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**A STUDY OF ALTERNATIVE METHODS TO MODERNIZE
WATER INSTITUTIONS AND ELIMINATE PROBLEMS
OF MULTIPLE JURISDICTION AND CONFLICTING
OBJECTIVES**

by

Frank W. Haws

**The work reported by this project completion report was
supported in part with funds provided by the
Department of the Interior
Office of Water Research and Technology under PL 88-379
Project Number B-082-Utah
Agreement Number 14-31-0001-3943**

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September 1975

PRWG122-1

PREFACE

There is a legend told about a dog which started to cross a bridge with a small bone in its mouth. About midway across, it stopped to view the water flowing in the stream below. Thinking the reflection in the water was in reality another dog with a larger bone, and thinking to better itself, it immediately plunged into the water, aiming directly for the bone. We who stand on the bank viewing this drama know the dog was foolish, that he lost the bone he had and risked the danger of ending up in deep water with little chance of climbing the steep banks which lead to safe ground.

In this study I am only an observer. From my point of view I see the American free enterprise system threatened by “foolish” plunges into socialism, during which our precious freedoms and heritage are lost, and then immersing ourselves in bureaucratic waters from which we must escape or perish. Many are not yet convinced that we are in danger or that this danger exists in the water industry. I’m not sure the words I have used in this report will warn or convince, but this has been my sole purpose in writing.

I am not a rescuer—only an observer. I take full responsibility for statements made. My only hope is that, as Americans, we will take a little more basic look at our government oriented water institutions and attempt a rescue before we leap further into total darkness.

Frank W. Haws

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PART I

PURPOSE OF STUDY

This study has been concerned with the human organizations that have been devised to manage water resources. Because the effort was to suggest some alternative methods to solve the problems of institutional restraints to effective water use, certain horizons have been viewed which extend beyond the limits of the ordinary water domain. Some of the concepts which will be discussed here pertain to the world and apply equally to all human activities, not exclusively to water. The purpose in doing this is to give more realistic meaning to the alternatives suggested and to hopefully define the real purposes and objectives of water related organizations.

Emphasis is placed on the word "organization," because it is felt that the way in which groups band together; the structure, regulations, and motivation built into the organization, determines whether the group will effectively meet its goals, how efficiently it will operate, and whether it is a valuable social organ.

The proliferation of water resources organizations that exist within a given area is a restraint to effective utilization of water resources and a hinderance to desirable overall basin planning and management. The awareness of this problem was made known in a previous study (Haws, 1973). To organize is a necessity, but organizations have as much difficulty communicating with each other as individuals have, and hence many organizations competing for the same resource often bump heads and in the aggregate become ineffective social tools.

Since water in manageable form does not occur uniformly over the earth, it follows that there will exist places with an oversupply to meet the needs of the local users and places with an undersupply. When such a condition exists naturally, and the area of abundance is spaced far from the area of scarcity, it may be too costly for man to attempt to reorder the natural water equilibrium. However, there are many places even within the generally less abundant areas where allocation by man could improve upon nature if it were not for barriers placed in the way by social or legal institutions. Often the allocation is not between spatially separated areas but between types of uses. Reallocation, or transfers from areas of abundance to

areas of scarcity, or from one use to a more profitable use, is prevented by some type of barrier or boundary such as a property line, a water right, an administrative decision, a legal entanglement, a municipal or district limit, or a government policy. Cost in such reallocations is not usually a restraint, but the alternatives to crossing the barrier or boundary are costly and often lead to over-investment in diverting works, transmission systems, and management organizations.

All of the barriers mentioned have one thing in common. They stem from some type of institution or organization. The solution then to a better utilization of water resources, of extending supplies to the limit, and of the proper timing of importation and other "new water" investments is in the organization. Physical schemes are meaningless until the proper organization is invented, and with the right organization the physical schemes will follow like a sucking calf—not in obedience to law or dictum but voluntarily to fulfill a need.

This study is, therefore, a study of institutions—or more precisely, organizations. The intent at the beginning was to suggest ways of "modernizing" the existing organizations so that more effective use of the water resource could be implemented. Such a task now seems quite formidable. In the first place, if modernization implies an acceptance of the more recent trends toward big and powerful government agencies, then such a suggestion would not improve upon the present system. Big government is neither efficient nor effective. In the second place, many of the existing organizations do not have the internal capacity to effect change or to innovate, and at the same time many of these same organizations have been endowed with eternal life and seem destined to "live forever in their sins." Some organizations live on long after they have ceased to be effective social organs. Finally, the multitude of organizations which compete but which do not communicate or cooperate would not respond to an external suggestion to "get with it." Responsibility goes with authority and at that point in space or time where an organization's authority ends, so also does responsibility. To expect the multitude of organizations to accept responsibility for total resource development in an effective way is pure folly.

Despite the formidable task of suggesting changes that might be made to improve the organizational structure of the water industry, some suggestions will be made; but the hoped for impact of this study will not be on the mechanics of how to organize, but rather on the principles and criteria which should be observed when creating new organizations. All too often new organizations are formed with no forethought as to the real purpose of the organization and with little or no regard for the fact that human nature plays a vital role in every organization or the fact that society is dynamic and continually changing. Much of this stems from the fact that no believable theory of organization has yet been stated and also from the fact that

pressure, urgency and excitement yield to unwise decisions and the birth of organizations. This is particularly true in the water industry where governmental organizations have been the most widely accepted solution, and where fear has been the prime motive.

PHYSICAL VS. SOCIAL

Efficient and effective use of the natural water resource of an area is dependent upon the proper use of knowledge acquired in two important areas. The first area includes the understanding of the physical system and the laws of nature which control the occurrence, distribution, and disposition of water as it moves through the hydrologic cycle. Contributions to this knowledge area have come from many disciplines including meteorology and atmospheric science, physics, chemistry, hydrology, hydraulics, geology, plant science, soil science, statistics and probability, and other disciplines which attempt to explain phenomenon involving water. Progress has been made over the years and the misunderstandings which mystified earlier ages have been largely dispelled. In addition to the general concepts of the unity and continuity of the hydrologic cycle, knowledge specific to given watersheds and river systems has become available or can be made available in order to test the feasibility of alterations imposed by man. With present knowledge available, engineers can design alterations to the physical system which can efficiently regulate and redistribute the water resource to meet the quantity, quality, and timing requirements for given purposes. Whether the alterations are effective in meeting societies needs is determined by how effectively knowledge in the second area is used. This area includes the understanding of human nature and the institutions and organizations made by man to construct and operate facilities to manage the water resource so that it can satisfy specified needs with respect to amounts, timing, and quality. Contributions to this area of knowledge have been less exact, less scientific, and less coherent than contributions to the physical state. In fact, it is doubtful if any deliberate attempt has been made, or can be made, to unify the thoughts of philosophers, religionists, socialists, psychologists, economists, lawyers, and politicians into a theory of organizations or to perfect a system whereby organizations and institutions could be designed to insure performance and effectiveness. The work of physical scientists working independently and without direct communicative intercourse and without agency direction, control, or correlation always tends toward a common understanding of physical truth. This is as it should be if each discovers a part of the truth. One would also expect the work of the social scientist to converge to a common understanding if the "scientists" in this knowledge area were also discovering truth. This may be happening in some areas of social need but has not yet taken place in the area of organizational theory. Organizations are just allowed to happen without sound direction or advice. In the water industry, local initiative, which has had the freedom to create organizations, has done so in a haphazard fashion, choosing those types of organizations which have been difficult to change and which, with the passing

of time have had an adverse effect on development and allocation. Bain et al. (1966), in a study of California's water organizations, has observed that,

Local initiative . . . can lead to the development of a haphazard or capricious pattern of local agencies supplying irrigation water—a pattern with probable adverse effects both on the allocation of water among lands, uses, and users, and on the efficiency of the exploitation of water resources.

. . . an unplanned historical process has resulted in the allocation of rights to the use of economically scarce water among users, uses, and sites in a haphazard fashion which could only by unlikely coincidence approximate an economically efficient allocation.

One of the major purposes of the research conducted under this project was to suggest some alternatives to the existing institutional patterns as they relate to the inefficient use of water within the State of Utah. The writer soon discovered that no alternative would have meaning unless it could be predetermined that the suggested changes would actually respond in the desired manner. This led to a search for a theory of organizations which would explain why organizations perform or not perform and define some of the principles which must be observed if effective social organs are to be created. That this information is not readily available is evidenced by the fact that the haphazard method of forming organizations continues and that no debate, particularly by public officials, is ever directed toward proving the effectiveness of one form of organization over another or to post the warnings necessary to avoid organizational mistakes. Occasionally some citizen generated debate may take place over optional forms of local government, but since the great American love affair with big government began in the 1930's legislators seldom if ever debate the merits of governmental organization versus non-governmental organization as a better means of accomplishing a social need. The debate is always over what kind of governmental organization will be created. This is like two painters discussing what color to paint the room, when if they stepped outside, they would discover they were in the wrong house. Legislators today seem to never step outside to gain the greater perspective.

Solving this organizational problem is not easy, because, unlike the physical environment, it is not a case of man studying physical phenomena, but of man studying himself and being hampered by a non-objective viewpoint. The theories which attempt to explain the physical world are widely accepted and are sufficiently close to the truth as to be workable. Space travel, computers, television, and the other marvels of electronics are evidence that man is beginning to explain the physical world. There is no similar unity of theory which attempts to explain man's social world. The "scientific" disciplines which study man's social, political, and economic activities have not yet agreed upon unified workable theories. Social, political, and economic evaluations are still made on the basis of comparison and educated "opinion"—tempered in some cases by sophisticated analysis.

Continued poverty, crime, social unrest, dissension, recession, and inflation all attest to the failure of these "sciences" to solve the problems of social and economic well being. Part of the problem which somehow has evaded critical analysis must be attributed to the organizational "systems" which have developed over the years. These systems have "set" the thinking of large masses of people, overriding personal ideologies and individual wills and forcing unwise social decisions. It is the purpose of this report to discuss these problems in the light of what the writer believes are fundamental principles, and then to specifically relate this to water organizations in the State of Utah.

OPEN OR CLOSED SOCIETY

There are essentially two opposing social philosophies each of which has real social benefits. The first, or open society, is highly individualistic and places great importance on personal freedom. Each individual is free to make his own decisions, to move freely within the system, and to compete in a free market for goods and services. This personal autonomy releases human initiative and creativity and gives the individual a sense of personal dignity, but the society thus created is lacking in union among its members and therefore has the inability to give vigorous leadership and intelligent direction to the cause of social and economic well being. Union can only be obtained through voluntary covenants or contracts, otherwise the principle of freedom is restricted or destroyed.

The second or closed society is socialistic or paternalistic, having as its primary role the regulation and direction of the lives of its members, supposedly in their interest and for their good. The members are regulated, disciplined, and regimented to the society's causes or goals. Action within the system is controlled by rules and procedures which are backed by the force of law and the police power of the state. The benefits of the closed society are unity, a feeling of common goals, and a sense of belonging and security. These benefits, however, are achieved by suppressing personal freedom which in turn curtails initiative and destroys human dignity. Because of this, the system is generally inefficient, costly, and unproductive.

Perhaps the most serious and intense debate over the merits of the two philosophies occurred at the time of the forming of the United States Constitution. A choice had to be made, because there was no apparent way that the benefits of each could be attained. Freedom spawns many ideas and opinions, therefore little union of thought and purpose. Forced or organized union means suppression of freedom. Wisely the framers of the Constitution chose the open or free society and devised an ingenious system of government, based upon what they termed "self evident truths," to preserve and perpetuate it. The unity necessary to bind the people to one government is secured by covenant. Officials taking office are required to give their oath, a free choice, that they will uphold and defend the Constitution, and the

citizens in turn freely pledge allegiance and support to the same. Realizing that human beings are not always honest or moral and are subject to selfish motives, particularly when endowed with power, a system of checks and balances was designed into the system to hopefully prevent the unwise use of authority.

During the first half of the nineteenth century society in the United States was, excluding slavery, essentially free and open. One of the freedoms available was the right to organize, or to form into groups so that the combined effort of many could be channeled into given purposes. Union for the purpose of achieving social needs was thus possible through the use of voluntary associations. The role of the government was limited to one of preserving peace and administering justice.

UNION THROUGH ORGANIZATION

The first attempts at organization during this period were generally experiments in social brotherhood such as “cooperatives” and “societies.” Many failed because the basic ideology or “truth” upon which the organization rested was not sufficiently vital to keep members excited. In an otherwise free society, the only recourse an organization has when members fail to comply with organizational standards is expulsion from the society. When forceful means are resorted to, the society ceases to be free.

