of the National Environmental Health Association and the American Public Health Association have, to date, apparently been desirable, useful, and constructive.

4. As related to providers of service.

The providers of service have further confounded and compounded the problem of manpower and utilization, in that none of us really know what job characteristics and qualifications are needed for any given position. Most positions have been created by professional engineers or professional sanitarians, and therefore are composed of a big dose of "territorial defense" and small ingredients of common sense and facts. We really do not have the data to indicate that we are producing or utilizing personnel matched to job tasks. We have commonly used engineers, sanitarians, attorneys, ecologists, conservationists and a wide array of technicians, and a study would probably reveal their use in direct relationship to the background of the individual in power. There is an urgent need for a thorough

task analysis for selected environmental positions.

Additionally, providers of service have suffered from a system offering a lack of career mobility. Career mobility can be useful in expanding, maturing, and training environmental personnel, and is perhaps particularly necessary for those personnel involved in top-level regulatory positions. (When these individuals perform their duties correctly, they are often in need of "career mobility" in a hurry). This particular problem might be solved to some extent by funding of Section 314(f) of P.L. 89-749.

Most providers of service have also offered little opportunity to re-tread and re-orient existing personnel, particularly those at the advanced levels of management. It is probably safe to say that practically all top-level environmental health personnel are sadly antiquated in their knowledge in relation to computers, data processing, systems analysis, and modern technical data.

Lastly, providers of service have been parties to, and sometimes causative factors, resulting in inadequate salaries, environmental program fragmentation, and lack of environmental leadership at the top echelon of traditional environmental health agencies.

5. As related to academic institutions.

My first criticism of academic institutions is that the academicians have insufficient contact with actual environmental problems and program needs. They have

done little to assess environmental problem priorities and translate these into curriculum content. They continue with their attempts to utilize existing academic courses in lieu of developing appropriate environmental health courses adjusted to the problems and the priorities. They are not addressing their curricula to the total environment and usually fall into one of three categories:

- 1) The school of public health approach which over-emphasizes the health aspects;
- 2) The school of engineering approach which claims comprehensiveness but is really a party to the air-water-wastes syndrome; and
- 3) the sanitary science approach which emphasizes the biological aspects of food protection, water hygiene, and insect and rodent control.

None of these are producing environmental personnel attuned to the tasks of modern environmental management.

Most academic institutions continue with a narrow scope of environmental education in terms of traditional program, with little emphasis on underlying problems and alternative solutions such as population control, land-use, mass transportation, alternative energy sources, and misplaced national priorities.

Few academic institutions are paying appropriate attention to program methods such as taxation, incentives,

coalitions, legislation, public information, motivation, enforcement, political processes, developing a constituency, program funding, and environmental planning.

In short, most academic institutions would appear to be producing more of an environmental technician than an environmental manager.

I believe it was Goethe who stated that, "It is the property of true genius to disturb all settled ideas". Now that I have appropriately attacked the entire "establishment", perhaps some of the proponents of the establishment will feel uncomfortable and appropriately react, so as to remove some of the roadblocks to environmental health manpower production and utilization.