

CONSTITUTIONAL DECISION-MAKING:
A Logic for the Organization of
Collective Enterprises

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In examining the outcomes of constitution making at the local level, political scientists and economists have often despaired at the resultant crazy-quilt pattern of local governmental units. One might also argue that despair should be directed at the lack of an appropriate logic to explain behavior in the on-going political process. Market behavior also appears as highly disorganized, until viewed with the help of a logic for explaining the order resulting from simultaneous, inter-related decision making in a market place. When we have developed an adequate logic or calculus to explain the behavior of local governmental systems, we may be surprised at the extent of order we can discover. We should then be better prepared to propose improvements in the on-going political process.

For some time now a literature has been growing at the fringes of political science and economics which provides the beginnings of a new logic of collective action.^{-1/} From these theoretical foundations, one can begin to develop a relatively coherent logic of constitutional behavior at the local level. During this discussion of the

^{-1/} This literature has undergone a healthy growth pattern in recent years and reference to only a few of the most significant and seminal works can be given here. For some of the recent thrusts see the first three volumes of the Collected Papers in Non-Market Decision-Making which will be issued in the future as Public Choice.

A short list of the "classics" in this literature would at least include James M. Buchanan and Gordon Tullock, The Calculus of Consent (Ann Arbor: University of Michigan Press, 1962), Anthony Downs, An Economic Theory of Democracy (New York: Harper & Bros., 1957), Mancur Olson, The Logic of Collective Action (Cambridge, Massachusetts: Harvard University Press, 1965), William Baumol, Welfare Economics and the Theory of the State (Cambridge, Massachusetts: Harvard University Press, 1952), Robert A. Dahl and Charles E. Lindblom Politics Economics and Welfare (New York: Harper & Row, 1953), and William H. Riker, The Theory of Political Coalitions (New Haven: Yale University Press, 1962).

logic of establishing collective enterprises, illustrations related to the management of a ground water basin will be used.^{2/} The problem of ground water basin management is particularly useful in helping to understand the logic of constitution making since it is a classic example of a common-pool resource--the actions of any producer affect all other producers utilizing the basin. Secondly, the issues are relatively clear-cut and easily determined by an outside observer. Problems of ground water basin management are not in the main affected by party politics, race relations and other divisive issues of the day. In essence, one can assume all other things are held constant while examining the behavior of individuals related to this one set of events. This is as close to a laboratory situation as we can get when we are interested in the behavior of on-going systems. This type of analysis could also be applied to many other problems of metropolitan areas including housing, sanitation, recreation and transportation.

Basic Assumptions

In turning now to the development of a logic of constitutional choice, let us first assume the existence of a basic constitutional order which assigns certain rights, duties, privileges and responsibilities through and among different governmental structures. In other words, the feasibility of law and order has already been established through relatively predictable decision-making arrangements. Secondly,

^{2/} This paper has grown out of my previous examination of ground water basin management in "Public Entrepreneurship: A Case Study in Ground Water Basin Management." Dissertation University of California, Los Angeles, September, 1964.

let us assume for the first part of this analysis that a number of self-interested, rational and maximizing individuals settle on the land over a ground water basin.^{-3/} Third, let us assume that sufficient information is available concerning the state of the environment and the state of individuals preferences to characterize the decision making situation as involving risk rather than uncertainty. Fourth, let us assume that information is costly.

Potential Benefits from Collective Action

Decreasing Social Costs of Individual Action

If the aggregate demands for water of the individuals who settle in an area underlaid by a ground water basin do not exceed the aggregate natural supply to the basin, the residents acting in their individual capacities can easily manage the use of this resource. Nor are there any significant difficulties when one firm utilizes such a resource. Problems do occur, however, when a large number ^{-4/} of individuals begin to withdraw in total more water from the basin than is replaced through natural replenishment. As the total amount of water demanded by all producers exceeds the total yield of a basin, water levels begin to fall. The costs of producing ground water increase. If ground water levels decline too far, the basin may be endangered through

^{-3/} By rational, I mean that the individual is able to rank all alternatives placed before him. Either A is more valued than B, or B is more valued than A, or the individual is indifferent as between A and B. Secondly, this ordering is transitive. If A is preferred to B, and B is preferred to C, then A is preferred to C. An individual is considered to have adopted a maximizing strategy when he consistently chooses the alternative which has the highest net value for him.

^{-4/} By large number, I mean at least larger than a group that can sustain face-to-face relations. See Mancur Olson, op.cit., pp. 19-36.

compaction, or intrusion of salt water for those basins which adjoin the sea. The destruction of even a small ground water basin may involve a large potential loss since the costs of constructing surface distribution and storage facilities to replace a ground water basin may be very high.^{-5/}

Once a total withdrawal of ground water exceeds natural yields, individual calculations may lead to an increase in the amount of overdraft rather than to a reduction. Separate individuals do not take into account the possibility of extensive joint loss in their individual calculations. As shown in Figure 1, marginal private costs (mpc) of producing ground water for a representative pumper rises as the quantity of water withdrawn increases and ground water levels are lowered.^{-6/} While marginal private costs rise as production increases, marginal social costs (msc) rise even faster as the production by one pumper lowers the water levels in all neighboring wells. However, the individual producer does not take marginal social costs into account when deciding how much water to produce. The maximizing producer continues to withdraw water until his marginal private costs are equal to the value of the marginal product (vmp) to be produced from this water. The maximizing producer, taking his own costs into account,

^{-5/} Estimates of the capital cost of replacing the water storage capacities of West Basin in California by surface reservoirs have ranged from \$90,000,000 to \$150,000,000. See Elinor Ostrom, op. cit., p. 16.

