WATER FOR EVERYBODY

I welcome this opportunity to join you. I am concerned about your problems. I wanted to be associated with your 22nd Annual Convention and the future of the 26 soil and water conservation districts in Louisiana and the 3,010 in our land. There is the personal pleasure of meeting with old and new friends again. Too, there is the professional pleasure of discussing soil and water conservation with those in the field. I always carry away from these meetings new ideas, fresh viewpoints--more than I bring.

Your conference, as I see it, provides for a timely discussion of vital issues. The accelerating demands of our time do place a premium on effort. Dedication and work are basic to soil and water conservation, to resource development, and to the basic welfare of our great Nation.

It is nothing new to say that a good community can be produced only by good men--or that we get out of life about what we put into it. Yet men of good will and their efforts are, indeed, essential ingredients of a useful, civilized community.

There are other ingredients, of course: skills, planning, and vision--sacrifice, determination and faith--encouragement, investment, and opportunity for self-expression and for accomplishment.

Material used by Norman A. Berg, Deputy Administrator for Field Services, Soil Conservation Service, U. S. Department of Agriculture, Washington, D. C., for keynote talk at the Annual Convention of the Louisiana Association of Soil and Water Conservation District Supervisors, January 17, 1968.

Therefore, I feel that this is the time to speak for the unity of the countryside in all its values and uses. It is the time to advocate the protection and development of our resources as a whole, in accordance with their capabilities and the goals of the community. It is a time to speak for action that will meet the oncoming demands of a growing Nation. Above all, it is a time to help conservation district governing boards to assume fully their responsibilities of local leadership in soil, in water, and in related conservation and resource development work.

The key, as always, is people, and their desire, urge, or will to achieve. Psychologists tell us most people in this world can be divided into two broad groups. There is first that minority challenged by opportunity and willing to work hard to achieve something. Second, is the majority who really do not care all that much. Your record of over 51,000 district cooperators and about one-third of the needed soil and water conservation work completed on ranches suggests you are in that former group--you care!

Water is vital for life itself--for thirst, for food, and health. Water conservation and development is fundamental to a better life. As an integral part of man's environment, water, to a great extent, determines his quality of living. Water needs are worldwide--as is the world's supply of water. Nature is not impressed by lines we draw on maps. The rain clouds above us refuse to stop for borders, county, State, or National. And so the rain falls upon the just and the unjust alike. The earth's water belongs to all mankind.

There is urgent need for water, that is clean and pure enough for human use--water for drinking; water for cooking; water for bathing. Beyond this, there is a need for water for food production, water for industry; water for commerce, transportation and electric power. The well-being of communities, both urban and rural, is highly dependent upon the water available for their daily needs.

The ideal daily per capita consumption of water for communities is difficult to determine. The aquaducts of classical Rome provided 50 gallons of water per day to each citizen. In 17th Century Paris, however, the water system provided only two and one-half quarts per capita.

The average per person daily consumption in American cities is about 150 gallons. This is divided into an average of 70 gallons for commerce and industry, ten gallons for public use and 70 gallons for household uses. As much as 20 percent of the total may be wasted. Some communities in the world exist on the per capita consumption of 4 to 10 gallons per day--obtained from a single source. This is far short of the water actually

needed for good health protection alone. At least 25 to 30 gallons per capita per day is needed for daily baths, water-borne sewage, suitable washing of dishes and utensils, and for cleanliness of the home itself.

In spite of the continued worldwide trend toward urbanization, about 75 percent of the world's people still live in rural communities. In total human terms, the rural areas of the world still constitute the sector of greatest water service need.

In too many cases water is still dipped from mudholes, ponds, canals, streams, and other surface sources. There is critical need for education in many nations on the importance of clean water.

Water and its proper use and control is one of the essential factors in the global war against hunger. Agriculture, particularly under conditions of irrigation, is one of the greatest consuming uses of water. In the U. S. irrigation accounts for nearly 85 percent of all water consumed.

Water for living and water for food are inseparably interrelated with water for commerce and industry. Water is used by industry for washing, heating, cooling and for many other purposes. After use in the industrial cycle, water is discharged into a river or other water course, and is potentially capable of reuse. Unfortunately, discharged water too frequently is altered by chemical, thermal, or other industrial pollution. Abatement is a major problem of water management in industrialized countries.

