

## **EMBRACING ENVIRONMENTAL HEALTH: IN WHOLE, OR BY PARTS?**



*Environmental health is in your hands*

California Conference of Directors of Environmental Health

EH Seminar 101

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I have been requested to lead a seminar regarding the scope of the field of environmental health practice. In order to best address the scope, I find it useful to discuss a few other relevant environmental health practice issues.

The value of this seminar will depend on your participation.

The practice of environmental health is both an art and a science. Most of this seminar will deal the “art” of the field of practice. The “art” includes the value of mentors, organization, personnel, politics and public policy, public relations, leadership, benefits of environmental health, the definition and scope of the field of practice, agencies delivering services, comprehensive vision, recommendations for the future, and understanding the future of the field of practice.

Within a short time after becoming being hired as an entrance grade sanitarian, I began questioning the traditional pattern of organizing, staffing and delivering environmental health services at the state and local levels. Had I been the only person expressing such concerns, I would probably have changed careers due to frustration. However, I found that many of my most respected peers were similarly concerned.

I was fortunate to be mentored by a number of visionary professionals who dreamed outside the box. Some were sanitarians, but most were engineers. I vividly recall

fruitful conversations with National Sanitation Foundation Executive Director Walter Snyder. Philadelphia Public Health Engineer and Environmental Health Director Walt Purdom, who had been a Public Health Service Officer, provoked many of my emerging concepts. Public Health Service Sanitarian Director Dick Clapp imparted memorable wit and wisdom as I participated with him in teaching CDC environmental health courses in at least a dozen states over the course of several years. University Of North Carolina School Of Public Health Sanitary Engineer Professor Emil Chanlett impressed me with observations such as “environmental health being left half way between leprosy and the quarantine station.” Several mentors were visionary environmental health "giants" in California. I profited immensely from discussions with Sanitarian icon Walter Mangold. I had numerous interchanges with University of Californian Sanitarian Professor Harry Bliss who designated me to succeed him as Editor of the Journal of Environmental Health. I was privileged to communicate frequently with Los Angeles Sanitary Engineer Director and subsequently UCLA Professor Charlie Senn. And I was enthralled by the compelling oratory of California State Sanitary Engineer Frank Stead.

Each the foregoing practitioners had one invaluable characteristic in common, and that was **vision**. Walter Snyder, Walt Purdom, Emil Chanlett, Dick Clapp, Harry Bliss, Walter Mangold, Frank Stead, and Charlie Senn were mentors for countless practitioners throughout the Nation.