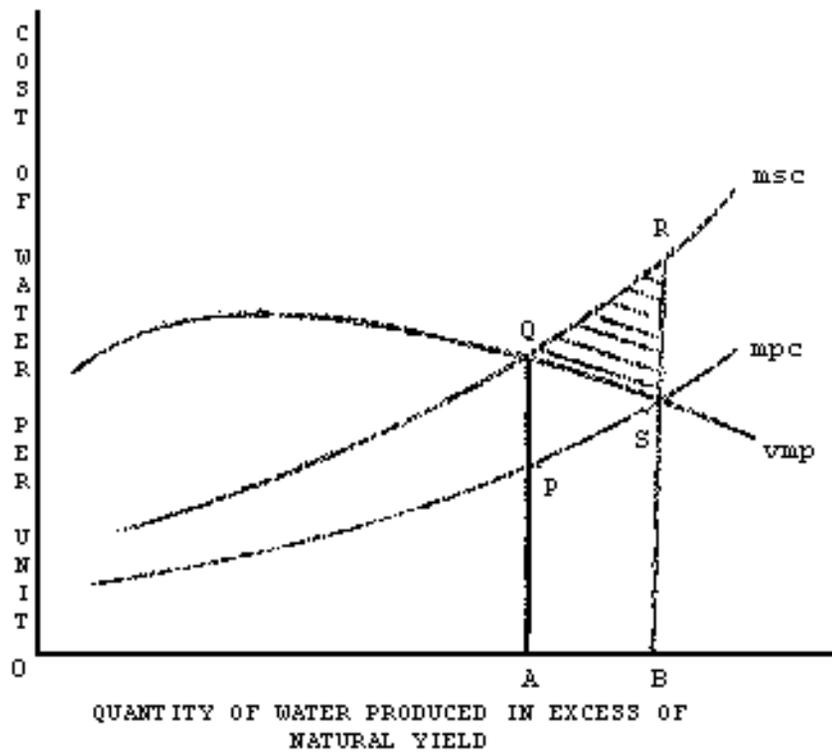
^{-6/} This figure is similar to one presented by Jack Hirshleifer, James C. DeHaven and Jerome W. Milliman in Water Supply: Economics-Technology and Policy (Chicago: The University of Chicago Press, 1960), p.65.

would be led to produce a quantity of water equal to OB, where his marginal private costs are equal to the value of the marginal product. However, these private calculations lead to a net loss for the community of water producers utilizing the same basin.

The community of water producers would be better off if the individual water producer would extract OA quantity of water. At OA level of production the individual profit maximizing producer could meet his own costs of production as well as compensating his neighbors for the difference between individual and social costs. At OA level of production the individual producer could compensate his neighbors up to the equivalent of full social costs and still break even. The marginal compensation that would be required to equal the marginal social costs of any level of production would be equivalent to a line segment between msc and mpc. At a level of production equivalent to OA, the individual, maximizing producer could pay marginal compensation to his neighbors of QP. At this level of production, the individual producer could cover his own costs and those he created for others for the marginal unit. However, at any production level to the right of OA, it would no longer be consistent with individual profit maximizing to pay full compensation. The amount of compensation consistent with individual profit maximization steadily decreases at each additional level of production until he reaches OB where the individual producer would no longer pay any marginal compensation at all. Even if he has compensated his neighbors to the equivalent of his break even point, as he has increased production from OA to OB, a total social loss, equivalent to the shaded triangular area QRS, still remains at OB. Any level of production less than OB would reduce the quantity of social costs resulting from the individual producer's action.

Figure 1

Costs of Water Production for a Representative
Ground Water Producer in an Overdrawn Ground Water Basin



Changing the structure of incentives and deterrents so that the individual producer is led to produce at OA, and provide a marginal compensation to his neighbors equivalent to QP, requires political action of some sort. Constituting a new enterprise with authority to tax an individual for the difference between his marginal private costs and his marginal social costs would increase joint welfare by decreasing the social costs of individual actions.^{-7/} The total net decrease in the social costs of individual actions that could be derived from constituting such an enterprise is equivalent to the shaded triangle QRS. The prevention of this total net social cost can be conceptualized as a total net benefit achievable through collective action.

Capturing Social Benefits of Individual Action

Other opportunities to increase joint welfare may also exist. One opportunity may be to increase the natural yield of a ground water basin by artificial replenishment. Where the surface of the basin is permeable, spreading water in shallow basins allows water to percolate slowly into storage for future use. Where the surface of the basin is impermeable, injection wells may be used to force water down into the basin to increase the underground supply. Replenishment activities not only increase the amount of water supply available to all pumpers, but may also prevent destruction of a basin through compaction or salt-water intrusion.