Rivers, lakes and oceans not only yield 56 million tons of animal protein annually but traditionally have offered the facility for easy and economical transportation. Many existing waterways could be made much more useful by silt control.

Hydropower is estimated to account for one-third of all electricity generated in the world.

Water development can also be made to aid tourism and recreation in several ways. Improving the quality and availability of water for public use can turn a deserted area into an attractive resort. Stabilizing stream flows and the construction of attractive ponds and reservoirs also can create new business through tourism.

Finally, the wildlife of the nation needs and deserves water for life and sanctuary.

Therefore, your theme "Water for Everybody" is most timely. I was pleased to receive "Water for Everybody, The Direct Concern of the Louisiana Association of Soil and Water Conservation District Supervisors--1968" from President George R. Bagley in League City, Texas a few weeks ago.

This booklet tells me that I have little need to remind you in this great State that water has become one of our major national concerns.

Too many have experienced some problems caused by too much water when we do not want it or too little water when we do want it.

Farmers and ranchers have long known, only too well, the difficulties that attend getting enough water for livestock and crops; the need for supplemental irrigation or drainage, the hazards of pollution, and the deficiencies of good water for house and garden. You have known the worries of dry wells, failing springs, and erratic surface supplies. You have suffered the fury of floods and the worries of erosion. Losses in life, security, productivity, and money have been great.

We have also jointly long recognized that floods, water shortages and erosion do not stop at property lines or even at city limits.

Emerging now is a special challenge to fit the activities and needs of man--rural and urban--harmoniously into his total environment. A new concept of "creative" or "full use" conservation says simply that as populations grow and as people live in greater concentrations, we must consider the total environment.

Clean water, stable soils, pure air, productive grasslands and forests, abundant wildlife, natural beauty; and the opportunity for man to live in harmony with his natural environment are essential.

Therefore, Conservation must more and more encompass the full sweep of interrelated and mutually supporting natural resource objectives. Preservation, restoration, development, conservation and use are compatible aims. And man is but one element of the ecological whole.

Conservation must become everyone's responsibility, if the species man is to survive. But people cannot properly accept a responsibility if they are ignorant of what it is--or how they can help. I've found, too, that people don't always know what they want--until they understand what the alternatives are, and what they can get!

Together we have learned we can do those things in creative conservation that have been born of local initiative and cooperation, and advanced by the dedication and wise efforts of prudent government at all levels.

Upon this base is built a policy of cooperation between the U. S. Department of Agriculture and the owners and operators of three-fourths of the American land--a policy that recognizes the legitimate ends of resource use for the benefit both of the individual and of the larger society.

Your booklet states your objective well:

> "We must consider where we stand in conserving our rich water heritage. We must note a growing population, our demands and needs for the future, and of the more arid states who may wish to draw on our supply. We must safeguard our pipeline of plenty."

The habits of men and the forms of their social organizations have been influenced more by their close association with water than with the land by which they earned their bread. This association is reflected even in the Psalms of the Old Testament and in the laws, regulations, and beliefs among early civilizations; i.e., Deuteronomy 8:7 - a good land, a land of brooks of water, of fountains and depths that spring out of valleys and hills.

Property in water antedated property in land in the arid nations of antiquity. Mohammed saw water as an object of religious charity. He declared that free access to water was the right of every Moslem community and that no Moslem should want for it. All persons who shared rights to a watercourse were held responsible for its maintenance and cleaning.

The origin of all life on our planet is believed to be the sea, and today, after millions of years of evolution, modern man's tissues are still bathed in a saline solution closely akin to that of the sea when the earlier forms of life first left it to dwell on the land.

Every organic process can occur only in the watery medium. The embryo floats in a liquid from conception to birth. Breathing, digestion, glandular activities, heat dissipation, and secretion can be performed only in the presence of watery solutions. Water acts as a lubricant, helps protect certain tissues from external injury, and gives flexibility to the muscles, tendons, cartilage, and bones.

The role of water in metabolism, in regulating body temperature, and in nourishing the tissues, explains why we could not long survive without adequate amounts of water.