### **SOME MENTORING THAT INFLUENCED MY CAREER**



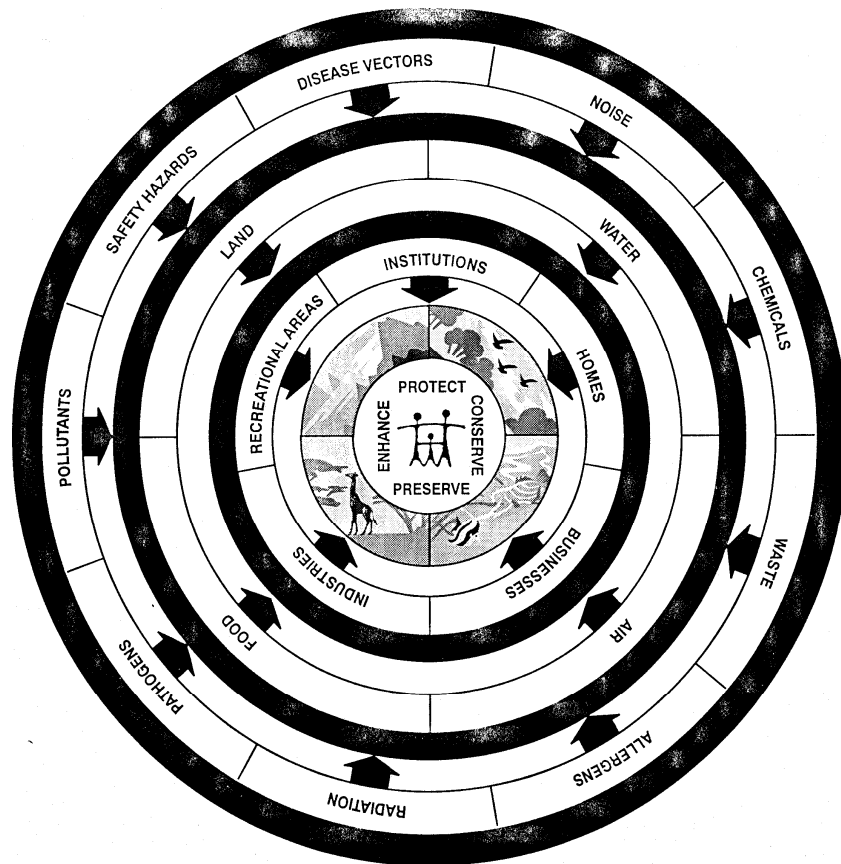
**Sanitarian Larry Gordon, 1950**

- I learned that **those who look only to the past or to the present will most certainly miss the future.**
- I learned that we must collectively understand that organizations, programs, problems and public expectations are not static and that change will continue.
- I observed that most environmental health practitioners tend to resist rather than lead changes in programs, organizations and personnel, thus leaving responsibility for unintended environmental health problems for others to claim.
- I was impressed that environmental health deserves and demands organizational support, visibility, and effectiveness that may translate into organizational change, and environmental health advocates and elected officials frequently demand such change.
- I found that every community and state has many "health agencies," while only one is actually titled a "health department."
- I recognized that environmental health may be effectively served by agencies separate from health care such as state and local EPAs. Environmental health is effectively practiced in numerous local, state and federal agencies, as well as in the private sector.
- I determined that environmental health professionals should, although they usually do not, seek key leadership roles in all environmental health agencies at all levels, whatever their organizational titles.
- I recommended that we must ensure that academic environmental health programs inculcate students with the competencies to address future as well as current problems.
- I deduced that efforts to adequately educate practitioners for leadership and policy roles could be vastly more effective than spending funds on "cookie cutter" methodologies designed to make all agencies uniform rather than striving for creativity and diversity.
- I found that most practitioners have limited vision regarding the scope and benefits of the field of practice. Many feel it begins and ends in health departments, and definitions are disturbingly narrow. Practitioners should expand

their horizons, stretch their imaginations, and develop comprehensive visions.

- I long ago recognized that environmental health services are dependent on public and political support, and that practitioners must consistently communicate with policy makers to ensure understanding and support for environmental health.
- I became convinced that there should not be a standard model for the organization and delivery of environmental health services. There are no data to indicate that one organizational or service delivery model is more effective than another in protecting public health and the environment.
- I observed that pollution problems should best be addressed on a multiple goal basis considering not only the health impact, but also the impact on agriculture, recreation, wildlife, ecology, environmental quality and economics. When health departments do not address such relevant problems, other agencies that do not have tunnel vision compunctions are eager to take the entire program.
- I learned to develop new organizational models to better serve the public, and learned that environmental health practitioners must lead in striving for changes in programs, priorities and organizational patterns rather than waiting for someone else to lead.
- Based on the foregoing and other lessons, I experienced the fact that there are no glass ceilings for qualified environmental practitioners desiring to accept responsibility and lead.
- And finally, I concluded **there is virtue in being able to change your mind.** Experience, education, initiative, vision and the courage to question the status quo and think and practice outside the establishment box bring novel perspectives that generate constructive ideas.

**NOW, LET'S DISCUSS THE SCOPE OF ENVIRONMENTAL HEALTH**



**Larry Gordon, 1968**

Public and scientific interest in environmental health has been intense since Earth Day. The scope and complexity of environmental health have expanded from the era of sanitation and biological insults to include chemical insults, radiation, land use, global environmental health, and ecological issues among others.