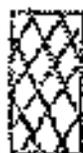
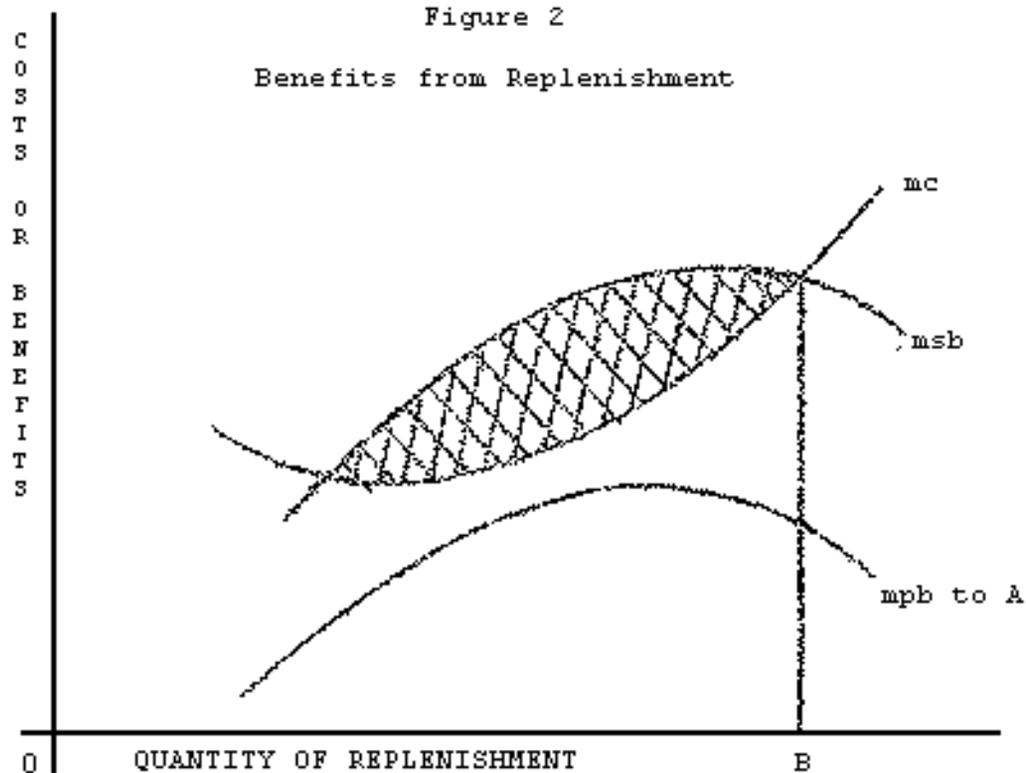
^{-7/} The tax would, of course, have to be a variable tax depending upon the amount of water pumped. This is one of three different types of "solutions" proposed for common pool problems. The other two solutions are the imposition of a central decision and the imposition of a quota system. See ibid., pp. 59-61. See also Louis F. Weschler, Water Resources Management: The Orange County Experience (Davis: University of California, Davis Institute of Governmental Affairs, 1968).

Replenishment activities are expensive. If the private benefit to a single producer is not equal to or greater than the cost of replenishment, a private producer will not invest in such activities. This is the case shown in Figure 2, where the marginal private benefit (mpb) to Producer A is less than the marginal cost of artificial replenishment activities. However, even though the marginal cost of artificial replenishment may exceed the marginal benefit to one producer, marginal cost may not exceed the marginal social benefit (msb) to a community of water producers. As shown in Figure 2, a considerable potential social benefit may be derived from replenishment activities.

Even if an individual producer, such as Producer B in Figure 3 would receive private net benefits from replenishment activity, he would rarely undertake as large an expenditure in these activities as would create full social benefits. Producer B would be led to produce OA quantity of artificial basin replenishment activities. At OA the marginal cost of replenishment would equal the marginal private benefit that Producer B could derive from these activities. Producer B would also produce a significant social benefit as a result of his private activities for which he would not receive compensation. Water levels in neighboring wells would rise. The basin might be protected against serious damage from salt water intrusion or compaction. However, still further increases in the total welfare of the community of water producers could be obtained. The community of water producers would continue to receive more benefits than costs up to OB quantity of replenishment. At OB, the marginal costs of replenishment would equal the marginal social benefit derived from this activity. However, the community of water producers will not be led to produce OB quantity of