Yet, our direct bodily needs for water are relatively small in terms of our total body weight (itself more than 71 percent water) and infinitesimal in relation to the total demands upon water by human societies, even among primitive cultures.

People everywhere want the blessings and benefits that water brings, but do not want to pay an inconveniently high price. By an "inconveniently high price," we mean any price that we can notice; water, after all, is a "low-priced" commodity, and we think it ought to be as free as air. But even air, clean air, is not free any more! These formerly free commodities have entered the marketplace. They have price tags, and decisions on what we will buy in this marketplace must involve consideration of the prices marked on these tags.

When water enters the marketplace, some of our oldest, best worn concepts begin to lose their meaning. We know that our water supply is relatively fixed--an average of some 4,500 billion gallons a day of precipitation and 1,200 billion gallons a day of runoff in the conterminous United States. We are now withdrawing something over 300 billion gallons a day, or about a fourth of our supply. So we have three-fourths left--except that occasionally, twice in the last few decades, for example, drought has reduced runoff from 1,200 to 600 billion gallons a day. Nevertheless, we seem to think that if we are using only a fourth to a half of our supply we are not in trouble--yet. We know that trouble will come, because we have begun to hear figures of 559 bgd being used by 1980 and 888 bgd by the year 2000, but that's a long time yet.

Too, we know that we are not really using 300 of our 1,200 bgd supply. Some of the 300 bgd is the same water counted more than once, just as we have to count twice or more often when we add up figures for hydropower use that total more than 2,000 bgd out of our "total" supply of 1,200. This eases off our thoughts of crises even a little more, so we relax.

But as the cost of water goes up from a cent or two per thousand gallons to tens of cents and even a dollar or two per thousand, we suddenly realize that our water supply depends as much on us as it does on nature. Though we in the United States can say that we are abundantly endowed with water by nature, our average rate of runoff is not greatly different from that of other major land areas of the earth. What makes us different from the average water-poor country, then, is not our water supply so much as our economy. We have built an enormous and productive economy that has taken water costs in stride and kept them down to a negligible fraction of our total expenditures, so far.

However, we have been learning the hard way in recent years that our environment is a complex system in which actions that themselves are entirely worthwhile and beneficial may have unwanted and deleterious side effects. The most common such effect is pollution of some sort, and the Nation is now planning the expenditure of billions of dollars to bring under control the pollution of our water, air, and countryside.

Solutions to water problems begin on the land. Water falls first on the land--on fields, farms, and forests that make up the watershed. The management of water resources is inextricably interrelated with land management. It is calculated that only 30 percent of the precipitation that falls in the United States runs off into rivers and reservoirs.

If a program for water resource development begins only after the water runs off the land into the rivers, much of the opportunity to make productive use of it has already been lost and much of the opportunity to apply necessary controls has been bypassed.

Therefore, in planning for agricultural water management it must be understood that effective water control starts on the land. Modern technology stresses the importance of well planned soil conservation measures to make efficient use of the water supply and to protect that supply against siltation and other pollution from unprotected lands.

Since proper water management begins with proper land management, the U. S. Department of Agriculture assists land holders in developing practical conservation plans for entire farms and ranches. Such plans again require a combination of skills and modern conservation techniques applicable to particular types of soil, shape of the land, and other characteristics of the acreage being considered.

Fifty-one thousand cooperators and 40,000 basic plans in Louisiana prove this point. This Federal involvement recognizes the essential responsibility of national government, representing all the people, to help assure that wise and proper use is made of the water required by the Nation, of which the agricultural community is a part.

The benefits of the Department's work extend beyond agriculture, of course, because the water supply cannot be so isolated in flow and purpose from its source to its final destination.

Erosion control, pollution abatement, flood prevention dams and reservoirs, and water management and protective conservation practices in forest and field--all in the right combination--contribute to the general public welfare--to a more secure and rewarding way of life for the people in urban areas as well as for the people living in rural areas.

The modern concept of water management takes into account the complex inter-relationship of water, soil, plants, and man, in terms of a supply that we expect will be used over and over again as it serves an immediate purpose and moves on to another use at another place.