The terminology "environmental health" also embraces environmental protection. The two terms have been utilized to denote programs based on organizational settings rather than logical or definable differences in programs, missions or goals. Distinctions are largely artificial, and have led to organizational confusion, turf competition, programmatic gaps and overlaps, and separation of closely related activities that share the common goal of protecting the environment and human health. The separate terms have created divisive administrative barriers rather than constructing bridges of cooperation among the numerous organizations involved in pursuing the common goal of protecting the environment and the health of the public.

One may define narrowly, or define broadly. One may embrace the field, build bridges and construct castles, or segment the field, lay bricks and build walls. Innumerable definitions have been proposed, but most such definitions merely reflect the scope of the agency involved rather than embracing the field of practice. The “Report of the Committee on the Future of Environmental Health” included the definition that is commonly used. This was developed through peer review and comment by representatives of some 75 agencies, associations and educational institutions including NCEH, ATSDR, OSHA, EPA, FDA, DOD, DOE, ASPH, APHA, NCLEHA, NEHA, ASTHO, NACCHO, and various academic programs.

The definition developed for the Report of the Committee on the Future of Environmental Health is as follows:

***Environmental health is the art and science of protecting against environmental factors that may adversely impact human health or the ecological balances essential to long term human health and environmental quality. Such factors include, but are not limited to air, food and water contaminants; radiation; toxic chemicals; wastes; disease vectors; safety hazards; and habitat alterations.***

The definition is the simple component. Having defined the field of practice, we must recognize that not every environmental health agency should be, or can be, involved in the comprehensive field of practice. There are no agencies delivering all aspects of environmental health services at any level of the public or private sectors. Program scope will depend on:

- the existence and nature of environmental health problems,
- legislative authorization,
- public and political support,
- the type of economy,
- geographic features,
- climactic factors,
- population density, and
- quantity and quality of staff, among other factors.

However, we should understand and practice within the framework of the standard definition as appropriate.

## **PROBLEMS EMBRACED BY THE FIELD OF PRACTICE**

Environmental health practice is based on **risk assessment, risk communication and risk management applied to one or more of the following problems:**

Ambient air quality	Health care facilities
Indoor air quality	Day care facilities
Radon	Correctional facilities
Asbestos	Unintentional injuries
Community noise pollution	Body art establishments
Radiation	Physical therapy establishments
Tanning parlors	Amusement parks
Water pollution	Temporary mass gatherings
Safe drinking water	Migrant workers health
Liquid wastes	Swimming pools and hot tubs
Cross-connections	Beaches
Eating and drinking establishments	Parks and recreational areas
Food wholesalers	Solid waste
Food retailers	Hazardous waste
Itinerant food establishments	Toxic chemicals
Fish sanitation	Lead poisoning
Shellfish production	Pesticides
Pure food control	Fertilizers
Slaughterhouses	Allergens
Poultry processing	Hazardous spills
Milk sanitation	Brownfields
Industrial hygiene and safety	leaking storage tanks
Natural Disasters	Insects and rodents
Terrorism Responce	Nuisances
Housing	Animal bites
Educational facilities	
Global warming	
Stratospheric ozone depletion	
Global toxification	

## **SERVICE DELIVERY ORGANIZATIONS**

Numerous organizations at all levels of the public and private sectors deliver environmental health services.

### **Federal Agencies**

- Environmental Protection Agency,
- Occupational Safety and Health Administration,
- U.S. Public Health Service, including the
  - National Institute of Environmental Health Sciences,
  - Centers for Disease Control and Prevention,
  - Indian Health Service,
  - Food and Drug Administration,
  - Agency for Toxic Substances and Disease Registry, and the
  - National Institute for Environmental Health and Safety,
- U.S. Coast Guard,
- Geological Survey,
- National Oceanographic and Atmospheric Administration,
- Nuclear Regulatory Commission,
- Corps of Engineers;
- Energy Department,
- Defense Department,
- Transportation Department,
- Agriculture Department, and
- Housing and Urban Development Department.