Figure 2

Benefits from Replenishment



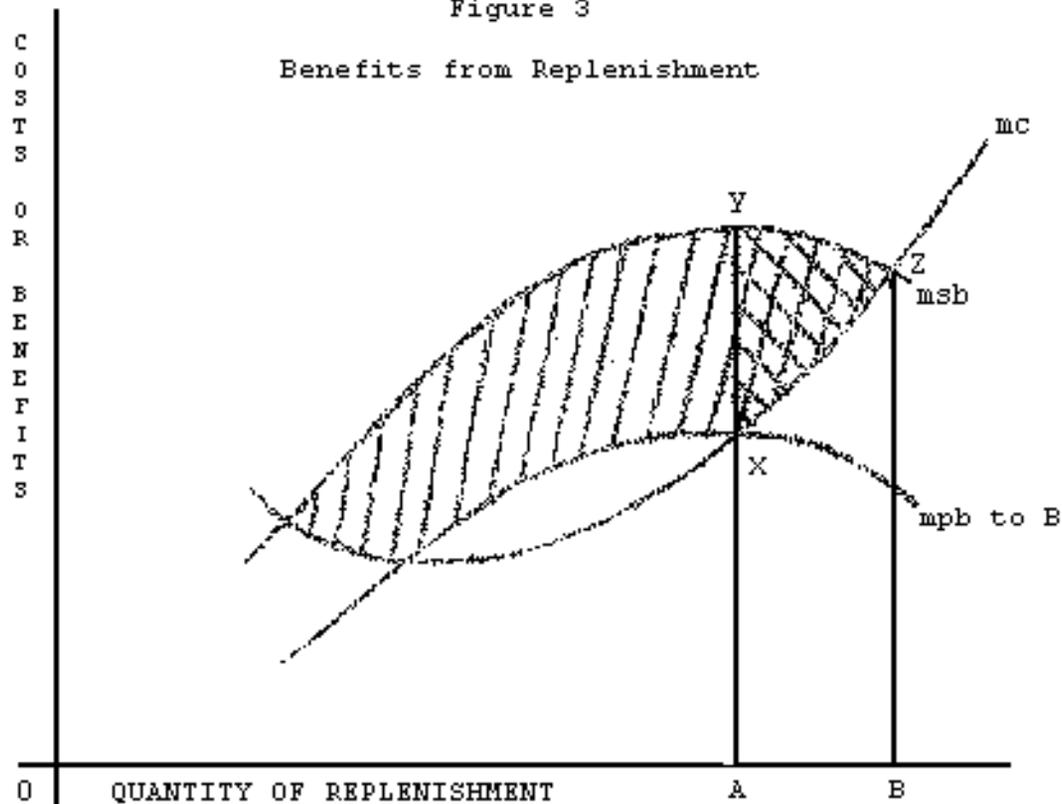
Potential Net Social Benefits



Uncompensated Net Social Benefits

Figure 3

Benefits from Replenishment



water replenishment activities without the establishment of some form of joint enterprise.

The Opportunity for Collective Action

The problem of managing a ground water basin thus presents us with a classic case of an opportunity for some form of collective action. By constituting either a voluntary or public collective enterprise, or both, individuals may be able to avoid the social costs of some individual actions as well as being able to gain the positive benefits of some joint opportunities. Water producers utilizing a common ground water basin have a group interest in achieving some form of collective management. However the presence of a group interest does not guarantee that individuals will automatically organize collective action.^{-8/} If a public jurisdiction existed with appropriate powers and boundaries, affected individuals could ask it to assume management responsibilities. Demanding new services from already-existing public jurisdictions may involve less time, money and effort than beginning a new enterprise. However, existing institutions rarely have appropriate boundaries and the authority to deal with different sized common pool-problems of this type. Consequently, if individuals are to gain the potential benefit of collective actions, they may have to constitute new institutional arrangements.

The process of devising new institutional arrangements resembles the process of a limited constitutional convention even though all

^{-8/} See Mancur Olson, op.cit., for an analysis of why groups do not automatically form when individuals share common interests. See William Baumol, op.cit., for an analysis of why rational individuals will resort to limited coercive means to gain common interests.

affected individuals may not meet together in a general session. The significant difference between constitutional decision-making processes as compared to other forms of political decision making is the focus on the establishment of authoritative rules by which individuals will make future decisions.^{-9/} Individuals are involved in a constitutional process whenever they are concerned with the following questions:

Who should be enabled to take action?

What action should be allowed or not allowed?

What decision rules should be invoked prior to action?

Those affected may meet together over time in various ways to discuss future benefits and costs that may result from the creation of new public decision-making systems. Water producers, representatives of already existing public agencies, and tax paying citizens may all take an active part in devising a constitution for a new public decision-making arrangement. The forum for these constitutional decisions may be the executive committee of a private association, an ad hoc committee of citizens, the board of directors of an already-existing public jurisdiction, a municipal city council, meetings of mayors and managers of existing public districts, open citizens meetings, and/or any combination of the above.^{10/}

^{-9/} Madison stressed the difference between constitutional decisions which might not be altered by a later government by a simple governmental action, and other forms of political decisions which were alterable by the government of the day. See The Federalist, No. 53, (New York: Random House--Modern Library Series, 1937), P. 348.

^{10/} In the West Basin case, water producers and others began meeting in 1944 to discuss different ways and means of establishing new institutional arrangements to solve their problems. In 1945, they formed the West Basin Water Association, a voluntary private association

Potential Costs of Collective Action

Potential benefits derivable from constituting a ground water basin management enterprise include: 1) the returns from joint expenditure in replenishment activities and 2) the reduction of social costs associated with a curtailment of ground water production. However, the

10 (con't.)/ composed of most of the water producers in the area and others potentially affected by collective action. In 1947, they constituted the West Basin Municipal Water District to bring supplemental water to the area. In 1954, they constituted a funding zone within the Los Angeles County Flood Control District to provide revenue for capital investments in replenishment.

In 1954, they began the process of drafting organic legislation to be submitted to the California state legislature. The drafting committee was composed of the President of the West Basin Water Association, a member of the Executive Committee of the West Basin Water Association, an attorney from the Los Angeles City Department of Water and Power, an engineer from the Metropolitan Water District, an engineer from the Orange County Water District, a representative from the Water and Power Committee of the Los Angeles Chamber of Commerce, a representative from the California Farm Bureau Federation, a representative from the Irrigation Districts Association of California, a water law attorney from Riverside County, a representative from the California Mutual Water Company Association, a representative from the Agricultural Council of California., a representative from the United Water Conservation Districts. This "Committee of Twelve" represented all potential veto points over any future constitutional proposals. As a result of the unanimity achieved within this committee, the organic legislation submitted by the committee was approved by the state legislature without any significant changes.

In 1955, after extensive meetings among public officials from the State Department of Water Resources, the Los Angeles County Flood Control District, the Metropolitan Water District, and Cities of Los Angeles and Long Beach, and a number of private water companies held by the Executive Committee of the West Basin Water Association, a new replenishment district was formed. Beginning in 1945, affected water producers in West Basin explored diverse ways of achieving a court sanctioned production cutback which was finally established through a stipulated judgment in 1961.