The potential that organization had for accomplishing desired purposes began to be recognized during this early period, but the multiplication of enduring organizations didn't get its big push until after the Civil War. The early beginnings, however, were described enthusiastically by a Boston cleric, William Ellery Channing. In 1829 he wrote,

In truth one of the most remarkable circumstances or features of our age is the energy with which the principle of combination, or of action by joint forces, by associated numbers, is manifesting itself. It may be said, without much exaggeration, that everything is done now by societies. Men have learned what wonders can be accomplished in certain causes by union, and seem to think that union is competent to everything. You can scarcely name an object for which some institution has not been formed. (Channing, 1829, p. 105-106)

Many of the social experiments begun during that period failed. The differences that separated complete freedom and complete union could not be reconciled. But the benefits and powers associated with organized groups were manifest and the use of organizations in many different areas multiplied until today, nearing the third quarter of the 20th century, literally thousands of organizations exist. Organizations are so common and numerous today that perhaps the effects they have upon society are often overlooked. Whether an organization is a threat to individual freedom and open society or whether it contributes to social well being and the preservation of liberty depends upon the type of organization.

ORGANIZATION CREATES POWER

Associations of living things exist because of some kind of power relationship. An organization, when well structured, creates power. The more perfect the organization, the greater the power. This potential power is the reason why people associate together—to accomplish through the unity of many what one could not do alone. But, the purpose of an organization is not to create power, but to use power.

Organizations cannot exist without people. Therefore the real subject which needs study is people—human beings—not as groups but as individuals. It is not the group that senses light and darkness, or experiences sickness and health, or feels pleasure and pain. It is not the organization that laughs and cries. It is the individual. It is also the individual that achieves and fails, works and rests, lives and dies. It is the individual and not the organization that houses that elusive thing called life. To preserve it and enhance it, man hopefully creates institutions, or organizations. An organization is therefore only a means to an end. An organization uses the power it creates to accomplish a predetermined purpose. Organizations are not or should not be ends in themselves.

Philosophies differ, but the writer supports the view that the purpose of life is not merely to survive but to gain happiness, and happiness in contrast to misery can only be measured by the internal feelings of the individual not by the outward expressions of a group. There may be expressed signs of happiness that others may observe, there may be principles or laws of happiness which man can discover and codify; but the only one who can measure and control happiness by exercising choice, is the individual.

The basic needs of life are food, clothing, and shelter, but the individual needs more than physical comfort. He needs association and acceptance with other people, an inner sense of belonging, a sense of his own importance and of his ability to produce. He needs productive work and he needs to achieve. He needs to learn through experience to choose those things which contribute to his happiness and to reject those things which make him sad.

Each individual also needs to be reassured that the self-evident truths proclaimed in the Declaration of Independence are still valid and still self-evident. Every individual should expect the government to protect his life and his person from the ravages of war or invasion and from the criminal acts of his neighbors. He should expect to be granted the full use of his faculties—his arms and legs and voice to move about, work, and express himself and not to be restrained or imprisoned unjustly, and he should expect to be able to own and to hold the property, real or otherwise, he needs in pursuit of his happiness. Because life is dynamic, each individual is continually changing, continually becoming the type of person he chooses to be and overcoming the person he deems to be undesirable—but always by his

own choice. Not always does he make the right choice and so he seeks help. Organizations like the family, church, school, or club can assist the individual to learn, understand, and to experience, so that he makes better choices; but no person, organization, or government can give, grant, bequeath, or force happiness upon individuals. Happiness, the purpose of human life, can only be acquired through the proper and wise use of individual choice. The key word is choice—with freedom to choose for one's self. Organizations must, therefore, be formed with due regard for the effect the organization has upon freedom of the individual.

Organizations, then, are merely tools designed to make it easier to accomplish an otherwise difficult task. If the task has been completed the tool is no longer needed and should be discarded. If the tool is not effective in accomplishing the task, it should be modified or exchanged for a better one. If the task has no social benefit, no tool should be designed, and no effort should be expended to perpetuate a tool which has no task to perform. The above statements are obvious, but when we consider that the tool we speak of is a collection of people, managed by people; and bound together by dynamic economic or social pressures, we begin to realize that, as a tool, organizations are complex and can be problems.

POWER CAN BE MISUSED

It has been previously stated that when people associate together for a given purpose that power is created. Not only is it created, but because an organization has leadership, power is concentrated. In fact, concentration on a specific task or purpose emerges as the key to the strength, performance, and legitimacy of organizations. But concentration of power in one individual or a small group of individuals, should be viewed very cautiously and perhaps even feared. The history of mankind is replete with examples of misuse of power. In fact it can be stated as a true principle that most men when given power and authority, tend to misuse that authority for selfish or unsocial purposes. The men associated with the U.S. Constitution were keenly aware of this and thus tried to implement checks and balances into the new government. James Madison shows his understanding of this principle when he said, "All power in human hands is likely to be abused." Lord Acton was even more convinced when he said that "*all* power corrupts," and "absolute power corrupts absolutely." Nothing has happened since these words were first written to make them less true today. Therefore, one problem all organizations face is how to cope with power and the potential misdirection it induces.

The tendency to misuse the power associated with position is a fact of life that must be recognized as an important element in all organizations. If leaders become affected by the power of the position they hold, and elect to direct the organization into paths unsuited to social good, the members of the

organization need to have some kind of recourse. In a business organization this has taken the form of counter pressures directed by organizations of workers or unions. The resultant power struggle has caused laws to be enacted and the police power of the state to intervene. The attendant loss of freedom and the use of compulsory direction has lessened the effectiveness of the business organization. In government this recourse is either built into the political system through free elections, or comes through external means such as revolution and rebellion.

There is another selfish nature in man which must also be accounted for. This is the reaction man takes toward money. The accumulation of wealth beyond the ordinary needs of the individual or organization can tempt the man or the organization to purchase special privileges or favors, to influence legislation, to sway judicial opinion, or to subjugate the rights of others. This weakness in human nature gives rise to such ominous expressions as, "every man has his price," and "anything in this world can be purchased for money." The corporate business enterprise probably best solves this problem by distributing surpluses to many small ownerships and by being accountable to a free market system for survival. It is not without abuse, however. Organizations like labor unions concentrate large sums of money into a few hands whose accountability in terms of effective production is nebulous and perhaps unmeasurable. This has attracted a criminal element into their leadership and serious abuse of power. Government agencies are not exempt from this problem either, where it manifests itself in a cancerous system of dishonesty among modestly paid employees who have power to grant favors, contracts, licenses, etc.

Another problem inherent in organizations is related to the effect the organization has upon its own members. Whenever an individual becomes a part of an organization he necessarily gives up some of his own individual freedom. If the organization controls the individual's economic means it also has power to control the individual. One of the Federalist writers expressed it as, "control over a man's support is control over his will." In a more modern context the same principle was expressed by Rufus Miles of HEW and has since been labeled "Miles Law." He said that, "where you stand depends on where you sit." What this really says is that a man's position on any important issue will be shaped less by his own philosophy than by the goals of the organization he represents or the needs of the office he holds. This control of an organization over a man's will is not a conscious effort on the part of individuals to dominate, but a built in function of the "system." In an ideal situation, the conscience and will of the individual coincides with the goals and purposes of the organization. In other situations, unless the individual has attractive alternatives, he will bend his standards and silence his conscience in order to retain position, prestige, or income. Even though the goals of the organization he serves contributes negatively to society, he yields to these goals. The individual is not to be condemned though for his action.

The fault is in the system. Probably the best example of such system subserviency is found in the bureaucratic service agencies of government where the organization has ceased to be a means to an end and has become an end in itself.

EFFICIENCY AND EFFECTIVENESS

Throughout this report the words efficiency and effectiveness will be used frequently. It is important that the meaning intended be defined.

Efficiency has different meanings in different disciplines but, in general, efficiency is a scaler term which represents the ratio between the input and output energies of a process. Thus, an engine is efficient if the energy output is high with respect to the energy input; an irrigator is efficient if the water consumed by his crops is high with respect to the water applied; and an economy is efficient if the value received is high with respect to the cost. It is obvious that efficiency is a product of management and technology—of using knowledge in such a way that friction, loss and waste are minimized.

Effectiveness on the other hand, is not related to input-output ratios, but to final product. Effectiveness means producing results, but only those results which were planned and visualized at the outset and which have social value or purpose. Thus, a farmer may efficiently use his input resources—water, labor and capital—to produce 50 bushels per acre of a new type of noxious weed seed. He will not be considered effective because the crop he produced has no value either to himself or to society. Effectiveness, like efficiency is a product of management, but in this case, wisdom is needed to set the goals and priorities and determine the purposes. A wise farmer does not intentionally harvest weed seed! Peter Drucker (1974) stated this concept precisely when he defined efficiency as doing things right and effectiveness as doing the right things. The first takes knowledge, the second wisdom. Unfortunately, wisdom is in short supply.

Efficiency, when applied to organizations, is measured in terms of dollars of cost per unit of product. If things are done right the costs of production will be lower than if things are not done right. Efficiency then becomes a problem for managers and a job for accountants. Whether the product has value (effectiveness) must be judged by some other system. Efficiency can be motivated by the pressures of competition, whether it be competition in a free market for goods and services, or whether it be competition with other agencies for a slice of the government budget.

Effectiveness means doing the right things. Therefore the test of what is right cannot come from within the organization. Determining one's own effectiveness is called self-justification and is merely a magnification of one's own reasons for existence or for continuing to do the things one is doing. Survival is not the *end* for which an organization was formed. Effectiveness

therefore, must be determined by some means external to the organization. The judgment should be clear cut and decisive and available to management so that changes can be instituted if necessary. The only real justification for having an organization is to produce results—to accomplish the ends for which it was formed. If it is not producing, it is ineffective and should be made effective by either increasing efficiency or changing programs. A program that cannot be made effective should be abandoned.

Some types of organizations are more effective than others. The effectiveness seems to be coupled strongly to the manner in which the organization is paid. Business, for example is paid for what it produces. It is paid for performance and results. In a free market system the test of effectiveness for business is whether the consumer is willing to buy. If a consumer has a free choice with alternatives to choose from and chooses to buy a certain product—the producer of that product has been effective in making the right thing. His efficiency in producing and his continuance in effectiveness is measured by a simple mechanism called profit and loss. Business represents the best example there is of an organization whose effectiveness is measured externally and in such a manner that management can respond almost immediately to effect changes to maintain effectiveness. A loss is an indicator that something is wrong. Continued loss can soon exhaust the resources of the company and bring an end to the business. A business must do right things or cease to be a business.

PROFIT AND LOSS

A business must also be able to react rapidly to changing conditions. The environment in which a business operates is dynamic and subject to frequent change. New technology, rapidly increasing population, urbanization, and other changes that influence consumer preference, all affect business in a manner that can spell profit or loss depending on how well management responds to change. Fortunately business organizations are designed to manage change. In fact, business, the only type of organization that is paid for performance, is the only organization designed to manage change. It is forced into this position because of the law of opposites. It has two choices: it can exist or not exist—live or die, depending upon whether it makes a profit or a loss. Too often people forget that profit has its opposite—loss, and the probability of a loss is greater than the probability of a profit. The so called “profit motive” is not, therefore, a synonym for greed, but merely the instinct for survival. To live or die is the question. Profit means life for the business, loss means death. Staying alive, when the decision is in the hands of the consumer, demands efficiency and ingenuity on the part of the managers. It means doing things right and it means doing the right things.

The profit-loss system of business organization operating in a free society is the most productive, most efficient, and most democratic system yet devised by man. It produces only those items wanted by the consumer, it exacts a cost only from those who benefit, and it allocates the resources of a nation only to those uses which have social need. And it does all this automatically, unless interfered with by the controls imposed by government. Despite the many advantages of a profit-loss system, public confidence in the system has deteriorated in recent years. One of the reasons the profit-loss system has come under ridicule and why some business men actually apologize for profit is that the managers and economists have labored under the false premise that profit is a motive for business and should therefore be maximized. Profit is not a motive, but a test of performance and the premium for the risk of uncertainty. It is what makes economic progress possible by investment in new jobs and it is what pays for the economic satisfactions and services of a society. The theorem of profit maximization has caused business to aim at what is possible rather than of what is desirable and in doing so has caused business to be less than socially responsible. Business does have the responsibility to make a profit, but only the minimum profit is required to cover its own future risks, the profit to enable it to remain in business, and to maintain intact the wealth-producing capacity of its resources. To define a minimum profit is to assign social responsibility to business and requires careful analysis by management as to what business it should be engaged in. A socially responsible free enterprise system is possible.