### **State Agencies**

At least 85% of state level environmental health programs and personnel are the responsibility of agencies other than state health departments. State expenditures for environmental health approximate that of all other public health activities combined. Environmental health is the largest single component of the field of public health. Regardless of titles, environmental health agencies are components of the broad field of public health as their programs fall within the definition of environmental health and are based on attaining public health goals. Such state environmental health agencies have



various titles such as;

- environment,
- environmental protection,
- ecology,
- labor,
- agriculture,
- environmental quality,
- natural resources, and
- pollution control.

In general, state environmental health agencies are apt to have responsibility for administering water pollution control, air pollution control, solid waste management, public water supplies, meat inspection, occupational health and safety, pesticide regulation, and radiation protection.

### **Local Agencies**

The majority of local environmental health responsibilities remain the responsibility of health departments. Local activities tend to differ from those assigned state agencies, and focus on such programs as food protection, swimming pool safety, lead poisoning, on-site liquid waste disposal, groundwater contamination, asbestos surveillance, water supplies, animal/vector control, radon testing, illegal dumping, hazardous materials spills, emergency response and nuisance abatement. A few local jurisdictions administer comprehensive indoor and ambient air pollution control programs. Some local health departments indicate activities in water pollution control, solid waste management, radiation control, and hazardous waste management.

Most local governments have assigned certain environmental health functions to agencies such as public works, housing, planning, councils of government, solid waste management, and special purpose districts and authorities.

A number of jurisdictions have specifically authorized local environmental health agencies, and many important responsibilities have been assigned to local and regional agencies other than traditional local health departments. Agencies other than local health departments are playing an increasing role in air pollution control, noise pollution control, water pollution control, groundwater contamination, industrial discharges, accidental spills, fish and shellfish sanitation, drinking water contamination, brownfields clean-up and redevelopment, hazardous materials control, leaking fuel storage tanks, hazardous waste sites, and pollution prevention.

### **Federal, State, or Local**

Principles that have determined responsibilities of levels of government include:

- Problems of an interstate nature such as interstate protection of food and food products, interstate solid and hazardous wastes transportation, interstate water pollution control, interstate pesticide regulation, and interstate air pollution resolution are administered by appropriate federal agencies.
- The federal government has partial or sole authority to administer many federally mandated or funded activities including, but not limited to, certain aspects of radioactive waste management, water pollution control and facilities construction, air pollution control, meat inspection, occupational safety and health, and safe drinking water. State and local governments have frequently accepted primacy for administering some of these activities subject to adhering to federal requirements.
- State agencies or special districts administer certain programs on a problem-shed basis rather than on a limited local jurisdiction basis. Examples include water pollution control, air pollution control, solid waste management, and milk sanitation.
- In sparsely populated states as well as rural areas of some states, the state agency exercises direct authority in most program areas.
- Many state agencies provide technical and consultative support to local environmental health agencies.
- State agencies, as well as federal agencies, may develop criteria, standards, and

model legislation for state and/or local adoption.

- State agencies administer state and federal grant-in-aid funds for local agencies.
- Smaller local agencies may not have expertise in certain specialized areas such as epidemiology, toxicology, public health assessment, and risk assessment.

## **TO EMBRACE ADDITIONAL COMPONENTS OF ENVIRONMENTAL HEALTH PRACTICE, FIRST:**

1. Develop a comprehensive vision,
2. demonstrate leadership, and
3. practice positive public relations.

### **Developing A Vision**

**The best way to predict the future is to invent it,** and that requires a vision.

Vision statements I have reviewed from scores of agencies vary from no concept, through a useless utterance such as “Healthy People in Healthy Communities,” to a few thoughtful statements. Some acknowledge only a fragment of the tantalizing rainbow-like spectrum of a vision. This remarkable variation is due to lack of a common understanding of the potential, the benefits, and the scope of the field of practice, as well as a paucity of imagination on the part of many individuals in policy roles. The following quote from Alice in Wonderland is instructive regarding the need for a vision:

*“Would you tell me, please, which way I ought to go from here?” asked Alice. “That depends a good deal on where you want to get to,” said the cat. “I don’t much care where,” said Alice. “Then it doesn’t matter which way you go,” said the cat.*

As we consider elements of a vision for environmental health, it may be that, like Alice, some practitioners just don’t care where they go. For them, it doesn’t matter whether they have a useful vision or not. Every practitioner should be an active

participant in developing and pursuing a meaningful vision for environmental health that should be more than blurred imagination. We should envision communities:

- in which problems are measured and defined prior to designing and implementing programs,
- in which environmental health is based on sound risk assessment and epidemiology, as well as the primacy of prevention,
- in which environmental health practitioners have the **capacity** to effectively address community environmental health problems,
- in which practitioners, the public, the media, and public policy makers constantly travel broad two-way environmental health communication bridges, and
- in which public and private sector officials seek the input of environmental health practitioners prior to developing policy and taking actions that impact environmental health.

If environmental health practitioners and community leaders embrace the foregoing as important components of a vision for environmental health, then policy, goals, objectives, program design and priorities will be developed to achieve the vision.

**Developing and pursuing such a dream is a continuing journey rather than a destination.** It is not a single step exercise for a staff meeting or retreat.

Developing and pursuing a comprehensive vision for environmental health helps market the benefits of environmental health and ensure the support of policy makers. As an important part of a comprehensive vision, practitioners should recognize that environmental health contributes substantially not only to

- reduced disease and disability, but **also to**
- enhanced community educational achievement,
- fewer social problems,
- enhanced quality of life in a more livable environment,
- restrain health care costs,
- enhanced community economic vitality, and
- enhanced productivity.

### **Demonstrating Leadership**

**When a leader and a dreamer work hand in hand, or better still, when the dreamer is also a leader, significant achievements can be made.** Many outstanding environmental health leaders consistently exhibit the capacity to earn the recognition and respect of their peers, as well as the public and elected officials. Many others are content to simply complain. So what leadership traits are necessary to convert vision into reality? Here are a few traits and practices of scores of outstanding environmental health leaders:

- They constantly pursue a coherent vision that provides a platform on which to base and market their mission, their goals, their objectives, their programs and their policy recommendations.
- They have the capacity and confidence to apply their knowledge, skills, and abilities.
- They stand up for their beliefs, they practice persistence and resilience, and they accept the fact that **if you want a place in the sun you have to expect a few blisters.**
- They engage in controversial issues as appropriate and realize that trying to please everyone is a key to failure.
- They realize that the best way to avoid criticism is do nothing, say nothing and be nothing.
- They do not rely on someone else to solve their problems.
- They understand and impact the political process rather than viewing it with disdain.
- They lead in developing public policy rather than following.
- They consistently market the comprehensive benefits of environmental health.
- They routinely utilize the complex array of public information possibilities to ensure support.
- They do not blame someone else for their perceived problems.
- They think outside the box, and are willing to be out of step with their peers.
- They seize the moment when they recognize an opportunity.
- They understand that support must be developed the old fashioned way: They earn it!

- And perhaps most importantly, **they have learned to trust their instincts!**

Effective environmental health leadership is complex, frequently controversial, and invariably the result of individual capacity and initiative. Many of our great environmental health leaders have been dedicated individuals who achieved eminence not because they had the right pedigrees or belonged to the right organizations, but because they had the right vision, the right information and the right leadership at the right time. Environmental health practitioners have a solid record of achievement in a wide spectrum of roles in a variety of public, private and academic organizations. But many environmental health practitioners appear reluctant to engage in the controversies inherent in policy development. Most leadership positions do not offer career protection beyond the ability of an individual to earn the continuing respect and support of peers, subordinates, the public, the media and elected officials. Leadership on the road to improved environmental health is not an easy route. **Only dead fish move with the current.**

### **Practicing Positive Public Relations**

Public relations must rank high among the activities of any agency. An environmental health program will not achieve optimal results in the absence of good public relations.