It took approximately 17 years to constitute a mixed enterprise management system. During this constitutional period, the forum for a large portion of the constitutional debate was the West Basin Water Association or specially constituted ad hoc committees of affected individuals. The effective decision rule followed in most of the constitutional process was unanimity.

establishment of a new institutional arrangement is not a costless process. The costs of collective decision making must be taken into account when contemplating collective action. For purposes of analysis, the cost of collective decision making can be considered to have two components: potential deprivation costs and potential opportunity costs.^{11/}

Potential Deprivation Costs

Whenever the authority for making decisions about joint activities is moved into the public sector, someone may be forced to abide by a decision to which he did not agree. In the private sector a person may leave an association which has taken a decision he opposed. While individuals may be able to move in and out of public jurisdictions with some measure of freedom, leaving a public jurisdiction may cost much more than resigning from a firm or voluntary association. For a ground water producer, leaving a public basin management enterprise probably would mean giving up his business and moving elsewhere. So long as leaving a public jurisdiction is relatively difficult, the creation of such a jurisdiction means that someone can be deprived of

^{11/} This discussion of the potential costs of collective actions draws heavily on Buchanan and Tullock, op. cit. Because I have felt that the term "external costs" should be reserved for negative externalities resulting from interactions among enterprises rather than within enterprises, that cost curve has been renamed "potential deprivations". Secondly, the term "opportunity costs" replaces their term "decision-making costs" in order to provide a more descriptive name, and in order to reserve "decision-making costs" for the total curve. Because the curves have been renamed does not signify that I am entirely satisfied with these terms. See also Vincent Ostrom, "Water Resource Development: Some Issues in Economic and Political Analysis of Public Policy Problems", presented to the Conference on "Political Science and the Study of Public Policy," at Cape Newagen, Maine, August, 1967. Conference papers to be published in the near future.

some value whenever a collective public decision is made. Deprivations may be relatively low; the enterprise may adopt a policy only slightly at variance with the preferred policy of those who did not agree. However, deprivations may at times be relatively great. Severe sanctions may be utilized to insure conformance with a collective decision.

Actions which are deprivations for some individuals are frequently considered as benefits or income by others. The policy adopted against the wishes of some is considered a benefit by those who favored the proposal. Or, it may be possible for winning coalitions of those included within a jurisdiction to devise a taxing formula that imposes more than a proportional share on a losing coalition. A policy decision reached by a ground water basin management enterprise to limit severely ground water production, for example, would be considered a benefit by those who voted for the measure and as a cost by those who opposed it. Ground water producers may be able to form a coalition and impose a land tax on all residents which shifts the major burden of paying for collective action from the water producer to the resident. Thus, while the creation of a public jurisdiction enables a collectivity to capture joint benefits available to all, winning coalitions of individuals may also be enabled to gain additional benefits through deprivations imposed on losing coalitions of individuals.

At the time of constituting a new enterprise, individuals cannot know or predict what specific future decisions will be made. Assuming that no "elite" exists to form a relatively permanent winning coalition, individuals know only that there will be differences of opinion about future policies. Sometimes they will be on a winning side and other times they will be on a losing side. However, individuals can predict the effect

of different voting rules on amount of future deprivations that winning coalitions will be able to impose. When a small proportion of the total affected group of individuals are authorized to take actions for the entire group, greater deprivations can be imposed on the collectivity than when a larger proportion of the affected group must agree prior to action. As the proportion of individuals would have to agree prior to action is enlarged, more and more individuals would have to agree prior to action thereby reducing the amount of deprivations that could be imposed. Total deprivation costs tend to decline the higher the proportion of individuals from a given group that must agree prior to taking an authoritative step. If all must agree before actions can be taken, potential deprivation costs would be zero. No one would agree to a decision if he felt that he would be deprived as a result of it. Consequently, deprivation cost curves are usually downward sloping to the right and cross the horizontal axis at the decision rule equivalent to unanimous consent.^{12/}

Within this general pattern, specific deprivation cost curves may vary considerably as illustrated by Figures'4 and 5. In these and the remaining figures, the vertical axis measures costs resulting from collective action. The horizontal axis represents the proportion of individuals required to agree to a decision before action can be taken. Even though the illustrated deprivation cost curves vary considerably from each other, all of them have a general tendency to be downward sloping to the right and all cross the horizontal axis at N which is equivalent to the rule of unanimity.

^{12/} See Buchanan and Tullock, op.cit., pp. 72-80.

