The Seventies: Challenge and Opportunity

Many of us are fortunate enough to live in sparsely populated range country. While human populations are exploding and resource bases are disintegrating in other parts of the world and in and around our larger cities, most range areas have been spared—for awhile.

If we haven't been away from our local areas lately—it is easy to be lulled into an unawareness of a potential global crisis. Since the real serious problems for most of us are not really here yet, it would be well for us in the range profession to pause and look at the challenges we face and our opportunities to help in our battle to cope with expanding populations, pollution, and diminishing resources. The predictions based on computer and other analyses are becoming increasingly frightening. Most indicators show we are losing badly in these battles, as most of us know.

How many of us in the range field are really concerned? Are we really entering this decade willing to use all the knowledge and skill we possess? In this age of environmental crisis, to do less than total commitment is not good enough. These problems will not go away and we can not ignore them much longer.

While much is being written and said about environmental problems, and the fact that rangemen are usually better informed on these matters than most, we need to be constantly reminded of where we have been, where we are now, and where we are going on these vital issues.

To boil the problem down to bare essentials we must always consider that resources are limited, while man is increasing geometrically. Populations are now following an exponential curve which is downright frightening. Until about 1650 the world population was fairly stable at about 500 million. We now have a population of about 3½ billion and by the year 2,000 we will approach 7 billion. By this time (based on present data and trends) the graph starts to go straight up. Populations would then, theoretically, be exploding with no increase in time. It is obvious we must change the curve—and quickly.

Other population associated factors are also increasing—pollution, civil unrest, power, knowledge—all exploding. Only the moral and ethical state of human beings are not following the exponential curve. And possibly they are going the other way. An "explosion of sanity" might be said to be what is required. Now let's take another look at some of the problems associated with increasing population.

We are poisoning the air we breathe at an alarming rate. The last pure air sample found in the 48 contiguous states was taken 7 years ago in the Arizona desert. In 20 years we may all be forced to wear breathing masks. We are depending upon oxygen produced outside the U. S. to breathe. We do not have enough greenery in the U. S. to produce the free oxygen we require to survive. No land area does. Most oxygen comes from the oceans (about 75 percent of the world's oxygen is produced by planktonic diatoms). We (especially the affluent countries) are dumping billions of pounds of waste into the sea—the great open sewer. DDT even if banned today would still be seeping into the sea 10 years from today and studies have shown DDT reduces photosynthesis of varied marine diatoms, thus decreasing oxygen production. Oxygen production is further being decreased by paving terrestrial areas, burning fossil fuels, and oxidizing of many areas of iron-rich tropical soils.

All of the junk we are dumping into the atmosphere will probably have a profound effect on temperature balance in the atmosphere. This could be very serious when we consider that a change of just a few degrees could result in another ice age or perhaps melting of the polar caps which could inundate much of the terrestrial areas.

Water pollution is probably much worse nationwide than air pollution and its consequences must be paid for eventually if not now.

The disposal of wastes is becoming more and more critical. The U. S. produces almost 50% of the world's industrial pollution. It costs $2.8 billion just to collect all our garbage. Each year U. S. plants discard 165 million tons of solid waste and 172 million tons of smoke and fumes are emitted into the atmosphere.

How long can we afford to be so wasteful? In 1966 the U. S. with only 6% of the world's population consumed 34% of the world's energy production, 29% of all steel production, and 17% of all timber cut.

What are we doing about these problems? Has our technology created two problems for every one it solves? We plant specialized crops that must be heavily fertilized and protected from pests in order to feed our increasing population. Pesticide and fertilizer pollution frequently create problems fully twice as dangerous as those they solve. The agricultural contaminants pollute our food, water, and air. In addition, they wreak havoc on our wildlife—particularly the birds which helped keep pests in check in the first place.

We build dams to control periodic flooding and in the process create problems of silting and permanently flooding productive farm land. We irrigate many areas for crops which takes good rangeland out of production and often ruins the land and natural waters with salts, alkalies, and agricultural contaminants. At the same time we take good, productive cropland out of production because of surpluses—much of this is then paved or otherwise eliminated from further production.

Livestock is taken off of good rangeland and moved on to the fragile, high, mountain meadows to compete with wild herbivores. Much of this productive rangeland is then plowed with potentially disastrous results.

We create temporary prosperity in an area by bringing in large factories. These invariably create problems of housing, parking, air and water pollution, sewage disposal, inadequate schools, increase in crime, etc.

Is it just possible that too much of our great material wealth has been paid for by a tremendous sacrifice of our basic natural resources with the resulting damage to the total environment they contribute to?