ALLOCATION BY BUDGET

In contrast to those organizations which are paid for performance through a profit-loss system are those organizations that are paid out of a budget allocation and a non-profit, non-loss system. These organizations are allocated revenues from a source which is not tied to what they are doing, but obtained by tax, levy, assessment, or tribute. Governments naturally fall into this division and as long as they confine their activities to “governing” this is a legitimate way of being paid. The purpose of government is to “govern”; that is to control, regulate, or restrain. Therefore, the organization of government is deliberately designed to prevent change. Government was not designed nor intended to be a “doer” except in its role as protector and defender. Armies and police forces must necessarily be paid out of a civilian controlled budget. To do otherwise would result in a competition to prove which army could win the most wars at the least cost. This would be gross misdirection. When government departs from its function of governor and defender and gets into the business of doing, the budget system fails to function.

Judging the effectiveness of budget paid organizations is difficult, if not impossible. Being paid for performance directs toward performance—but being paid by a budget allocation directs toward a budget. Therefore

performance in a budget allocated organization is the ability to maintain or to increase one's budget. And the budget, by definition is not related to contribution but to good intentions. There is no such thing as loss in budget allocated organizations—only miscalculations in estimating or over expenditures due to unforeseen circumstances. A manager does not have an internal indicator like a profit-loss statement to tell him when the organization is not performing or misperforming. This means that the organization is extremely resistant to change and finds it difficult to abandon an ineffective program. In fact, it seldom knows that it is ineffective.

COST RECOVERY

There are other types of institutions or organizations that seem to function somewhere in between a budget system and free profit-loss enterprises. These are those enterprises that are paid for the costs incurred and which provide a service that is essential to the user and cannot be provided by a substitute. Hospitals and universities fall into this category. No adequate test of effectiveness is available for this type of organization, and therefore management for effectiveness is difficult. Judging a university by the number of Ph.D.'s awarded may be a misdirection and produce a negative effect upon society. Likewise, which is the most effective hospital, one with all beds full, or one with few beds occupied? Should a hospital teach preventive medicine or over treat the sick? Is a hospital a tool merely for the doctors or does it have other functions? If it has other functions how are the costs recovered? The direction any organization takes is linked to the way it is paid. Paying just for costs directs toward increased costs until the user rebels and seeks an alternative.

Organizations can therefore be evaluated on the basis of how they are paid. If a market situation exists, that is, if choices are available to a consumer, the result will be performance. This is inherent in a free enterprise system because being paid for performance directs toward performance. Similarly, a budget based operation tends not to perform because being paid by a budget directs toward the budget. And being paid for costs directs toward increasing costs. These principles apply regardless of ownership of property. The socialist nations who insist on government ownership of property are now finding that performance is still best obtained by paying for performance. Paying a worker for lifting a sack of potatoes will direct toward lifting the sack of potatoes—no more. Performance in a competitive market means using more than muscle, it means using ingenuity, thought, and vision. It means unleashing creativity and initiative. This is perhaps the greatest argument there is for a free market system. Profit is not a dirty word, but only a numerical system of measuring the effectiveness of a business choice, and of directing effort toward performance.

WHAT IS OUR BUSINESS

An organization should be a means to accomplish some end. The success or effectiveness of the organization depends primarily on how well this “end” or purpose is defined. The organizational structure is important but is patterned to meet the intended purpose of the organization; therefore structure should not be considered until the purpose has been fully and adequately stated. Strategy before structure should be the motto of all organizations.

Defining the purpose or “business” of the organization is too often glossed over or given inadequate attention. Simple as it may seem, defining the “business” is not easily done. To be most effective the decision as to what the purpose is must be made by the manager of the organization. The one who has authority to direct, concentrate, and establish priorities must have the proper vision of his job or he will most likely misdirect. Attempts to establish purposes outside of the management circle automatically creates a communication gap that is difficult to cross, and the result again is often misdirection. This is one of the problems of government services and agencies when the purpose, so called, is stated by a legislative body and the organization structured and regimented before anyone really knows what is expected to be accomplished. The business world does not have this type of harness placed upon it and therefore succeeds or fails on the basis of how well management envisions its destiny. The articles of incorporation of a business organization do not state the effective purpose of the business, but only give it license to function.

In order to be effective an organization must be able to concentrate its forces and resources upon specific tasks which contribute to the overall ends of the organization. If the purposes of the organization are not well defined, the leadership of the organization will find it difficult to decide which tasks are important and which tasks should be avoided as being wasteful. The important tasks will automatically be defined if the overall purposes are clearly understood. Not all organizations are able to make such a clear distinction of their purposes, however.

A management technique has been suggested by management consultant, Peter Drucker (1974), to assist organizational leadership in defining its purposes in such a way that specific tasks are automatically suggested. Each manager, regardless of whether his official title is president, director, administrator, or manager, should ask himself this question: “What is our business and what should it be?” and then thoughtfully answer it. The answer can only come after careful analysis and there may not always be one right answer, but a decision has to be made and the vision so clearly represented that everyone in the organization can contribute to its realization. Drucker (1974) said:

Only a clear definition of the mission and purpose of the business makes possible clear and realistic objectives. It is the foundation for priorities, strategies, plans, and work assignments. It is the starting point for the design of managerial structures. Structure follows strategy. Strategy determines what the key activities are in a given business. And strategy requires knowing what our business is and what it should be.

Common vision, common understanding, and unity of direction and effort of the entire organization requires definition of “what our business is and what it should be.”

Nothing may seem simpler or more obvious than to know what a company’s business is. A steel mill makes steel, a railroad runs trains to carry freight and passengers, an insurance company underwrites fire risks, a bank lends money. Actually, “what is our business?” is almost always a difficult question and the right answer is usually anything but obvious.

Drucker goes on to indicate that a business’s purpose is first defined by the needs of the customers and this first step in determining purpose is to define who the customers are. Thus the first part in analyzing the purposes of the organization is to step outside of the organization and look at its activities from the viewpoint of a customer, or as a recipient of its products or services. Entrepreneurial imagination is helpful at this stage to catch the proper vision. Examples of successful attempts to so define a business are seen in the Sears Roebuck story where the purpose of becoming the “buyer for the American family” has made Sears the largest retail business in America, and in the Bell Telephone story where nationalization of the industry was averted because Thomas Vail saw the purpose of the telephone company as “service” and his customers as including the state regulatory agencies. The examples given here illustrate the nature of abstract statements of purpose which point the direction of the business and which lead to the formulation of specific work objectives. Also, the statements do not confine the business to specific tasks like “making steel.”

Every organization should analyze its reason for being and attempt to define what its “business” is, even those organizations which may consider themselves to be “non-business” organizations. Government service agencies, universities, hospitals, irrigation companies, and water conservancy districts could well benefit from an analysis of why they exist and for what purposes or ends they are supposed to be the means of achieving. Even these types of organizations have “customers” which, if identified, might assist the organization to adjust effectively to the part of the question that asks, “what should our business be?”

One problem a government service agency has in answering the question, “what is our business and what should it be?” is that the agency is structured and the purpose described by legislation in legislator’s language, and leaves the “manager” without authority to act and without reason to question. There is, therefore, no common vision, no common understanding and unity of direction and effort, and no foundation for priorities, strategies,

plans and work assignments. It is little wonder that government service agencies are poor “doers.”

Water services organizations have traditionally been government oriented—some with taxing authority and some without—none have ever been truly “businesses.” Even the private irrigation companies are not businesses. None have ever, therefore, had occasion or the ability to ask themselves the question “what is our business (purpose) and what should it be?” These questions need to be asked, though, if only by the public and customers who pay the bills. Perhaps this is the first step before reprivitization¹ can take place.

WATER—A DIFFERENT RESOURCE

Water as a resource is unlike all other natural resources. Despite man’s consistent use and reuse for over 6000 years, the total quantity and quality remains the same—water cannot be created or consumed. Unlike the forest it cannot be replenished by seeding; unlike oil or coal it cannot be diminished by burning; and unlike a mineral resource it cannot be processed and parts consigned to a waste pile. Unlike all other resources water exists everywhere—in the atmosphere, on the surface, in the ground, or stored in the tissues of plants and animals. Water has innumerable uses. Besides quenching a thirst, water performs thousands of tasks utilizing its ability to be a solvent, a cleanser, a lubricant, an agent of transport, an agent of energy transfer including mechanical and thermal, and the uses derived by medical therapy and recreation. Water is associated with all the life processes of man and is truly indispensable.

The properties of water that give it so many uses are also the properties that make it difficult to manage. Within the narrow temperature range existing on the earth’s surface, water exists in all of its forms, solid, liquid and vapor, and is constantly changing phases as energy from the sun is absorbed or reradiated by the earth. Large masses of water in vapor stage are carried by the winds for many miles and distributed as liquid in random fashion as influenced by the sun’s angle, elevation, or position on the earth with respect to the land and liquid water masses. Thus an uneven distribution of liquid water occurs over the land masses of the earth and man has to go to the sources—the rivers, the lakes, the springs, and underground to fill his dipper and satisfy his wants.

Despite the awesome nature of water as a universal resource, the consumer in today’s society is usually unconcerned with all its attributes. His chief concern is that water flows from his tap upon demand. He has come to

¹Reprivitization is a term used by Drucker (1969) to mean a return from governmental to private organizations.

expect this and is willing to pay the reasonable cost he is charged. But bringing water from the stream or lakes or wells to the home requires organization and effort. As a community has grown from a small initial settlement to a megalopolis the number and variety of organizations has also grown. Little thought and no integrated planning has gone into the formation of these organizations until today a haphazard array exists. The hydrologic unity of the water service area has sometimes been dissected and divided until apparent absurdities have appeared. It is possible that continued growth will eventually demand a consolidation and removal of inefficiencies. Expert planning at that point in time will be needed to make sure consolidation will not worsen the situation.

The problem, then in an area where water supplies are overtaxed by growth is to invent an organization that can combine all the resources into a unity, can allocate the water to the use that is most efficient economically, and be efficient and effective without becoming imperialistic. Formation of such an organization must resist the temptation to rush into a governmental agency and first answer the question—"What is the business of such an organization and what should it be?"

The manner in which the question is answered will determine the strategy to be used which will then allow organizational structures to be designed. Answering the second part of the question gives a reevaluation to determine if the right choices have been made. This is the "repentance" part of organization which is often unused. Consider, for example, what would happen if one wanted to create an organization to be the developer and distributor of a state's water resources. If, in answer to the question, "what is our business," the term "water conservation" was used what would be the resulting organization? (The term "conservation" does not have the same meaning to all people so it is doubtful if a common understanding would exist throughout the organization so immediately the organization is directed toward ineffectiveness.)

The word "conservation" means the carefully planned preservation or protection of something, in this case, water. It also means the prevention of exploitation, destruction or neglect of a natural resource. With this connotation the work of the new organization would be to protect and to control, two bona fide functions of government. But this organization would have another function which is not governmental, that of building and operating the facilities needed to develop and distribute the water. It is likely that the governmental system would be adopted in this case and a government agency, supported by accompanying laws and funded from taxes, created. Later, as evidenced by history, it would be seen that the agency was not a good doer, that it was costly, unresponsive, and arbitrary, and that it made wrong social decisions. It would be too late then to ask the second part of the question, what *should* our business be; because the agency would be

entrenched with a vested right to the tax dollar and could not be divested or terminated. If the question had been asked earlier, however, a different organization could have resulted.

If the word “service” had been substituted for conservation, a different picture would have unfolded. Service means to be a servant, to aid, benefit or contribute to the welfare of others. There are two reasons why this is not a governmental function. One is that service requires someone to be a recipient of the service, a master-servant relationship. The recipient or master must have a choice of whether to accept the service and to also dictate the kind of service desired. Government gives no choice to the recipient. Another reason that government cannot function as a servant, except to protect and defend, is that the type of interchange proposed is conducive to favors taking, bribery, and discrimination. The interchange is therefore, not free but controlled by strict and inflexible rules. This prevents true “service.” The organization resulting from an answer of “service” to the question would have been non-governmental, in other words, a business. Since business is a proven doer, and since the user of the business is master, the organization is responsive, less costly, and makes decisions which meet social needs. If management sets goals to meet a determined minimum profit, social responsibility is more nearly assured and social impacts of the organization more certainly recognized and provided for.