Figure 4

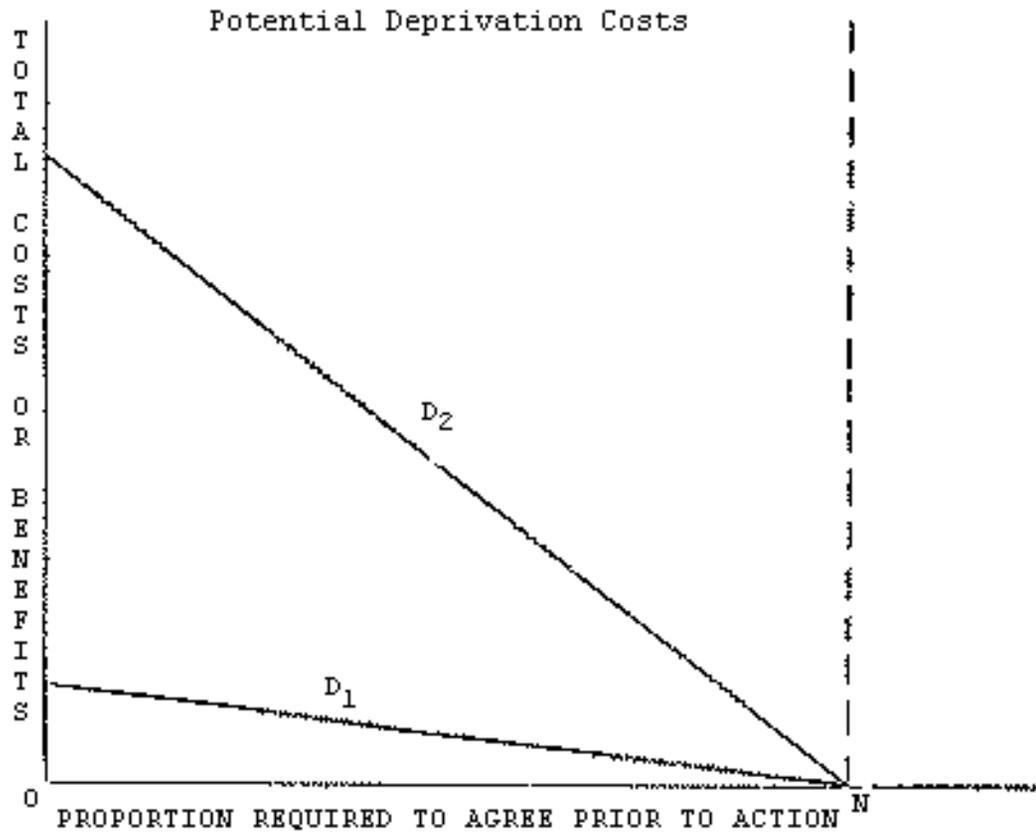
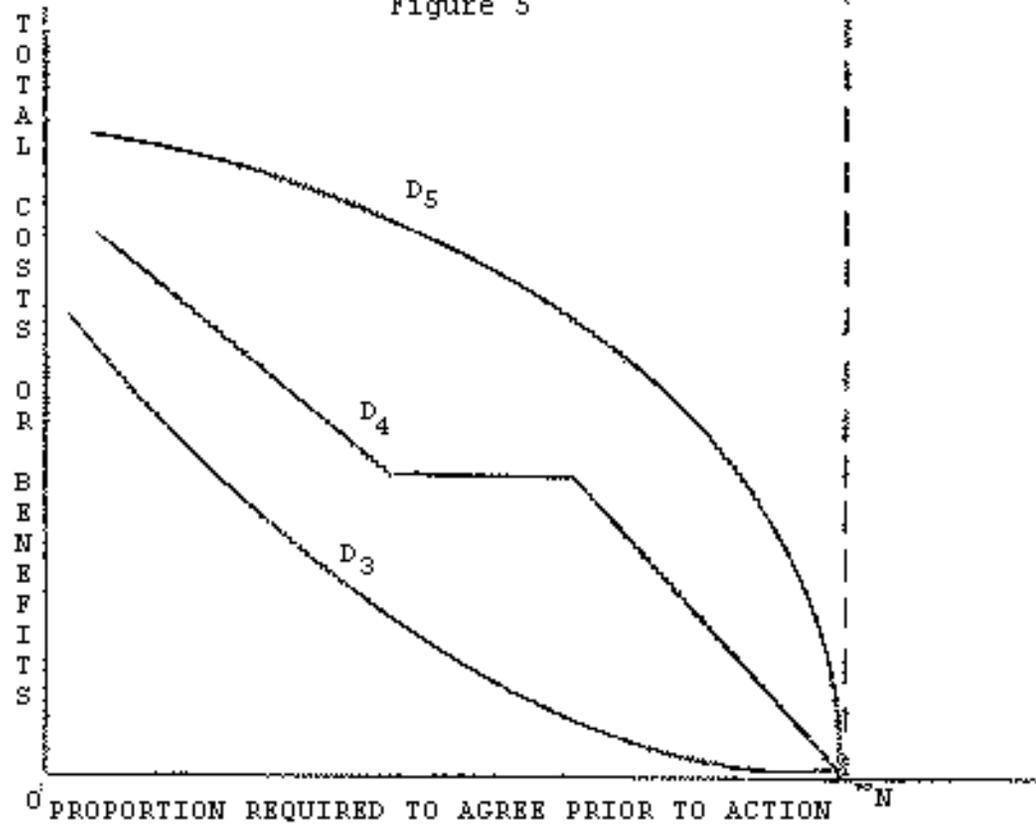


Figure 5



Whenever individuals in a constitutional process are able to specify the range and extent of public powers to be assigned to a future enterprise, they can establish a fixed upper limit on total deprivation costs. For example, individuals constituting a ground water basin management enterprise could specify a maximum and uniform tax rate, a narrow range of authorized public activities and a set of prescribed limits for purchasing and personnel practices. The fixed upper bound for a deprivation cost curve could be relatively low as is D_1 in Figure 4 or it could be relatively high as is D_2 . Both D_1 and D_2 slope downward at a constant rate which implies that deprivation costs would be imposed on members of losing coalitions at the highest possible uniform rate. A change in the decision rule from left to right would reduce deprivation costs by an amount equivalent to that which the last individuals to join a winning coalition would have been forced to contribute if they had been in a losing coalition.

Individuals may not always be able or desire to establish an exact upper bound future public actions. Consequently, during the constitutional process, individuals may not be able to specify the full range of future deprivations costs particularly for decision rules toward the extreme left of the horizontal axis. If any one individual or any small proportion of individuals were enabled by the rules to exert relatively undefined powers to act for a collectivity, extremely high deprivation costs might be imposed. In cases where the full range and extent of future public powers have not been well established, deprivation cost curves would not cross the vertical axis. However, deprivation cost curves in such cases would still be downward sloping to the right and would cross the horizontal axis at N as shown in Figure 5.