Man's freedoms have always been closely related to abundance of natural resources. When resources are limited, freedoms become limited. This is a basic reason why conservation of natural resources stands high on the list of approved public programs in the United States. A basic objective of the Nation's programs for water resource development is to keep water shortages from limiting freedoms.

We must always be careful, not to become so involved in the technologies of water management as to obscure its basic purpose; to serve the water needs of the people in a particular region or State.

Therefore, we go beyond technology--as we must--to the advancement of sound public understanding of the need to conserve, develop and utilize the water supply; to assure that local people are basically responsible for water management, and to build local support for those measures of water conservation, development, and utilization that must be instituted and administered by government on behalf of all the people.

We have found this cooperative approach vital in meeting this Nation's water and land management problems.

Through local organization it has been possible to plan and develop water management programs on a broad basis, involving many land holders, and including many alternative uses for the available water supply.

Modern technology has made this possible, it is true.

But it took more than scientific principles translated into action programs.

It took people like you who understood the importance of sound water management--and sound land management--and who were willing to cooperate with their government and their fellow citizens to bring about the needed improvements.

We know by experience that the strongest, most durable, and most productive institutions are those firmly associated with local needs and interests. Federal policy governing assistance to the agricultural sector in the United States is based on the principle of local initiative, local planning, and local action to accomplish particular goals.

Water management for agriculture cannot be planned and developed apart from other agricultural problems and potentials, any more than agricultural development as a whole can be isolated from the overall economic and social growth of a country.

If we are going to try to supply sufficient usable water at the right place at the right time for a prosperous agriculture, we need to consider what else must be put into the agricultural program and what means are available to assure that this can be done.

It is necessary to:

--Understand what the soil can do and what the people can--and are willing to do;

--Choose the right kind of crops and the right cropping methods;

--Accommodate public works planning and coordination to intensive agricultural production;

--Look to developments in education, transportation, and other economic and social foundations of modern society,

--Be able to draw upon research, advisory services, and technical assistance as well as financial help, and to

--Fix responsibility for efficient administration.

Jointly, we have found that planning water management on a small watershed basis permits optimum water use within natural boundaries. The 37 authorized for planning and 20 approved for operations in Louisiana exemplify this. On a larger scale, we have undertaken river basin studies containing many small watersheds, but always with the understanding that we are dealing with interrelated factors and interdependent areas.

A balanced system of large, intermediate and small dams is an important element in most river basin developments.

Watershed protection and flood prevention projects, sponsored and developed by local people with State & Federal assistance, include dams and reservoirs, diversions and desilting basins. They also include terracing, and other water control measures such as soil retardation and infiltration measures planned to make the most beneficial use of the water supply.

Since water management must begin with soil management, proper land treatment is basic in every watershed project. By Federal law at least one-half of the land above floodwater retarding dams and retention reservoirs must be under basic land conservation plans before Federal assistance is provided for reservoir construction. In practice, we seek an even higher degree of soil management and protection.

The best agricultural land is usually not the principal source of sediment. It is the submarginal cropland and depleted range, the cutover and burned over forest, the lands already gullied, the semiarid sections and a few areas of geologic erosion.

Greater attention has been given to date to erosion control and sediment control in farmland areas than in areas of urban construction involving scalping large areas, heavy cuts, and earth fills. New emphasis and new techniques are now needed.

Nationwide soil conservation programs have made significant contributions to usable water supplies and to reduction of pollution from sediment. This does not mean that the problem of sediment as a pollutant of water supplies has been solved. Indeed, it is still a major problem. In terms of solid pollutants, sediment from erosion exceeds all other sources of pollution. In many rivers the most serious pollution problem is siltation. By anyone's definition muddy water is not clean water.

I understand the use of underground irrigation pipelines is spreading fast in the rice section in southwest Louisiana. Above ground earthen delivery canals are being replaced by the underground pipelines. The Soil Conservation Service has assisted in the design and installation of several systems in the last year. A number of requests for assistance are now on hand.

Less water is required with underground pipelines due mainly to the elimination of seepage and evaporation losses that vary widely in the open canals. The conservation of water is very important due to increasing demands from all users. The smaller water requirement helps lessen the problem of salt water intrusion that is a problem in parts of the rice area to both surface and subsurface water supplies.