Water does not acquire economic value until it is used. It is not a commodity that can be stored in a vault and still retain value. Its value lies in its use. The farmer uses water to protect his crop from dessication and to permit the plant growth processes to occur; the householder uses water to drink, to cook, to clean, and perhaps with energy added, to heat and to cool. The municipality uses water to put out fires, flush the street of debris, and to transport human wastes out of town. Industry uses water in processes necessary to the production of goods. All uses require a constant availability and often a continuing supply with respect to time. No use is completely static—all are dynamic and require water in motion. In all, the hydrologic cycle becomes channeled through the user.

The only way in which the user can be placed within the hydrologic cycle is to alter the natural flow system and physically divert the stream to the place of use. This requires energy and organization. It would be absurd to think each user would have to be a diverter. Hence, the pooling of uses into one diverting and conveying system becomes the obvious answer. To this end many organizations have been formed. The ultimate purpose of each organization is the same—to get water from the place where nature has concentrated it to the place of use, preserving or creating the quality and pressure needed for the use. This is a service and whether the use enhances the business productivity as with an irrigated farm or car wash, or whether the use is just a convenience as with the urbanite who “rakes” his leaves with a jet from his hose, it is the *service* the user pays for.

The services concept has been foreign to most if not all of the water-diverting-conveying organizations formed to date. Particularly is this true with the agricultural organizations—the irrigation companies. How would the irrigation companies answer the question, “what is our business—who are our customers?” In actual practice the irrigation company manager has never asked this question, but if he were to carefully analyze the function of the company and how it came into being as a single legal entity to represent the rights of many individual users, he might correctly determine that “we are in the business of protecting water rights and our share holders are our customers.” The mutual irrigation company is a user-cooperative—an exclusive group of water users who share in the cost of diverting and conveying, and who strictly adhere to the tenant that each share holder is entitled to a part of the hydrologic cycle to the exclusion of all others. Holding fast to this tenant has perhaps misdirected the efforts of the organizations. The mutual irrigation company is not an efficient producer or conveyor of water, it is not well managed and it is not really effective as a social organ to get the best use from a scarce resource. The farmer does not need an organization to “protect his water right.” In fact, he does not need a water right. What he really needs is water! And an organization committed to this task, delivering water, would render a far greater service to society and to the farmer than the user-coop he tenaciously hangs on to.

How would a quasi-governmental agency like an irrigation district answer the question, “what is our business, and who are our customers?” The district is tax supported, is enclosed in boundaries set by law, is limited by law to a single-purpose water use, and measures its performance by its ability to keep expenditures within its taxable revenue—or perhaps that should be stated in reverse—to keep taxable revenue equal to expenditure. It appears doubtful that it has ever been asked the question about its purpose other than to build a distribution system, and its customers become vaguely discernible. In a market situation it is the customer who decides if the seller is pushing the right product or giving the right service. The consumer, by exercising choice, is the controlling agent. Not so in a government service organization. The consumer is forced to pay the bill, but he has little to say about the product or the service. The government service organization then, tends to become an end in itself and not the means to an end. It may operate efficiently but it is not an effective social organ.

Similarly, the municipal water department has not correctly assessed its role or purpose of existence. Its answer to the question would probably be, “we are in the business of treating and delivering water.” And the question about who its customers are may receive a vague answer like “the city.” But who is the city? Some may say the customers are the householders, apartment owners, businesses, and industries that pay a monthly waterbill, but that is not correct because these people do not control the business; not in the same sense anyway that the customer controls the business of the retail merchant. A business soon goes out of business if it cannot satisfy the needs of its customers. In some sense the “voters” control the company because

they have some voice in the providing of capital through the sale of bonds, and they have voice in the selection of the public official who hires the head of the water department. Are the “voters” then the customers? Or are the customers those who complain until a problem is corrected? Is the water department misdirecting its efforts? Consider that it evaluates its performance on negative values, such as satisfying the complaints of citizens; or on the engineering statistics like per capita consumption rates of increase or decrease, or costs of production in dollars per acre foot, or number of connections in service, or total amount of water delivered.

The problem of defining the purpose of governmental service organizations worsens as the level of government and degree of bureaucracy increases. Thus agencies like the Bureau of Reclamation, the Soil Conservation Service, the Forest Service, and the Corps of Engineers find it impossible to even ask the question “what is our business (purpose) and what should it be” let alone attempt to answer it. These organizations are not means to accomplish ends, but are ends in themselves. They hold vested interests in the federal budget which they use to enhance the organization and accrue benefits to their own employees. The nearest one could come to defining their purpose is “survival,” which is an inadequate social goal for any organization. Members within the organization are quick to quote the federal laws which give them authority to function but these laws do not define the purpose or “business” of the organization.

Equally ineffective and without purpose is the partnership which links the federal bureaucracy, the Bureau of Reclamation in most cases, with the state bureaucracy, the Water Conservancy Districts. Operating by itself, a district compares with a large municipal water department—operating with a certain amount of efficiency but not fully performing because of its dependence upon tax revenue and police force. When coupled with the federal agency the district loses all sense of purpose, and tends to make wrong decisions. The district becomes the repayment collector for the Bureau of Reclamation and the chief lobbyist in Congress for project appropriations.

Water distribution, the movement of water from a place of origin to a place of use, is a marketable service requiring management, labor, and capital. Water distribution is therefore a business opportunity which can fulfill a social need. There is no need or justification for using government service organizations to perform this function. Not being able to define their purpose or to concentrate their efforts on the right tasks makes government service agencies unperforming social organs.

PART II

WATER INSTITUTIONS

MUTUAL IRRIGATION COMPANIES

Historically, the most prominent and certainly the most numerous, water institution in Utah has been the private association of water users commonly known as the Mutual Irrigation Company. The word mutual is a descriptive term to indicate the manner in which the company functions but is not included in any of the official names of the separate irrigation companies. The companies are "mutual" because they are owned by and operated for the benefit of the members, but they do not resemble traditional "mutual" companies such as insurance companies or savings banks which operate without capital stock, or stockholders. The irrigation company in Utah is actually a unique hybrid organization resembling traditional mutual forms in action, but clinging to vestiges of a "business" under which law it was originally formed. The irrigation company is a stock company which does not operate a "business" and a mutual company which is owned by stockholders. Having a resemblance in some respects to both types of organizations, in actual operation the irrigation company is like neither of them. The common element in both a stock company and a mutual company is that both operate a business for profit. The differences between the two forms are in the manner in which the business profits are distributed and the way in which leadership is acquired. In a stock company the profits which are not retained to build the business are distributed to the stockholders as dividends. Leadership is acquired through vote of the membership (stockholders). In a mutual company the profits result in an adjustment in the price of the product or services to the membership. Thus an insurance premium may be lowered, the interest earned on savings increased, or the price received for agricultural products increased. Leadership in a mutual form is generally by a self-perpetuating committee or board and not by voting of the membership. In a stock company the business is operated for the benefit of the stockholders, but no stockholder is required to participate in the operation or production aspects of the business. No stockholder is involved in decisions of management and generally has no interest in what management does as long as the profit-loss statement indicates that right decisions are being made. His liability is limited to the amount of stock he owns and he can

unemotionally detach himself from the company if share values begin to drop.

A mutual company is not only operated for the benefit of the members but also by the members. Thus each member contributes to the product of the company such as money for reinvestment or to amortize loss, or farm products to be marketed. Management efficiency is assured through freedom to withdraw membership and join with competitors. In some cases the membership may be liable for losses incurred by the business.

The irrigation company differs from these two forms in one important aspect. The irrigation company does not make a profit. In other words, the irrigation company does not operate a business. It was initially allowed to incorporate under the business laws of the state with some vague understanding that the water received as a shareholder was a "dividend" on the stock. This is an erroneous concept because dividends are immediately linked with profits and the generation of new wealth through the use of capital investments. Water, being a product of nature and not of man, is not considered capital and is much like electricity, of no value until used and even then it does not become a substantial part of the finished product. Therefore, water as a dividend on a capital investment shortchanges the investor considerably.

Another difficult concept to understand concerning irrigation companies is the reason for issuing shares of stock which represent capital investments in a non-business. What capital does an irrigation company actually own? As a rule, irrigation companies do not own real estate, equipment, buildings, machinery, or any of the normally considered capital or wealth producing items. The only thing the irrigation company owns which has any semblance to capital, and which even then, is intangible and has substance only in law and custom, is a water right. It is doubtful if this water right can be considered capital because of itself it does not produce wealth. The irrigation companies could have organized without capital and resembled more the mutual companies they operate like.

The irrigation company can thus be described as a non-business, operating without capital by its members for the mutual protection of their water rights. Being without capital it cannot build or even rebuild extensive water distribution systems, being a non-profit—non-loss organization it can only incur costs, and being operated by the membership it can only share costs and management decisions. Having a water right as its only valuable asset, its major function must be to protect that right against all encroachment. All other activities such as cleaning and maintenance of the ditches, headgates, etc., and the allocation of water to the shareholders are secondary to this major task.

The protective nature of the irrigation company was its primary attraction at its inception. The physical systems had already been built and therefore venture capital was not needed. The water law was undergoing change and courts were beginning to adjudicate water claims. To consolidate the users under one ditch or diversion into an enduring entity to protect and preserve the system was the motivating force behind the incorporation of water users into irrigation companies.

The organizational structure was designed to resist change and to this end it has been most effective. In fact, many companies today are finding it difficult to adapt to land use changes caused by urbanization and industrialization. But the more serious problems caused by this rigidity is the waste of the total resource caused by multiple inefficient systems which refuse to be consolidated and improved. For over 30 years this problem has been observed and exposed by competent researchers, but no change has been forthcoming.

The writer would like to emphasize at this point, that the solution to this problem of inefficient water use and failure to consolidate irrigation systems lies in the organization structures and not in the people who make up the membership of irrigation companies. As with any organization the people are bound and directed by the organization. It is true people staff the organization, but the organization directs. Thus an irrigation company directs toward water rights protection and away from change and management for efficient water use. The older generation can pass away assured that those who follow will still protect, still resist change, and still unmanage. Not until an organizational change is effected, will the effort be redirected into other paths.

With the present resemblance to a business organization the irrigation company could most easily redirect its efforts by actually becoming a "business." This would require a simple change in the articles of incorporation to permit the company to make a profit and contract with its shareholders to assure delivery of water when needed at a price. To make a profit the company management would need to be autonomous and have freedom to operate in a market environment and to develop a clear understanding of who its customers are and what its business should be. Instead of protecting a water right the company would be in the business of providing a needed service and at the same time efficiently utilizing a valuable natural resource.

GOVERNMENTAL WATER SERVICE AGENCIES

Perhaps the oldest water service organization of a governmental nature is the municipal water department. Some of the oldest water systems in America go back to the early 1800's when pipes were made from hollowed out logs. The need in those days was not so much for drinking water for the

inhabitants but for fire protection. Since fire protection is definitely a social responsibility and not an area for business entrepreneurship and competition, it was natural for local governments to provide this kind of protective service. The other municipal uses of water naturally followed and local government has become by tradition the most likely organization to provide water service within a community. These organizations do not have an exclusive right to this service, however, because in some areas privately owned water utilities have successfully assumed this responsibility. In Utah, the first attempt to provide municipal water service was done through a separately chartered corporation created by the territorial legislature known as the "Great Salt Lake Water Works Association." It came after the chartering of Salt Lake City and was not a part of the city government but the city was allowed to subscribe for capital stock not to exceed \$100,000. The *function* of the company was later assimilated into the city government. A more recent provision in the law has also permitted quasi governmental units to be organized most often with taxing authority, as a special single purpose water district. Often this type of governmental agency supplies water needs in the unincorporated areas outside of municipal boundaries. In Utah these special improvement districts are a creation of county government and are in turn accountable to the County Commission. Much of what will be said about municipal water departments is also true of special water districts.

Municipal water departments are not always efficient and in many ways are not effective organizations. Being a product of governmental expansion the organization structure is determined by elected officials who in most cases have no managerial training and no insight into the type of structure needed for effective service to the community. The manager or department head works in this predetermined structure without full autonomy, without a vision of what *the social* purpose of the organization is, and under the stress of satisfying his bosses in city hall. The workers within the organization reflect this lack of purpose and unity of direction and are generally uninspired, less than productive, and underachieving. The organization lacks entrepreneurial leadership and is content to do things in the same way year after year. Like all government service agencies it clings to the past and generates few new innovative ideas.