In such cases a deprivation cost curve might be convex to the origin (line D₃) concave to the origin (line D₅) or have segments with zero slope (line D₄).^{13/}

The shape and level of the deprivation cost curve for individuals contemplating the establishment of a ground water basin management enterprise would depend upon 1) the constitutional ground rules of the state in which the basin were located concerning a) allowable activities, b) tax and bonding authority, and c) purchasing and personnel practices; and 2) the range and limits that the affected individuals themselves place on future activities of such an enterprise.

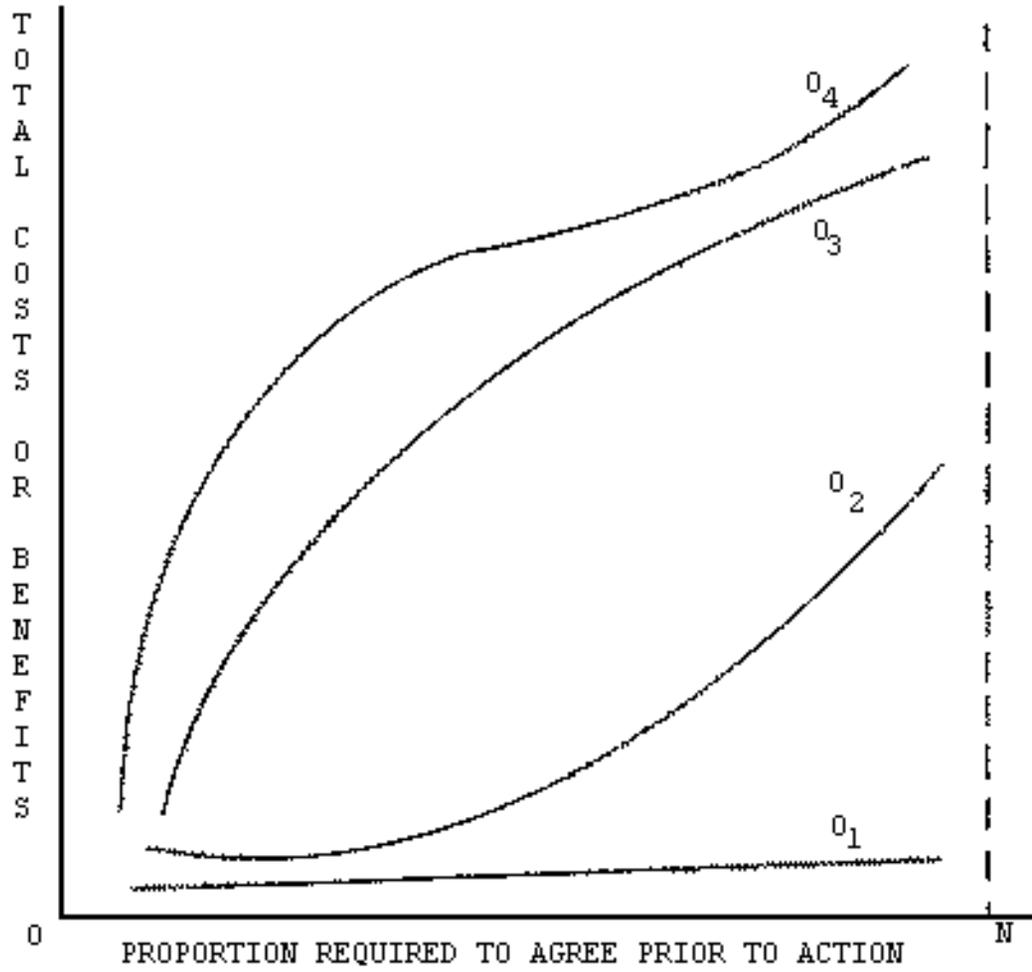
Potential Opportunity Costs

When people must agree to a decision before action can be taken, time, money and effort are devoted to gaining agreement. The time, money and effort devoted to gaining agreement could be devoted to other valuable purposes or opportunities for gain. While people are engaged in the attempt to reach a joint decision, the opportunity to take other actions may pass by. If the decision-making process is a long and involved one, participants may lose many opportunities to invest in their joint benefit while they discuss what action to take. Time, money and effort devoted to collective decision-making and the opportunities foregone while decisions are in process can all be conceptualized as potential opportunity costs.

While individuals involved in a constitutional process cannot predict how much time, money and energy will be necessary to gain agreement on specific future policies, they can predict the long-run effect of different voting rules on the costs of gaining agreement prior to action.

^{13/} Compare with William Riker's classification of true forms of characteristic functions for payoffs to winning coalitions in his The Theory of Political Coalitions, op.cit., p. 421.

Figure 6
Potential Opportunity Costs



In general, the larger the proportion of individuals required to agree prior to action, the higher will be the total costs of gaining agreement and the losses involved in foregone opportunities. Consequently, most opportunity cost curves will be upward sloping to the right. As the decision rule becomes more inclusive, opportunity costs rise.

Individuals cannot exert as much control over future opportunity costs at the time of constituting new public enterprises as they can over future deprivation costs. Then individuals are able to arrive at decisions rapidly, and the environment is relatively stable (so that opportunity does not frequently pass by while decisions are being made) opportunity costs are relatively low. However, when the environment changes rapidly, opportunity costs may rise considerably, especially for decision rules which approach unanimity enabling some individuals to function as "hold outs". Opportunity cost curves can, consequently, take on a variety of shapes, some of which are illustrated by lines 01 through 04 in Figure 6.