There is no land lost to production with the underground pipeline. A considerable amount of land is devoted to canals at times, especially where low areas must be crossed. With the high cost of land, it is very important to use each acre to its maximum.

Labor costs are reduced with the pipeline. Canal maintenance is eliminated. Labor in connection with delivery of water to the individual areas is reduced with the positive control of the outlets.

The use of the underground irrigation pipeline in water leveled fields will greatly increase the efficiency of the rice operation.

There is a great potential for use of the underground irrigation pipeline in other areas of Louisiana besides the rice section. Modern agriculture also requires well-drained fields. Of about 457 million acres of cropland in the United States, one-third--or approximately 150 million acres--is drained of water excess to crop needs to improve its productivity. Use of reliable soil information is very important in these drainage projects.

In many regions, the failure to consider needed drainage when planning or operating irrigation systems has been very costly. The failure has resulted in the loss to crop use of millions of acres because of water-logging and salinity.

Farmers generally regard water that drains from irrigated fields as having little or no value for additional irrigation because of its increased salt content. But, our USDA Agricultural Research Service scientists have shown that frequently drainage water from irrigation can be conserved and reused on crops that are more salt tolerant, such as cotton. Soil in which the second crop is grown must of course drain well so salts will not accumulate as a result of waterlogging and excessive evaporation.

Another example Louisiana has 1,383 acres of water that are producing catfish on 110 farms. These ponds range in size from less than an acre to one covering more than over 400 acres. The majority of this water is devoted to the production of food fish from 3/4 to 1½ lbs. in size. The remainder is devoted to fingerling production for stocking of production ponds and farm ponds. While fingerling production is a more difficult enterprise, it is financially more rewarding. I have heard.

The demand for information on catfish production by the public has been very great and SCS work unit conservationists have requested training on this subject. Recently, a one-day school for work unit conservationists was held over the State in four areas. This school was given by personnel of the Louisiana Wildlife and Fisheries Commission, the Stuttgart Fish Farming Experiment Station, LSU Fisheries Cooperative Research Unit and SCS Engineers and Biologists. All phases of catfish farming management were discussed at this session. It is felt that fish farming will continue to grow and be a major activity in the SCS planning with soil and water conservation district cooperators in the next five or six years.

Finally, you are to be commended that from a public interest standpoint, the Small Watershed Program continues to dominate the conservation activities in Louisiana. Some 62 local communities, evenly distributed over the State, have requested assistance under the Small Watershed Act.

Recognizing the impact of this program, your State Legislature appropriated 2 million dollars for planning and construction assistance. This money is used to augment the work plan party, operated by the Service, and to help local communities meet their share of the construction costs in approved projects. In addition to the State money it is conservatively estimated that $800,000 of local funds will be used for this purpose in this fiscal year.

During 1967 the people in the Cypress-Black Bayou Watershed Project voted a 2½ million dollar tax by a margin of four to one to finance their project. Rapides Parish had already voted a 2½ million dollar tax to finance two projects in the parish. Ten parishes in the State are almost completely covered by P. L. 566 watershed applications. Approaching the watershed problems on a watershed and parish basis is becoming the accepted practice in Louisiana.

A sterling example is the Bayou Rapides Watershed Project completed under the sponsorship of the Lower West Red River Soil and Water Conservation District and the Rapides Parish Police Jury. It stimulated great interest in water management and watershed development. This project has attracted regional and national attention and has focused the attention to a great many other people of the opportunities under Public Law 566.

This was the first project of this kind in the country. Under this project, Louisiana gained its first well planned and well developed recreational facility. This facility has been used by 121,500 people during the current season (1967). On one day, July 4, 1967, 4,000 people used the facility. Business people throughout the area testify to the fact that this watershed project has stimulated the overall economy in their businesses.

I could, after looking at your work, cite many other favorable examples of progress--in all aspects of soil and water conservation. We are pleased with your progress on the Resource Conservation and Development project in Bossier and Webster Parishes. We are impressed by recent legislation to strengthen districts.

Elsewhere on this excellent program you will hear what conservation district leaders at all levels are doing about their future role in conservation and resource development. Others tell their story of progress from their own particular point of view. Mine has been the unique one of counseling with the NACD District Outlook Committee while carrying forward the day by day duties of an Administrator's Deputy dealing with widespread Service activities intimately connected with District work.