Some of the problems of governmental domestic water service agencies are associated with the size of the system and the resources of the agency. Throughout Utah today there are numerous small domestic municipal water systems with number of customers ranging from 20 to 500. These systems are too small to employ a full time professional manager and are thus run by a member of the elected council and perhaps a hired worker with some pipe fitting skill. This lack of management skill however, is less serious at this level than it is at the decision-making level within the town council. When this council lacks persons trained in hydraulics and hydrologic principles, wrong decisions are often made with regard to size and location of reservoirs,

pipelines, and distribution networks. For this reason the council often hires engineering consultants to assist them in obtaining an adequately designed system. Consultants are hired to design workable systems which will satisfy all the requirements of the various regulatory agencies established by government. Sanitary and environmental requirements must be met along with restraints imposed by granting or lending agencies. The consultant is familiar with all these requirements and thus designs systems which qualify. He is therefore a non-innovator, clinging to the past and shying away from practices which may attract the attention and questioning of the regulatory bodies. He designs systems which he knows will pass regulations and stands a fair chance of being built. After all, his fee is based on a constructed project. In doing so, though, he contributes to technological obsolescence and preservation of the past.

The small town also lacks the capital resource necessary for adequate water distribution systems. Like other utilities a water system is highly capital intensive. Most small towns lack a tax base which is large enough for capital financing of water distribution systems. Money must therefore be borrowed using the general tax obligations or the expected revenues as collateral for the lending agency. General obligation bonds require the approval of the citizens and this is not always given. Grants or loans from the federal agencies are therefore sought. These federal monies have much the same effect as direct tax revenue, being a source of money which is not linked to the performance of the spending organization. The spending of federal funds on domestic water systems by municipal water departments, regardless of the size of water system, is further removed from the conscience and an obligation to perform than is bonded revenue. Thus, there is even less of an incentive to perform.

The larger water departments have more money to work with, but their problems with efficiency and effectiveness are not fewer. In fact beyond a certain size the water departments become bogged down in bureaucracy and become susceptible to many of the ills of big government. Water revenues are usually more than sufficient to pay general expenses and investment repayment and since the surplus is turned over to the general fund of the municipality for use on non-water related functions, the incentives to efficient use of labor and material are lacking. A searching attitude for new and better ways of doing things is not present and the service to the customer is not improved. Service to customers is replaced with an effort known as "customer relations," which is concentrated on answering complaints and placating complainers—coupled with a public relations program. Survival of the organization is assured; but "empire building" is somewhat restricted because of limitations on growth within set boundaries.

The influence of the method used to pay an organization in the discharge of its purposes cannot be overemphasized. It has been stated earlier that to pay for performance directs toward performance. Other words can be

substituted for the word performance and the statement remains correct. Thus to be paid out of a budget directs toward establishment of the budget and to be paid out of tax revenue directs toward the collection of taxes. In these latter two examples, performance is left out. The organization does not need to perform; that is, it does not need to be efficient and it does not need to satisfy social objectives. Such performance is not required when costs are provided by a budget which is assured by the collection of a tax. Municipal water departments are not paid to perform because their money comes from tax revenue and tolls collected and budgeted by the municipality. If the revenue from tolls collected from water users is not sufficient to meet expenses, the deficit is made up from general tax revenue and future toll rates increased. Surpluses from the collection of tolls go back into the general fund for allocation to the other city departments. A deficit or a "loss" is not a threat to survival of the department nor is it taken as an indicator that things might be done wrongly or inefficiently. In a like manner a surplus or "profit" is not an indicator that right decisions are being made as to the real social value of the department. As long as the tax revenue is available as a "prop" to support inefficiencies and as long as the water department represents an uncontrolled government monopoly backed by the power of force and police action, the organization will remain directed toward inefficiency, non-performance, and ineffectiveness.

Associated with the direction toward non-performance is the lack of innovative entrepreneurial management. No risks are involved, therefore no need to change is felt. In fact changes are openly resisted. Clinging to the past is a luxury market controlled businesses are not permitted to enjoy—not for long anyway, or they are forced out of business. The water department has reinforcement to its own built in resistance to change from the regulatory laws and agencies, including trade associations, which codify practices into a rigid, unbending system. Even new technological changes including new materials and devices developed by service industries find slow acceptance by these organizations.

The trade associations, particularly the American Water Works Association, has admitted in recent publications that domestic water service to users could be improved. Their answer to the problem is to better educate the operators and individual workers in the water departments. This writer contends that the problem is not with the persons employed but in the organizational systems.

One other aspect of municipal water departments is also linked to the way income is collected and dispersed. Because the "profit" or surplus after expenses is turned over to the general tax fund, no allocation for research is ever made. In general the research for water department problems is done by universities, state health departments, industrial suppliers, federal laboratories, and private water utilities. Trade journals usually represent the link to

communicate the research information to the department user. A large part of the research information is never implemented and much of the research effort is misdirected into areas which may not be directly related to real world problems. An example of a research system which has been effective in contributing to social betterment while also improving business is the telephone company's Bell Laboratories. Supported by profits from the telephone business, the laboratory was asked to research methods of improving telephone service. When a discovery was made the implementation link was direct and not through a convention speech or an article in a trade journal with the hope someone might listen or read and be converted. This extremely effective type of research has not found place in the water service industry because there are no direct profits to support research, and no means of implementing discoveries that might be valuable. The remote researcher has difficulty in directing his research toward the right problems.

WATER CONSERVANCY DISTRICTS

Municipal water departments may have problems of inefficiency and ineffectiveness as a result of their organizational defects, but despite this they have accomplished many things and have made some contributions toward social betterment. The situation could be improved by introducing risk and profit into the management scheme, but even without this they far out perform the latest creation of government in the water industry, the water conservancy district.

The water conservancy act was originally passed in Utah in 1941, but the concepts embodied in the act would not have been tolerated by the Utah public a decade earlier. Even the Wright Irrigation District law, which found acceptance in California in 1896, was never fully transferred to Utah because of some of the ideologic tenets promoted in the law. The idea of taxing all the people to pay for projects which directly benefit only a few and to pay for projects which many felt should be the responsibility of private enterprise was resisted by the Utah people until the federal government overturned these concepts with its promotion of the welfare state during the 1930's.

As was stated in an earlier publication, the water conservancy ideology was a creation of the Federal Bureau of Reclamation. Like all federal bureaucracies the original "ends" or purposes of the bureau were soon forgotten and the "organization" became the "end." Survival became the most important purpose of the organization and real social values became lost in the struggle. Survival of the Bureau of Reclamation was dependent upon its continuancy in the work of building the nation's dams and developing entire river systems whether such development was needed or not. Complete river development requires lots of money and it was obvious that the farmer users of the water could never be made guarantors of such high repayments as would be necessary. Hence, the Bureau pushed for the creation of a new

vehicle—a state governmental subdivision with broad powers of taxation—no limitation on how the taxes would be spent as long as it was water oriented, and almost complete immunity from pressures and directions from the taxpayer. The organization would not have to meet either the market test of profitability, or the political test of a free election. There would be no one to question whether the decisions made were right and no signals to the organization which would indicate whether it was doing the right things. There would be no need to innovate, no need to change or to cast off the obsolete, and no need to perform. Such an organization would tend to and does make wrong decisions.

The writer has learned through conversations with taxpayers in various parts of the state that most of the citizens of the state are completely ignorant and uninformed as to what the Conservancy Act says or as to what conservancy districts are doing or have the power to do. They may hear through the public media that the governor supports the district and hear certain of the bureaucratic leaders under the governor reiterate this support, or they may read some of the “public relations” material put out by the district; but few actually know what the district really is or how it is spending public money. This is probably what the writers of the original bill intended when they attempted to “take politics out of water development.” What they really intended was to remove the spotlight of public attention and make it difficult if not impossible for the public, the tax paying public, to interfere with the project. The writer did find some informed citizens in the upper mountain valleys of the Weber River, but they chased him from their property thinking he represented the “Weber Project.”

Because of this general lack of knowledge about conservancy districts the writer feels it is important to discuss certain aspects of their organization and operation particularly as it pertains to the efficient and effective utilization of the water resource. If the conservancy district concept is a restraint to effective use then its abolishment or restructuring must be part of the alternatives considered in this report.

A first reading of the Conservancy Act gives one the impression that an organization could be created that would meet social needs by managing the water supply and building the needed distribution systems. The language sounds good, but when one stops to consider that governmental oriented organizations have a notorious reputation for not performing why should this particular act behave differently? As Drucker (1974) has said, “to turn any area over to government creates conflict—creates vested and selfish interests, and complicates decisions . . . to turn something over to government makes it political instead of abolishing politics.” He further stated:

. . . We are very good at creating administrative agencies. But no sooner are they called into being than they become ends in themselves, acquiring a

“vested right” to grants from the treasury and to continuing support from the taxpayer, and achieve immunity to political direction. No sooner, in other words, are they born than they defy public will and public policy.

These words are probably true at all levels of government but probably more true at the federal than at local levels particularly if the local taxpayers have recourse to a free election mechanism to effect changes. The Conservancy Act provides for a political subdivision of the state which should make it local in nature and responsiveness to the local taxpayers. This responsiveness and “local government” flavor has been averted in two ways. First, the leadership of the organization is not elected by taxpayers. Instead the leadership, the board of directors, is approved by the judge of the judicial district in which the conservancy district is formed. This means that despite the fact that the Conservancy District Act was a creation of the legislature, the organization and the development of the water resource becomes a judicial function and not a legislative prerogative. The fact that the taxpayers elect the district judge somehow meets the “due process” clause of the Constitution, but under the same theory why don’t the judges also appoint the mayors of cities and commissioners of counties?

Whenever a vacancy occurs in the board of directors of the conservancy district a new appointment is made by the judge after receiving a recommendation from the remaining board members. Thus the board becomes self-perpetuating and completely unresponsive to the taxpayers in the district. A self-perpetuating board of directors may be permissible in a business such as a mutual savings bank or a mutual insurance company, where the business is regulated by the market, but without that market force and in a government capacity the practice is intolerable.

The second factor, which destroys the local government flavor of the district, is the strong contractual ties the district makes with the federal government. This, of course, was the intent of the act in the first place—to link the federal government with a state government unit so that “local” pressure could be demonstrated in support of federal projects and so that repayment of the project could be guaranteed—with the backing of the police power of the state if necessary. The Act provides for the contractual arrangements with the federal government but does not make such contracts mandatory. A district could exist without such contracts but none of the districts in Utah are known to exist without this link today. The Salt Lake County Water Conservancy District originally started out without this federal link and made considerable progress developing a good quality underground water supply. What inducements caused it to change its direction is not known by the writer, but it began its link to the federal system by contracting with the Salt Lake Metropolitan Water District which has a repayment contract with the federal Deer Creek Project. The link was made complete when the Central Utah Water Conservancy District was formed and a repayment contract promised obligating the SLCWCD to use Central Utah

Project water. Since that time the SLCWCD has ceased to develop or fully utilize underground water and buys higher priced treated river water from Central Utah, via the Salt Lake Metropolitan Water District. The economic soundness of this practice is questionable.

Salt Lake County Water Conservancy District presently has 13 fully equipped and operable deep wells. The water from these wells is of good quality and does not need to be treated except for contingent disinfection. In addition the district has water rights in several springs which also deliver water not needing treatment. The wells have already been drilled and equipped and tied into the distribution system so when costs are compared with water purchased from Central Utah capital amortization need not be considered. Also, since the cost of the water rights in the springs has also been paid for, that water is essentially free—not being purchased annually nor involving annual energy costs to put it into the system. Using the figures reported in the 1970 annual report of the Salt Lake County Water Conservancy District and the accountant’s report for the same period the following can be deduced:

The district bought, acquired, or pumped 14,055 acre feet of water from the following sources:

	<u>Acre Feet</u>	<u>Cost</u>
From 13 wells operating 15% of capacity	4,252	\$ 54,313
From springs	1,808	--
Purchased from Metropolitan Water District	7,988	253,858
Other (exchanges)	7	--
	<u>14,055</u>	<u>\$308,171</u>

Without the contract with the Metropolitan District, Salt Lake County WCD could have supplied the total demand from the existing wells and still had reserve capacity as follows:

	<u>Acre Feet</u>	<u>Cost</u>
From 13 wells operating 45% of capacity	12,230	\$146,760
From springs	1,808	--
Other exchanges	7	--
	<u>14,055</u>	<u>\$146,760</u>

A savings of \$161,411.

The savings would actually be greater than this since the power rate would decrease when operating over a longer period of time. Assuming the power rate reduced to \$8.00 per acre foot average instead of the \$12.00 used in the calculations, the savings would approximate the total revenue collected from the one mill advalorem tax, \$216,000, making taxation unnecessary to the financial success of the district.