Public relations are nothing less than the sum total of all the conditions, attitudes, impressions, and opinions that constitute the relationships between the public and the agency. **Public relations are a reflection of everything an agency does** — the manner in which a visitor or a caller is greeted, office appearance, office behavior, the manner in which employees dress, staff competence, the quality of public information, the quality of educational material and correspondence, ability to speak interestingly about services, and skill in answering criticism and sharing news about the activities of the agency. The public relations program will be most successful when all personnel understand its importance and participate freely. Friendly and favorable media are vital factors in creating public interest and good will, and in establishing a climate in which an agency

can be most effective. Because positive public information can be so rewarding, proper media relations are especially important. Getting and staying in the news is not the easiest part of public information program, but it is well worth the effort for the effect is cumulative. A single "break" in the media will not bring the public to your doors. Remember, too, that one unfavorable story or unhappy event will not ruin an agency's reputation. Public impressions are built over a long period of time. Many environmental health practitioners have been suspicious of the media and afraid to be open and work with them. This results in a negative type of public information program, as the media may not gather any news about the agency unless it is bad news. A few other suggestions:

- **Encourage numerous personnel to be involved** in the public information program. This will lead to more interesting articles, more stories, more human interest, and better public relations.
- **Build and promote the department instead of an individual.**
- Include editors and news directors in the department's distribution list of key community leaders.
- Understand that reporters prefer to write their own stories and receive information direct. News media receive uncounted numbers of "canned" news releases, and these frequently go unnoticed. **The personal touch is much more effective.**
- Everything in an official agency should be open to the media unless specifically legally prohibited.
- Make frequent contact with reporters covering your agency or functions. Go out of your way to impart information.
- Develop a calendar or timely seasonal information items for the media.
- Have coffee with reporters, and tell them of your needs and problems as well as your successes.
- For major issues, request a conference with news editors to gain editorial understanding and support.

Do such things routinely and develop sound media relationships rather than expecting immediate support during an unforeseen emergency or adventure into the realm of controversial public policy.

**Environmental health is the public's business**, and will not be properly understood or supported in the absence of continuing information to the media, target groups, citizen groups, professional groups, elected officials, and other agencies involved in the field of environmental health.

I cringe when I hear about the “invisible profession.” If a program or agency is “invisible,” practitioners should re-evaluate their own attitudes and efforts. **The fault is invariably with the messengers rather than the messages.** For years, my various agencies were extremely visible. We had TV, radio and print media messages emanating from a variety of departmental personnel several times weekly. Environmental health is of profound interest to the public. Blaming the media is a feeble excuse. Factors involved in a paucity of visibility include:

- Organizational settings that preclude support, understanding, emphasis and visibility for environmental health,
- Organizational policies that discourage environmental health personnel from practicing good public information,
- Practitioners not understanding and marketing the comprehensive benefits of environmental health, and
- Practitioner inability to articulate and pursue a comprehensive vision of environmental health.

## **RECOMMENDATIONS FOR THE FUTURE**

- Become more involved in basic environmental health prevention measures such as the planning stages of energy production, land use, transportation methodologies, facilities construction, resource utilization and product design.
- Promote alternative energy measures including wind, solar, nuclear, and hydrogen.
- Make a difference by being informed, getting involved and promoting environmental health actions and policies in the absence of statutory authority.
- Where appropriate, become involved in global environmental health problems



such as global warming and stratospheric ozone depletion.