Our Service agrees with the District Outlook report that a great and exciting future lies ahead for the District movement if only we are collectively equal to it. Our impression is that local leaders are assessing the future role of conservation districts with realism.

In performing old jobs in conservation and in expanding District programs to meet new needs and in getting additional help on a broad array of new problems they are again showing that they are a major force for action.

We have demonstrated for a third of a century that we can meet change with realism and vision. We have kept abreast of new methods--alert to new ways of doing old jobs. Fundamentals that determine success or failure of soil and water conservation have not been neglected in the world of change.

Today Conservation means many different things to many different people! Conservation is many different things to many different people!

Conservation has become increasingly competitive. . .

. . .as to meaning

. . .as to function

. . .within government

. . .outside government.

It is a complex matter. It has great diversity. It is little understood in its broad totality because "conservation" now has so many adherents who see it from so many different viewpoints--who view it in many different lights.

A fact Most basic resources are in the ownership and under the care of private citizens. About three-fourths of the area of our 48 mainland States is privately owned.

The conservation practiced on these lands makes it possible for all citizens to ultimately enjoy their own particular form of conservation.

Far too few realize that the principal guardian of our heritage of forests, soil, water, trees, grass, and wildlife is not the Federal Government, nor the State conservation departments, but the millions of individual landowners throughout the Nation.

The Federal and State conservation agencies can counsel and assist the private owners, but the responsibility and the initiative are theirs. Their collective response is the reality of conservation.

Conservation also has a common denominator. Underlying conservation in all its varieties and forms--and upon which all kinds of conservation depend completely--is the land itself and its soil and its water and its plants.

From these basics spring all forms of conservation. Without them conservation by any definition has no form or substance. Without them conservation is only a meaningless word.

Conservation begins with soil, water, and plants. They are the base.

These basic resources form the common bond joining the varied interests of all resource users, whatever may be their specialized definition of what conservation means.

As a Nation, we have developed our resource conservation policies on the firm basis of essential involvement at the local level, for we are a people wedded to the concept of individual initiative and grass-roots participation in the public affairs that concern us.

But we must understand, too, that our State and Federal governments also represent the interests of the individual and the local community. And we have wisely and properly drawn upon State and Federal resources to support the local effort. We have done this in the national interest because the summation of local interest is national interest. That is how we have advanced for more than a quarter of a century in the conservation and development of the Nation's lands and waters.

Our collective goal should continue to be that the Nation's future lies in rural America. The vast countryside can offer relief from the teeming cities and their congested suburbs, can provide ample land and water to serve agriculture and the expanding needs of commerce and industry, and finally the broad acres on which to build garden communities for tomorrow's generations.

New Conservation and Community Charters for USDA

Two important conservation and community documents of our times are now available. Resources in Action and Communities of Tomorrow are the product of Department-wide studies under the direct leadership of Secretary of Agriculture Orville L. Freeman. They redefine the resource conservation and community missions of USDA in light of needs today and for the rest of the century. They outline timely new policies and goals. They point to ways these policies and goals will be implemented.

The publications have threefold significance:

1. Spelling out the nature and dimension of action urgently required to meet the resource and community needs of American people between now and the year 2000.

2. Demonstrating that, by the very location and character of these problems, USDA has major responsibility for leadership, and

3. Finally, charting for USDA the essential steps we must take in our cooperative efforts with other agencies and units of government, and with citizen groups, to achieve the goals.

The unmatched performance of the successful commercial farm, ranch, and forest enterprises in this country is eloquent testimony to the outstanding job you have done--and continue to do.

But there are other problems afflicting the country now--other challenges, other needs, new priorities.

We, too, know that success and fame are fleeting. What would have been sufficient for yesterday is apt to be too little and too late for tomorrow.

The challenge of creating a quality of civilization that fully reflects man's aspirations suggests we seek Divine guidance from he, who in a world of change has placed eternity in our hearts and has given us power to discern good from evil: Grant us sincerity that we may persistently seek the things that endure, refusing those which perish, and that, amid things vanishing and deceptive, we may see the truth steadily, follow the light faithfully, and grow ever richer in understanding which is the life of men.