I am sure most of us are convinced that our biggest problem is the other guy—the average American citizen. But what about us—the trained ecologists,

range scientists, biologists, and other professionals in various conservation fields? We knew the problem existed and the consequences for inaction, yet we talked only to ourselves, we never really got our message across to the public.

Today the people are listening—even more important—they are giving us a mandate to do something about these problems.

All of us concerned with resources must work to develop an ecological conscience in the general population. When the majority develop an almost reverent feeling for the land, we will learn to live with nature in an ecological balance. If we destroy or upset this delicate balance of nature we will surely destroy ourselves.

The situation is serious and the future is dangerous; however, the road ahead offers many opportunities.

As rangemen we can do much. We can:

1. *Get involved.*—We, because of our resource background, are urgently needed to get started and keep the ball rolling toward solving these problems. If the people most knowledgeable about environmental problems fail to help who will?

2. *Keep the public informed.*—We must get the public to study and understand the environment they live in. We need to try harder to sell good land management programs. This is important because a **misinformed** public is much worse than an **uninformed** public. We must get the public to carefully check their facts and compare the advice or recommendations of many experts—not just a few.

3. *Take responsibility.*—The public must ultimately make the decision for environmental planning and action. They cannot continue to shirk this responsibility. We must continue to urge them to accept their responsibility. There are many private interest groups who will be glad to make these decisions for them. Government and industry must serve the people, they must be the slave and servant—not vice-versa.

   Resource decisions must be based on the greatest good, for both the land and the people, over the long period and never only for short-term economic gain for a few if this also means an ecological abuse of our environment. No one is better qualified to provide the public with the facts to make these decisions than professional range people.

4. *Develop a new sense of values.*—Let us measure progress, not in just terms of gross national product, or in acres put to the plow, new shopping areas, and miles of highways paved but in such things as the acres of range improved, the miles of stream cleaned up, the amount of smog eliminated, and the tons of scrap recycled. Progress must be measured in the quality of our environment, in the joy and satisfaction of our lives.

Our resources are limited and can only be increased to a certain extent and this at a cost to various environmental factors. Therefore I believe we should start planning immediately for the future of our rangelands and adjacent urban areas.

How many people can we support and still enjoy the things—space, hunting, fishing, sports, clean air, etc., that we are so proud of. We should plan now for an optimum population based on a balance between our resources and our needs. We need to plan to attract industries which will help alleviate our present problems and not create new problems of their own. Size of community is important, and we can if we plan now, determine the optimum size based on location, distance to markets, water supplies, present facilities, and cost of enlargement or replacement of municipal facilities, schools, parks, etc.

For example, what factors should we measure when deciding if we should encourage or discourage a certain industry moving to our area?

1. Is it relatively clean—will it pollute our air or water?

2. Will the added income and jobs more than offset the cost of enlarging our municipalities, our schools, parks, streets?

3. Is it an industry that will create long-term employment, the wise and sustained use of a renewable resource we produce or can produce in the area?

Too often, land managers are asked to make decisions which an informed public should make or at very least be in support of. The citizens will have to decide the best combination of uses for management of all public lands.

For example, if under the present management system we are maintaining a stable big-game population along with the production of timber, minerals, beef, lamb, wool, agricultural crops and several million recreation visits a year and we decide to double the game population. What are the costs involved? Who pays for it? What effect will this have on the other resources?

What it boils down to is this. Everything we do in a forest and range area will have both beneficial and detrimental effects on various resources. We must weigh the benefits of all resource management decisions—both short-term and long-term, against the costs, both immediate and future. We must carefully evaluate all the alternatives. Then we must be willing and able to pay for our decisions.

Rangelands have a terrific potential for providing an economic return for recreational opportunities to the owners whether private or otherwise. The demand for recreation in rural areas by urban people is high and increasing; at the same time more and more private land is being closed to public use. Furthermore, many of the public lands are becoming over crowded and the quality of recreation decreasing. Many of us associated with range resources are in a unique position to serve as liaison between urban and rural groups.

The public wants the recreational opportunity and will pay for it if properly explained and provided. The rural sector has the potential for providing this and at an economic gain. The rural population also need the support of their urban friends who now, or soon will, control the vote of such vital matters as tax laws, beef imports, price supports, grazing on public lands, etc.

A healthy farm and ranch economy is essential to a stable healthy national economy. The cities certainly do not need more economically distressed people moving to already over-crowded, over-polluted cities. This migration must in fact be reversed. What is needed is more versatile farm, ranch, and small town economy which will offer a real opportunity to our youth.

In ending, I would like to say this. The future presents a terrific challenge. Range people have a large part to play. Let's get on with our task!—*Donald R. Dietz,* Rapid City, South Dakota.