- Promote irradiation of foods as a sound public health measure.
- Take advantage of the fact that environmental health is widely considered to be an entitlement.
- Lead rather than simply respond in recommending environmental health organizational and programmatic changes.
- Compete for leadership roles in the complex spectrum of public and private agencies delivering environmental health services.
- Lead in designing, gaining approval, and implementing public policy that will improve the quality of environmental health, rather than assuming that someone else will do it for you.
- Maintain continuing communication with policy officials at all levels of the public and private sectors.
- Fully cooperate with the media and keep the public advised regarding environmental health problems and accomplishments.
- Prioritize and design programs based on sound epidemiology and public health risk assessment.
- Engage in controversial environmental health issues as appropriate.
- Take advantage of the fact that environmental health is not a profession, but is a field in which to practice one's profession. This diversity of the workforce is a strength and should be emphasized rather than promoting the myth that environmental health is a profession. Comprehensive environmental health practice requires and benefits from the involvement of chemists, geologists, biologists, meteorologists, physicists, physicians, nurses, economists, laboratory scientists, industrial hygienists, veterinarians, educators, economists, sociologist, engineers, architects, attorneys, planners, political scientists, statisticians, journalists, electronic information specialists, epidemiologists, social scientists, political scientists, ecologists, public administrators and planners, as well as those environmental health professionals who have been specifically educated in environmental health.

- Recognize that effective environmental health leadership is profoundly complex and controversial, and is the result of individual abilities and initiatives. Many great environmental health leaders achieved eminence not because they wore the right labels or belonged to the right organization, but because they had the right ideas, the right information and the right abilities at the right time. The mantle of leadership falls to those who earn it.
- Embrace ecological problems as appropriate. Many pose health threats, and the public and public policy leaders know that pollution kills fish, limits visibility, creates foul stench, ruins lakes and rivers, degrades recreational areas, and endangers plant and animal life.
- Strive for organizational excellence through creativity, rather than a uniform organizational pattern based on cookie cutter recommendations.
- Remember that ideas provide motivation to change the status quo. An idea first develops in the mind of a minority of one.

## **UNDERSTANDING THE FUTURE**

Environmental health will continue to change as a result of various societal, economic, political, and population pressures, as well as supply and demand factors. Within half a century, leadership has evolved from sanitary engineers, to environmental health professionals, to a diversity of practitioners in environmental health. Most schools of public health, once the prime incubators of environmental health professionals, chose to follow the money trail that led to educating health care personnel and basic science researchers. Accredited undergraduate environmental health programs attempt to fill the gap for journeyman practitioners, and a few accredited graduate programs developed to educate practitioners for leadership and policy positions. The supply of environmental health professionals is inadequate and both journeyman and leadership positions are increasingly being filled by practitioners other than environmental health professionals.

The trend to organizationally diversify environmental health programs will continue in response to the priority of environmental health, the demands of

environmental advocates, and the trend for many health departments to become significantly involved in health care to the detriment of environmental health priorities. Increased health care responsibilities of federal, state, and local health departments have frequently translated into inadequate understanding, leadership and support for environmental health. Additionally, most health departments find it difficult to deal with the ecological and global aspects of environmental health. Another factor is the ever increasing priority and complexity of environmental health problems and programs. Environmental health has arrived. Environmental health has developed its own constituency. Environmental health is demanded by the public and is widely considered to be an entitlement. The public health delivery system has evolved from traveling on a single health department track, to traveling on multiple environmental health tracks and multiple personal public health tracks.

Organizational diversification does not imply that environmental health is not a basic component of public health. While each community or state has only one health department, every community and state has several other agencies delivering environmental health services.

Environmental health **will** continue to increase in complexity, and the public **will** increasingly expect and demand effective programs. Demographic changes, resource development and consumption, product and materials manufacturing and utilization, wastes, global environmental deterioration, technological development, international terrorism, changing patterns of land use, population pressures, transportation methodologies, resource development and utilization, and continuing organizational diversification of environmental health services **will** create unanticipated challenges. Environmental health **will** continue to be basic to the health of the public and the quality of our environment. Environmental health problems, programs and service delivery organizations **will** evolve in ways that are unforeseen. Anticipating and embracing appropriate components of environmental health **will** ensure a bright future for those who opt to lead. Embracing opportunities and making difficult decisions **will** further protect

public health and the environment.



***Environmental health is in your hands!***

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Sanitarian Larry Gordon, 2007