Whenever one reads the PR literature put out by the conservancy districts one expects that the next time he turns on his tap there will be no water. The nagging fear of a water shortage is constantly imaged before the reader. The district must use fear tactics in order to maintain its control over the public purse. If the truth were exposed, the economic blunders of the bureaucratic system might create enough citizen reaction to put the conservancy districts out of action, but as long as fear is created and apathy is present this system is secure.

Consider again the Salt Lake County WCD. The 1970 demand on its system was 14,000 acre feet of water. The 13 existing wells have a combined capacity of 32,000 acre feet per year. Adding the present spring flow to this gives the district a present capacity of 34,000 acre feet per year. In addition the district has pending applications on file with the State Engineer for 20 new wells with a combined capacity of 170 cubic feet per second or about 124,000 acre feet per year. A recent groundwater study by the U.S. Geologic Survey (Hedy et al., 1971) estimates the annual usable recharge to the groundwater basin in Salt Lake County to exceed 100,000 acre feet per year. Therefore, the district could meet a water demand over seven times its 1970 demand without any importations and treatment of out of basin water. Furthermore, the groundwater supply is less likely to fluctuate than surface supply and is therefore a more reliable source. The 20 new wells could be drilled and equipped for a cost well under \$2,000,000. Now consider the alternate chosen by the district. Imported water must be treated and to do this, a \$9,000,000 treatment plant plus a \$6,000,000 investment in a terminal reservoir and aqueduct has been built with a total capacity without further capital investment of 40,000 acre feet per year. Just slightly over the present capacity of the 13 well system which was built for under \$500,000. The treatment plant is dependent upon the completion of the Bonneville unit of the Central Utah Project, however, and the cost of this unit will probably exceed \$500,000,000 before completion. Salt Lake County's total commitment from this source is 50,000 acre feet which represents an annual cost of \$3,500,000. That's a tremendous cost to bring treated water into an area that already has an excellent usable supply.

Why doesn't the Salt Lake County WCD develop more of its groundwater? The answer is locked into the type of contract it has encumbered itself within its purchase agreement with the Metropolitan Water District. The accountant's report (Haynie et al., 1971) for 1970 gives the following:

Contract agreements relating to the future purchase of water provide that the District will not buy elsewhere until it has bought at least 3,000 acre feet per year from Metropolitan at an agreed price of \$40 per acre foot and that additional water (over the 3,000 acre feet already contracted) will be purchased from Metropolitan, or in any event, pay for water in quantities not less than those shown in the following tabulation at a minimum price of \$40 per acre foot:

Calendar Year	Acre Feet of Water Per Year (Additional)
1971	2,040
1972	2,290
1973	2,540
1974	2,740
1975	2,940
1976	3,140
1977	3,330
1978	3,520
1979	3,710
1980	3,900

Commencing with the calendar year 1980, the Conservancy District will buy from the Metropolitan District, or in any event, pay for sufficient water above the 3,000 acre feet and in excess of that provided for as set forth in the foregoing tabulation, so or to the extent that at least one-half of all the water distributed by the Conservancy District shall be water which has been acquired from Metropolitan. During the calendar year 1980, and all years thereafter, the Conservancy District will buy at least one-half of all its total domestic water requirements from the Metropolitan District until the Conservancy District is buying from Metropolitan District a total of 10,000 acre feet per annum. The minimum rate for water sold under the agreements shall be \$40 per acre foot, but this rate may be increased in future years based on increased operating, maintenance and administrative costs of Metropolitan District works.

The District also has a supplemental agreement with Metropolitan for the purchase of additional water. Under this agreement, the District will purchase its regular annual quantity of water as outlined above plus an additional five per cent (5%) of that amount each year at the contract price of \$40 per acre foot. The District may then purchase additional water to the extent it is available at \$20 per acre foot.

There are several parts of this contract that need to be emphasized. First, the contract prevents the purchase of water from any other source until the agreed upon amounts have been satisfied. This is a restraint of free trade that would not be tolerated except in a governmental monopoly and forces the district into higher prices. The same tactic is used, however, by the district when it sells water to its wholesale customers. These contracts prevent the customer from purchasing water from any other source and also dictate to the customer when and how much water he can use from his own previously developed wells. There are no alternatives offered or open to the customer. Private controlled monopolies have never been able to exercise this kind of dictatorial power.

Another part of this contract makes payment mandatory whether the water is used or not. Instead of a sales contract it is actually a repayment contract obligating the district to guarantee repayment of a portion of the project cost. In case of default the federal government has first lien on the taxing authority of the district which by law can be extended beyond the one

mill limit to whatever amount is needed to meet the obligation. This then reverts back to the individual property owner who is forced to pay the tax imposed or have his property confiscated and sold. This points to another disadvantage in governmental agencies. They operate by law which by nature is a forcible procedure. All laws can be enforced and are backed by the police power of the state. Again the repayment nature of this sales contract between the district and the federal government (via the Metro District) is repeated when the district makes contracts with its customers—the bill must be paid whether the water is used or not. Contrasting this with a private monopoly operating in the utility business, a customer still has some choice. Water is an important part of life but it isn't necessary that water be imported and delivered to one's home to survive. Disregarding the convenience of piped water, a person can choose to dig his own well, build a cistern, or haul water from a distant stream. The point is, if he chooses not to use the monopoly's distribution system, he doesn't have to pay for it. In the government's monopoly operating under force of law, that choice is not available.

Another part of the contract which limits the district to high prices is the requirement to buy at least one-half of all its water from the Metro Water District until the limit of 10,000 acre feet per year is reached. This limits the amount of well water that can be used. In 1970, the district bought 54 percent of its water requirement from Metro. They were required to buy at least 7027 acre feet which limited their well production to 5210 acre feet (960 acre feet more than they actually pumped). By contract then, the district is prevented from using its cheaper underground source. In explaining this to the public however, Mr. Hilbert, the district general manager, explained in an article submitted to Western City Magazine, March 26, 1971:

The District has applications on file with the State Engineer's Office for development of a total of 125 cts. from groundwater sources. Of this amount, 40 cts. has actually been developed and is used in current operations. At the present time, the wells are used only during the peak demand summer months. We regard this supply as a reserve to provide needed water during dry periods when surface and imported supplies may be limited.

What Mr. Hilbert didn't say was that the district was prevented by contract from using underground water and that the "reserve" is not a bank account to be drawn upon in times of shortage but is an annual flow which is part of the hydrologic cycle in Salt Lake County and which if the district does not use is discharged into Great Salt Lake and evaporated without use.

The other feature of the contract which should be mentioned is the price specified for water used or contracted for. The present price of 40 dollars per acre foot is an arbitrary figure designed to repay the project construction cost and is geared to the customers' ability to pay and not to the marginal value of the water. As is noted this \$40 is a minimum and subject to

increase when the federal agencies decide its time to change. Because the Central Utah Project is costing so much more per unit of water produced than the Deer Creek Project it is likely water or repayment for that project will be much higher than \$40. The SLCWCD is obligating itself to repay 50,000 acre feet worth of project costs. When these new contracts come out they will probably reflect this higher cost and will contain other restrictive clauses which will further prevent the district from utilization of underground water.

The things mentioned with regard to the Salt Lake County Water Conservancy District are typical and apply to all water conservancy districts in Utah. The Weber Basin WCD has many of the same restricting features in its contract with users plus an additional set of restrictions which pertain to agricultural users. One of the most prominent features about agricultural water is the low price, less than \$3.00 per acre foot, which represents the subsidy being paid by the domestic users. Here again the price is arbitrary, based upon what someone has judged to be the ability of the user to pay. The user does not make this choice. The agricultural user is also told how much water he needs and where he can use the water. Like all other users, the farmer does not actually buy water, but obligates himself to repay part of the project and consents to have the county tax collector assess and collect his repayment fee along with his other property taxes. He thus becomes subject to a tax lien and loss of his farm if he becomes delinquent.

The Weber Project is also a good example of the tendency governmental service agencies have to make wrong decisions. The Bureau of Reclamation was originally invited to Davis County to assist in a small storage project to provide additional irrigation water for some of the dry bench land. The Bureau used the opportunity to inveigle support for the entire Weber River Basin development. Without reviewing all the history, suffice it to say that as a result, the Bureau designed dams for every conceivable site, caused the formation of the Weber Basin Water Conservancy District, and built a project that far exceeds the demands for water in the basin and again, completely ignored the underground supply. To guarantee repayment of the \$90,000,000 project the emphasis has had to be placed on domestic use of water. Sub-conservancy districts, special improvement districts, and two-pipe distribution systems have had to be promoted in order to find enough repayment guarantors to keep the project alive. As a result Davis and Weber counties now have the highest domestic water rates in the state, local agriculture has not increased and the District still has water it can't find a buyer for.

Overinvestment in unneeded facilities is typical of federal governmental service agencies. What has been true in Weber will also be true in the gigantic Central Utah Project. The public investment in this project will probably approximate one billion dollars before all facilities are completed and many are not and will not be needed.

PART III

CONCLUSIONS AND RECOMMENDATIONS

The recommendations suggested here will probably never be implemented. The writer feels however that he must suggest them knowing that many will differ and argue in defense of the status quo. Eventually, though, change must come, and if society is to be improved those changes must incorporate some of the principles enumerated in this report; namely, freedom to make individual choices, protection by government from those who would destroy, and the opportunity to use individual resources to achieve or fail. These are in essence the things that make this country great and were known in the beginning as self-evident truths. This report is a defense of the American way and an attack against paternal government and socialism. Though primarily directed at water service organizations the principles are not confined to this resource.

The primary conclusions of this study are:

1. The efficiency and effectiveness associated with any social task is highly dependent upon the organization formed to accomplish that task. The reasons or the laws of organization which explain why one organization is more effective than another are not fully understood and delineated at this time. A pragmatic approach to the problem does suggest, however, some facets that appear to be true. It can be observed, for example, that:

- (a) Organizations create power. This power can be used to invent, manufacture, and distribute to society the products which improve life styles and raise so called "standards of living." The variety of foods and food packaging, clothes, building materials and transportation and communication equipment available today is evidence of this power. This type of organization or group of organizations is known collectively as "business." The power of organizations can also be used to coerce and demand concessions from those organizations which produce by controlling the workers and causing work stoppage and strikes. The labor union demonstrates this use or misuse of the power of organization. A third example of the power of organization is the governmental agency which uses law and force to accomplish what supposedly are legitimate social tasks. This last exemplifies the least creative and most wasteful use of the power of organization. It

should not be hard to observe that the most creative and least wasteful use of organizational power is found in “business.”

(b) It can also be observed that the power of organization can be misused or abused. Business has at times exploited the worker, unions have engaged in criminal activities and often made demands which have a negative impact on society, and governments have become despotic and dictatorial having little regard for human life. The tendency is for people who seek and obtain great power to abuse that trust in selfish pursuits. This is a trait of human nature which must be coped with in any organization.

(c) A final observation which can be made is that the efficiency and effectiveness of an organization is linked to the method by which the organization receives its income. In a free society, the business organization must please its customers to remain in business. This calls for creativity, innovation, and entrepreneurial leadership. Abuses, when they occur, are most often linked with the reinvestment of excess profits and the temptation to buy special privileges or to influence legislation. A labor union on the other hand has no customers to please and little accountability for the use of funds extracted from its members. The “dues” paid by the members do not buy performance from the union leaders. Governments use the force of law to collect the revenue it needs and parcels it out to departments on a budget basis. Performance, again, is not purchased by the tax. The following truism can be stated as pertaining to the method of payment to an organization. “Paying for performance, directs toward performance—paying for a budget directs toward collecting the budget.”

2. The water organizations in the State of Utah are non-businesses; most are governmental in nature, receiving revenues from taxes and expending their funds from a budget allocated out of such revenue. These organizations are, following the pattern of similar organizations, non-creative, non-innovative and in many cases are inefficient and ineffective in meeting optimum social needs.

3. The most desirable organizational form to satisfy social needs, as proven and demonstrated through past experiences, is “business.” It is not sufficient to be “business like,” but to be truly a business in which revenue is “earned” through the performance and service rendered. Free choice must be maintained and protected by government, but government should not attempt to operate or control. The motto for such organization should be, “let every social need become a business opportunity.”

If a business organization is the best form to manage water development in the State of Utah, then the following steps are recommended to allow movement in that direction.

1. Amend the Utah Constitution by repealing Section 6 Article XI to allow municipalities the same option as other water users, to dispose of through sale or lease its water rights and associated physical works. This does not release a municipality from the responsibility to protect its citizens from fire danger or to provide its citizens with drinking water. It does allow the city the opportunity to get out of a water distribution business and to turn this over to a bona fide business which can operate without boundary limitations and which can effect economies of scale by consolidating with and interconnecting with other water systems. Typical case studies of problems in this area are included as an appendix to this report.

2. Repeal the Water Conservancy District Act, Chapter 9 Section 73 Utah Code Annotated 1953. This the writer knows is probably like asking someone to reverse the flow of the Colorado River, and when he suggests this to colleagues they just smile knowingly and turn the conversation to other subjects. But, the suggestion is not without merit. The alliance that exists between the water conservancy districts and the Bureau of Reclamation is diverting public resources into expensive and unnecessary projects and leading to complete domination and control of water resources by the federal government. Utah used to fight for state control of water resources, but since the formation of the Central Utah Water Conservancy District, particularly, the fervor has lessened. Federal control and domination in a resource area like water which could be made a business opportunity is not good for Utah.

3. Have state assume debt to federal government. If the water conservancy districts should be disincorporated some method of disposing of the repayment contracts with the federal government would have to be devised. If the Utah congressional delegation could effect an agreement with the federal government an arrangement might be made as follows: The State of Utah would assume the present repayment obligation of all Bureau of Reclamation projects in the state. Since this amounts to about \$2,660,000 exclusive of Central Utah (USBR, 1965), and since the total assessed valuation of all property in Utah (1973) is \$2,145,248,000 an advalorem tax of 1.2 mills would suffice. The Central Utah Project when complete would add another 0.8 mill so that a total assessment of 2 mills for the next 60 years would liquidate the debt. The state should then insist that all titles to water rights, physical properties, and rights of way be relinquished to the state. The state in turn could then lease or sell these facilities to private business enterprises to operate in a free market mode wherever the market existed. Any new projects envisioned should be decided by the market test and not by federal bureaucrats.

4. Reestablish the water "privilege" concept and eliminate water "rights." In the early period of settlement in Utah water was controlled by each county and users were granted "privileges" to put such water to use. When the users need ceased so did his "privilege." No right was vested and he

could not sell or trade his right to another. Perhaps this method placed a heavy burden on the Probate Judge who parceled out the privileges but the concept does have some merit. Allocation from one use to a higher use is assured and the waste by an inefficient user is controlled. Water is not wealth producing capital and should therefore be treated differently than other resources including land. When a person owns land and desires not to utilize it for his own purposes he may lease it to his neighbor. The owner still retains responsibility for the land and still pays taxes on his investment. With water, though, the user may lease his right to another and make no further investment in the right, not even taxes. An example of this is an irrigation company in Weber County which, because of extensive subdividing has ceased to provide irrigation water. It maintains its right, though, by leasing water to the municipal water company. The irrigation company pays no maintenance cost, does not pay taxes, and has absolutely no expense connected with the water delivery system. The municipality pays all costs and the irrigation company receives an annual "windfall" profit which it distributes to the shareholders. The irrigation company makes no contribution yet receives benefits. The difference between this type of situation and an owner of land is that at the termination of the lease of land the owner still has title to a marketable substance. A water right on the other hand is dependent upon use. If the municipality were to terminate its lease in this case, the irrigation company would not be able to put the water to use either by itself or by lease to another customer. This is a physical restriction because the land has been subdivided and no other users or customers exist in that geographic setting. The right would therefore be lost by non-use. In this case the proper thing would be to let the title to the water "right" revert to the municipality. A water "privilege" concept would do away with type of abuse.

5. Remove water utilities from control of the Public Service Commission. Private water utilities have not done well in Utah and one of the reasons is the stringent control imposed by the Public Service Commission. Rate control may be a way of life with the American consumer but arguments against such control can be justified. Because certain types of businesses must of necessity be operated as monopolies, fear of abuse has led consumers to accept governmental control agencies. Many forget, however, that, particularly in the water business, *governmental* monopolies exist. Probably 90 percent of the domestic water systems in Utah are governmental monopolies which do not come under the control of the Public Service Commission, and hence are without rate regulation. Besides rate control, though, the Public Service Commission practices a form of business restraint by limiting the number of customers which a water utility can serve. It is this type of control which must be removed if this important social need is to truly become a business opportunity.

6. Allow and encourage the formation of free market controlled water utilities. The essence of all the previous recommendations is to prepare the

way and make it possible for business to enter into the water distribution field. The product is not water rights and not even water per se. The product is and should be service! There may be many ways to structurally organize such a business but the intent must be always the same, to give service to a customer—to become society's organ for the discharge of the important social task of managing water resources.

All organizations and institutions have power, and all of them exercise power. All, therefore, need to take responsibility for their actions. An organization is socially responsible when it satisfies society's needs through concentration on its own specific job. An organization is most responsible when it converts public needs into its own achievements. The organization may be "private" but the people at the head are certainly "public."

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APPENDIX

CONSTITUTIONAL PROVISION FOR MUNICIPAL WATER RIGHT TENURE IN UTAH

by

Trevor C. Hughes

CONSTITUTIONAL PROVISION

Section 6 of Article XI of the Constitution of the State of Utah reads as follows:

Sec. 6. (Municipalities forbidden to sell water-works or rights.)

No municipal corporation, shall directly or indirectly, lease, sell, alien or dispose of any water-works, water rights, or sources of water supply now or hereafter to be owned or controlled by it; but all such water works, water-rights and sources of water supply now owned or hereafter to be acquired by any municipal corporation, shall be preserved, maintained and operated by it for supplying its inhabitants with water at reasonable charges. Provided, that nothing herein contained shall be construed to prevent any such municipal corporation from exchanging water rights, or sources of water supply, for other water-rights or sources of water supply of equal value, and to be devoted in like manner to the public supply of its inhabitants.

This appears to be a provision which is unique to the State of Utah. The restriction applies to two very different items; water works and water rights. The language would appear, in the first case, to prevent municipalities from disposing of their physical facilities such as buried water pipelines, reservoirs, etc. This unusual requirement, however, has not caused any difficulty because it has apparently been largely ignored by the legal profession. Municipalities continually abandon deteriorated pipelines and remove and replace worn pumps and valves, etc. Because these items are normally replaced with equal or better equipment no one seems worried about the fact that a rigid interpretation of the Constitution would appear to prevent this sort of action. This is perhaps not surprising in view of the obvious chaos which would result

if cities were forced to maintain worn-out and obsolete equipment rather than replace it. What is surprising is that Section 6 is enforced rather strictly in regard to water rights and ignored in the case of water works; and this in spite of the fact that some degree of flexibility is added in the last sentence by the allowance for exchange of water rights of equal value but is silent in regard to “exchange of water works.”

Obviously Article 6 is in reality being interpreted to allow the exchange concept in regard to water works regardless of the language and this long established tradition essentially removes the potential danger. Even so, it would appear that a constitutional amendment to clarify this matter would be advisable. It is conceivable that a citizen or group, for example, which opposed a municipal water system renovation could force a court test of this provision on the basis that the new project included disposal of some existing equipment. This could cause serious delay of the project and expense to the city. This matter, however, as has been previously stated does not appear to be causing recurring problems and will not be treated further. The more serious impact of Article XI, Section 6, is in regard to water rights and the balance of this section will be addressed to this problem.

It is easy to understand the intent of the framers of the Constitution in regard to this section. In this arid climate a source of water, particularly one which in its natural state was of a quality suitable for municipal use, was (and is) an extremely valuable right. The possibility of short-sighted municipal officials selling this valuable perpetual right during a period of excess water availability in order to obtain capital to solve more immediate fiscal problems was no doubt envisioned. The concept of preventing such action which could result in a future municipal water shortage (or significant cost to treat an alternative, lower quality source) is certainly a worthwhile goal. This was undoubtedly the objective of the writers of Article XI, Section 6 of the Utah Constitution.

In practice, however, the rigidity of the language of this section causes numerous problems to municipal officials. In fact this rigidity can even have the effect of defeating efforts to upgrade the quality of municipal water supply rather than protecting it.

Most municipal officials are well aware of the value of a water right in Utah. This is evidenced by the fact that most municipalities have long since acquired rights (in the form of approved applications to appropriate) to the available local high quality water such as spring flow and some groundwater. Use of these sources is almost invariably much cheaper than treating other poorer quality surface water. Acquiring an approved right to appropriate such water is very easy. It requires merely an application with the State Division of Water Rights. Since acquiring this “right to appropriate water” costs almost nothing, such applications have been filed by even the smallest communities in the state. The State Engineer has in general been lenient in approving

applications for large amounts of municipal water for several reasons: 1) It is difficult to assess the growth potential in municipal areas and city officials typically have an optimistic opinion of the prospects for growth in their community (even in rural areas where the long term population trend has been negative). 2) Even with a stable population, water demand is increasing somewhat due to technology changes. 3) After the water source is developed and put to use the State Engineer requires a "proof of appropriation" which includes actual measurement of the flow being put to beneficial use. At this time the water right can be decreased below the amount actually shown in the application if the original amount was excessive.

This brings up the question of whether an approved application actually constitutes a water right and is therefore subject to Article 6. In Utah, an approved application to appropriate right is considered to be a valuable inchoate right which may be defended in court. It is an unperfected right which is "in process of being perfected." It appears to be well established that an approved application does constitute a water right in the sense that a municipality, because of Article 6, cannot dispose of it. The fact that the quantity of flow approved in the application is subject to reduction as the right changes from the inchoate to the perfected form is simply a consequence of the state's appropriation procedure and is not subject to control by the officers of a municipality, and therefore, as a practical matter is not influenced by Article 6.

Many communities have approved applications for water rights greatly in excess of their present needs. Their problem, however, is usually in financing the development of their resource.

A large number of small communities in Utah constructed water supply systems during the early 1930's by means of WPA projects. Unfortunately, most of this effort was put into construction of distribution systems and the water source was usually a local creek or canal. Typically the only treatment was chlorination. Although some of the creeks produced reasonably good quality water during the 1930's (during at least part of the year), few, if any do now, and all of them experience serious contamination during storms. Regardless of quality during particular periods of the year, hazards, such as animal wastes in the creek channel above the diversion have caused the Division of Health, as a matter of policy, to classify any such system as being inadequate. Despite repeated warnings over many years by the Division of Health, many community officials have been unable to finance the necessary improvements in their systems.

With this background, let us consider the plight of a typical small community in attempting to upgrade such a water system. The town may have an approved application for water or may actually own water in a quantity considerably in excess of its present needs. Frequently, other potential users, both public and private, exist which create a sellers' market

for high quality water. Many times these needs are small in terms of flow such as for campgrounds, resorts, or ranches. Because the cost of alternative sources of water may be very high, however, these other users may be willing to pay a surprisingly large amount to purchase a part of the town's water. This creates a potential source of financing a system which the town may be unable to finance alone. The town could dispose of a small fraction of its water right, still maintain a reasonable water reserve for future growth, and solve its critical fiscal and public health problems. It cannot presently do this, however, because of Article XI of the Constitution. Even a lease is considered unconstitutional unless it is renewed on approximately an annual basis. The potential outside user is not going to invest a substantial amount of capital in the town's system with only a guaranteed one-year tenure on his water right.

It is the writer's opinion that this or very similar problems related to Article XI have confronted many Utah communities since World War II; nor are the problems associated with Article XI limited to small municipalities. Virtually all large cities have a market for their treated water due to growing demands in surrounding suburban areas. Frequently, due to economies of scale, and to superior water rights, the urban center could wholesale excess water to some of these other municipalities or water districts at a profit to the urban center and a savings over alternate sources to the other users. They can do so, however, only within a very restricted legal framework. On one hand there is a state statute, U.C.A. 1953, 10-8-14, which provides:

They [cities] may construct, maintain and operate water-works . . . or authorize the construction, maintenance and operation of the same by others, or purchase or lease such works from any person or corporation, and they may sell and deliver the surplus product or service . . . *not required by the city or its inhabitants*, to others beyond the limits of the city.

Cities may not, however, purchase water solely for resale, nor construct, own or manage facilities and equipment for distribution of water outside city limits as general business (U.C.A. 1953, 10-8-14). This somewhat contradictory situation permits cities to sell "excess water" until it is needed by the growing city but does not permit any sort of long-term contract which provides security for the users outside the city (or security for the city in recovering their capital investment in water distribution facilities). Because of Article XI, Section 6, any such agreement is not constitutional, since it effectively constitutes disposing of the water right. Many cities in Utah are in fact selling their "excess" water to surrounding customers. A common means of accomplishing this is for the two parties to sign very short-term agreements.

Substantial capital investment in buried supply lines are then necessary and are made with obvious belief that these short-term agreements will continue to be renewed. If such investments are entirely based upon formal short-term lease agreements, one wonders what informal "moral" agreements

have been negotiated between various parties. Obviously the potential danger of personality clashes threatening the continuity of such agreements as political administrations change periodically presents a very real danger. The opportunity for unethical political maneuvering which these agreements present because of vulnerability of the water purchaser is itself sufficient reason to seek a change.

It is not the intent of the writer to suggest termination of such water wholesaling but rather to completely legitimize it by allowing at least long-term leases with their accompanying security.

One method which Salt Lake City has found to be useful in avoiding the constitutional restriction was the creation of the Metropolitan Water District of Salt Lake City (MWDSLCL). A court case has established (Utah Code Annotated, Vol. I A. p. 295) that the restriction "applies only to cities, towns and villages and subdivisions of such cities, towns, and villages and does not apply to water conservancy districts, which are not municipalities within the contemplation of that term as used in the constitution." The officers of the MWDSLCL are appointed by the elected officials of Salt Lake City and the boundary of the district originally coincided with the municipal boundary. However, the district has been considered to be unrestricted by Article XI, Section 6, and it is presently wholesaling very large quantities of water to other utilities in Salt Lake County. This institutional arrangement provides considerable flexibility in use of water acquired by the city (through the district) after creation of the district; but it is not helpful to a city whose total right was acquired prior to formation of such a district.

Another common way of avoiding the restriction is to exchange water rights. The courts have interpreted Article XI as allowing trades involving unequal quantities or intermittent water flows so long as the water acquired by the municipality has "equal value" to the water it disposes. Because of differences in water quality this provides some flexibility in exchanges.

There are many situations, however, where such exchanges are not possible, as illustrated by the following case studies.

Case Study No. 1—Cleveland and Elmo, Utah:

The towns of Cleveland and Elmo in northern Emery County obtained water systems by means of the WPA program during the 1930's. The groundwater in this area contains too much salt to be suitable for culinary use. These systems therefore obtain water from a local irrigation company, the Huntington-Cleveland Irrigation Company. The water is diverted from a canal at a point near each town and used without treatment except for running it through small settling ponds. The quality of this water is completely unsuitable for culinary use and the State Division of Health has been attempting to get these communities to upgrade their systems for many years.

In 1967, a consultant was hired by a group of local residents to study the domestic water needs of the area of northern Emery County. The engineer's report indicated that the only source of suitable quality water for use without complete treatment was the flow from several small springs in Huntington Canyon, approximately 17 miles from Cleveland and 22 miles from Elmo. The construction cost of transporting this water from the springs to either town was completely prohibitive as an individual community project. However, by creating a single water utility which could serve the entire county area with one supply line from the canyon, it appeared that a feasible project could be developed. An alternate solution, involving diverting water closer to the service area and treating it was considered but this would have cost more due to high operating costs and it would have continued the winter icing problems in the canals.

In order to proceed with the project as recommended by the consultant, the local residents voted in 1970 to form a non-profit corporation called the North Emery Water Users Association. The plan was to construct a system costing \$1,100,000, which would serve both the incorporated areas of Cleveland and Elmo, the unincorporated community of Lawrence and the largest possible number of farms in the area. The Association received almost unanimous support from the local residents—both inside and outside the incorporated areas—and soon more than 300 service connections had been purchased. A substantial grant from the Economic Development Administration and the Four Corners Regional Commission permitted financing the project at a reasonable cost to the users. A loan was obtained from the Farmers Home Administration for most of the balance of non-grant funds.

The Huntington-Cleveland Irrigation Company holds the water rights to virtually all of the flow from the Huntington Creek watershed. Since the springs which were proposed for development are in this watershed, the intent of the Association was to obtain the right to the spring flow by purchasing the necessary stock in the Irrigation Company and obtaining permission from the State Division of Water Rights for a change of use and of point of diversion. The two municipalities already had sufficient stock in the irrigation company for their own residents (700 shares) and it was the stated intention of both municipalities to allow the Association to deliver water represented by this stock through the proposed pipeline. It was believed that only a change of point of diversion would be required to accomplish tremendous increase in quality of water delivered to their residents. This meant that the only stock that would have to be actually purchased by the Association would be that for users outside the municipalities. This was agreeable to the State Division of Water Rights, the towns, the Association, and the Irrigation Company.

The question remained: What type of formal agreement would be required between the towns and the Association in order to protect all the

interests involved? Because of Article XI, Section 6, the towns could not sell this stock to the Association. What was desired by all parties was a form of lease agreement where the Association would be able to deliver the water to the town users and bill them directly. The towns would still have to pay their usual annual assessment to the irrigation company but the Association's lease agreement would require it to reimburse the towns by an amount at least equal to the annual water assessment. The Association's attorney and engineer were well aware of the Constitutional prohibition on disposing of municipal water rights but believed that surely, in a situation where all parties would obviously benefit, some type of lease agreement could be worked out for this purpose. To the great consternation of all parties, however, it was finally determined that this could not be done. A short term renewable lease was not agreeable to the attorneys for the federal financing agencies. Since the project loan was to be financed over 40 years, these agencies insisted upon a lease of at least this duration to assure tenure of the water right held by the Association (and assigned to the federal government during the loan period). A lease of that duration, however, was not constitutional because it was interpreted by attorneys on both sides as amounting to disposing of the water right.

The towns were therefore faced with the following spectacle: 1) They had a water right sufficient for their needs in terms of quantity but very poor in quality; 2) they had no apparent way to finance, on their own, and means of improving their water quality; 3) because of economies of scale, a water association was able to deliver water to them which was completely acceptable to the Board of Health at an average monthly cost to their users of \$6/month compared to about \$4 for the completely inadequate present system, *provided* that the towns' share of the irrigation company's water could be delivered through the Association's pipeline rather than the open canal; 4) because of Article XI of the Constitution the necessary legal arrangements could not be agreed upon and therefore the transfer could not be made. This incredible situation occurred in spite of the fact that the water would still have been used by the same families and the service to the towns would have been guaranteed by a franchise agreement between the towns and the Association. The Association would have had a stability guaranteed by the administrative, legal, and financial interest of the federal financing agencies, and the state agencies such as the Division of Health and Division of Water Rights.

Clearly, the intent of the writers of the Constitution was not served in this case; rather, the rigid municipal water right clause appeared to require continuation of an intolerable situation in terms of public health.

A solution was finally worked out in the following manner: The Association determined that the only course open to them short of abandoning the project was to attempt to purchase additional irrigation

company stock to replace the water planned to be furnished by the towns. This was a very difficult task because of the shortage of water in the area and because of the extra cost involved. The Association finally convinced enough potential customers outside of the municipal areas to sell a portion of their irrigation water and they purchased 768 shares rather than 165 shares. The additional cost of \$10,854 had to come from local Association funds since neither the grant nor loan funds could be released until the water right was acquired. This very nearly stopped the project since the local groups share had been almost completely used for preliminary engineering and right-of-way costs. After several months delay the additional funds were raised, the stock sale was negotiated, and construction began in 1972.

The two towns now have no use for their 700 shares of stock in the irrigation company. The market value of the stock at \$18.00 per share is \$12,600 but they cannot sell it because of the constitutional restriction. They now are faced with an annual operation and maintenance assessment from the irrigation company of at least \$875 in perpetuity for water which they cannot use.

One recourse open to the towns appears to be to refuse payment of the annual assessment. Over a period of time this would in reality constitute abandonment of their ownership of this stock. The irrigation company could then allow use of the water by other customers (perhaps even the domestic water association). Certainly tenure by such a user, however, would be uncertain and the value of the right would be much less than the market value of other stock. This is an example of the extent of administrative and legal gymnastics and the economic loss which municipalities in Utah are presently experiencing as a result of Article XI, Section 6.

Case Study No. 2—Torrey, Utah:

The town of Torrey, Wayne County, Utah, has a population of approximately 40 families. The town has over the years acquired water rights for municipal use to the flow from several springs which are located in the mountains above the town. Prior to 1968, the municipal water system consisted of a distribution system which diverted water from Sand Creek at a point near the town which was six miles from the springs which were the source of the creek flow. This highly contaminated water was then used with no treatment.

In 1967, the town hired a consultant to plan a program of improving their water system. The resulting feasibility report indicated that development of the springs at the source and construction of a pipeline to the town was the most economical method of upgrading the water quality. The town was able to obtain a 50 percent grant from the Farmer's Home Administration to apply to such a project, but even so, financing the balance of the construction cost appeared hopeless for the small town.

An apparent solution materialized in the form of the U.S. Forest Service. The proposed pipeline was to be constructed over several miles of public domain administered by the Forest Service. The right-of-way in fact went through a proposed future campground. The Forest Service was in the process of planning the campground facilities which were to include a culinary water system. The solution was obvious; the Forest Service would assist in financing the town system. In return, the town would allow the Forest Service to use a small portion of its water supply by providing an outlet at the campground.

The town had approved applications from the State Division of Water Rights to develop and use all of the flow from Indian Spring which was above the forest campground. They also had the right to the flow from another large spring in a higher canyon and other smaller rights. The basis for this large water right was use for both municipal and irrigation purposes within the town area. The total water right represented approximately 1100 gallons per minute while the demand for municipal use was only about 40 gallons per minute. Obviously, the town could have allowed a small portion of their water to be used by the Forest Service and still have an ample reserve for even an unexpected future population explosion.

It was at any rate an academic question, whether some tremendous future growth in the area could possibly result in a municipal water shortage. At some point during such growth an economic base would have been established which could have financed water developments from other, more distant sources, or treatment of local surface flow. The very real problem facing the town board and the State Division of Health in 1967 was how to finance a safe supply of drinking water for the 40 existing relatively low income families.

Here again, Article XI, Section 6, very nearly scuttled the proposed improvements. The town was informed by the USDA attorney, acting in behalf of the funding agency that it could not sell or lease a part of its water to the federal government. After considerable delay (which caused threatened withdrawal of the 50 percent federal grant which had already been appropriated) a solution was reached. The Forest Service claimed a diligence right to a portion of the city's spring flow by virtue of grazing permits in the area. The State Engineer and cattlemen who happened to be sympathetic to the town's plight, allowed a questionable change of use for this water right from stock watering to campground use. In this manner the town was finally able to circumvent Section 6, and the project was finally allowed to proceed.

Case Study No. 3—Bountiful City:

Bountiful City is one of the most rapidly growing cities on the Wasatch Front. It presently acquires water from several local wells and from the Weber Basin Water Conservancy District (WBWCD). It also has obtained rights to flow from nearby Millcreek Canyon which it is not yet using.

A recent planning study of the city's water system revealed that a large savings could be made (present worth of more than \$600,000) if the city could dispose of its WBWCD water. The city had contracted with the district in 1960 to purchase 1000 acre-feet of treated water. The term of the contract is 40 years. The increasing operation and maintenance costs charged by the district have caused this source of supply to become much more expensive than the two alternate sources. Because of the constitutional restriction, however, they cannot lease this water to other communities during the remainder of their contract. It is even doubtful that they can avoid renewing the contract in the year 2000 because this may well be interpreted as "disposing of an acquired water right."

RECOMMENDATIONS

It would appear that there is ample evidence that Article XI, Section 6, of the Utah State Constitution is counter productive and that a constitutional amendment is desirable.

One possible solution would be outright elimination of this section. A second alternative would be to permit disposal of a municipal water right only after a 2/3 vote by the city residents. A third solution would be to require approval by the State Division of Water Rights, and/or the State Division of Water Resources. This, however, may be unconstitutional itself. Article VI, Section 29 provides that "the legislature shall not delegate to *any special commission*, . . . any power to make, supervise or *interfere with any municipal* improvement, money, *property* or effects . . . or to perform any municipal functions." This sort of approval would therefore have to be investigated carefully. It would appear, however, that the Division of Water Rights is already exercising broad powers affecting municipal property when it reduces the quantity of an approved water right application during the process of "perfecting" it.

Of the three alternate solutions suggested above, the second (voter approval) would likely be most attractive to the voters of the state and therefore most likely to accomplish approval of the constitutional amendment. It would eliminate the problems now associated with Article XI, Section 6, and still retain a form of check and balance on the city officials without interference by a state agency. This course of action is therefore recommended.

NOTE

Since Utah is the only state in the United States that has a constitutional restraint prohibiting municipalities from disposing of water rights, no possible harm could come to the municipalities if the first solution of Mr. Hughes were recommended and accepted. Complete repeal of Article XI, Section 6 would probably be the best solution, therefore.