The shape and level of the opportunity cost component for individuals constituting a ground water basin management enterprise would depend upon 1) the amount and rate of overdraft, 2) the ease with which individuals could gain access to information about ground water conditions and proposed remedies, 3) the vulnerability of the ground water basin to long run damage through compaction or salt water intrusion and 4) the capacity of some affected individuals to function as "hold outs" if inclusive decision rules were chosen.

Total Costs of Collective Decision Making

Deprivation costs would be minimized if collective action could be undertaken through voluntary association utilizing the rule of unanimity. However, under voluntary association opportunity costs could be very

high. Opportunity costs would be minimized by enabling any one individual or a small proportion of individuals to make binding public decisions for all. However, in most instances, the resulting deprivation costs would be so great that few individuals would be willing to give their consent to the utilization of such decision rules. In general, neither the most inclusive nor the least inclusive decision rules are efficient for dealing with problems of collective action.

Consequently, at the time of constituting a new public enterprise both cost functions need to be taken into account. When deprivation costs are added to opportunity costs, a total collective decision making cost curve is formed. The total collective decision making cost curve may exhibit a wide variety of shapes. Three hypothetical curves are illustrated in Figures 7,8 & 9. The significant portion of the total curve is the segment immediately surrounding the low point. Where the low point of the total cost curve falls depends upon the nature and extent of both deprivation and opportunity costs of collective action.

If the deprivations that can be imposed by a prospective public enterprise are limited while the opportunity costs are relatively high, the low point of the total costs curve will fall in a region requiring a relatively small number of persons to agree prior to making an authoritative decision as is shown in Figure 7. On the other hand, if the deprivations that can be imposed are very high and the opportunity costs are relatively low, the low point will fall in a region requiring a relatively large proportion of the affected to agree prior to making an authoritative action such as shown in Figure 8. If the potential deprivations and potential opportunity costs are relatively balanced, the low point will fall approximately in the middle range of potential voting rules. This is the situation illustrated in Figure 9.

Comparison of Benefits with Costs of Collective Action

At the time of constituting a new public enterprise, total costs of collective decision making can be compared with total benefits derivable from establishing a new enterprise. The lines B-B' in Figures 7,8 & 9 represent the potential net benefit which could be derived from collective action such as the constitution of a ground water basin management enterprise. These lines represent the present value of the flow of future benefits derived from collective action, less the flow of future production costs involved in such action.

The benefit level in any particular case is derived from an analysis of social benefits and costs similar to that discussed under the heading "Potential Benefits from Collective Action" above. Line B-B' for a specific case could be derived from diagrams similar to Figures 1, 2 or 3. The height of line B-B' could be equivalent in amount to the volume of the shaded triangle QRS in Figure 1, in which case it would represent the amount of net social costs that could be avoided through collective action. Or, the height of line B-B' could be equivalent in amount to the volume of the shaded areas in Figures 2 or 3, in which case it would represent the amount of net social benefits that could be gained through collective action. If the group affected were identical in both cases (if social costs and social benefits affected the same N) then the height of line B-B' could be equivalent to the volume of triangle QRS in Figure 1 plus the volume of the shaded area in Figure 2 or 3.

At the time of constituting a new public decision-making system, members of the affected community are interested in establishing decision-rules for arriving at future management decisions that will keep future public decision making costs less than the benefits to be

derived from collective action. If a portion of the total collective decision-making cost curve lies beneath the benefit level, a net benefit can be achieved through collective action. Such a net benefit can be conceptualized as a political surplus. The amount of political surplus available from collective action depends upon the benefit level, the shape and level of the total collective decision making cost curve and the decision rule chosen.

Affected individuals would be willing to agree to the formation of a new public enterprise whenever the proposed decision rules involve less cost than the benefits to be derived through collective organization. In Figures 7,8 & 9 any decision rule which required between Q and Q' of the affected individuals to agree prior to action would result in an increase in net benefits to the community and the capturing of the political surplus. The political surplus would be maximized if the decision rules represented by the low point on the total cost curve in each case were adopted. The rule producing the maximum political surplus has been labeled R. If the optimal rule were proposed, individuals affected by the organization of a new enterprise would maximize their Joint net benefits through its establishment even though 1) they would be forced to abide by some future decision to which they did not agree and 2) they would also pay some opportunity costs.^{14/}

Constitutional Behavior and Diverse Collective Goods

If the possibility of managing a ground water basin were the only

^{14/} William Baumol used a similar logic to derive his argument that it was a rational strategy for individuals to allow themselves to be coerced into taking or refraining from an action so long as all other affected individuals were also coerced in the same fashion. See his Welfare Economics and the Theory of the State, op.cit.

problem facing a community, constitutional decision making would be a relatively simple process of calculation. Net social benefits to be gained through collective action would be compared against the costs of collective decision making utilizing different decision rules. If the costs of decision making were less than the benefits to be gained for at least some decision rule, individuals would attempt to constitute a new enterprise to utilize the optimal rule for making future policy choices. However, most communities face a wide variety of public problems and opportunities for collective action.

In addition to ground water basin management, individuals may want to undertake collective action to gain a wide variety of public goods and services including the provision of better flood control, education, sanitation, transportation, and recreation facilities among others. If the group affected by the provision of each of these public goods were identical, and if the shape of the total collective decision making cost curve were similar for each of these public goods, one public enterprise could be constituted to make future policy decisions regarding all of them. However, the range of individuals affected by a sanitation facility may differ radically from the range of individuals affected by the provision of a new road or the construction of a new park even though some individuals might be affected by all three. Even when the range of individuals affected is identical there is a strong possibility that the costs of collective decision making for each of these public goods will vary considerably.

From the logic developed above, one would expect individuals to attempt to establish different enterprises whenever the provision of public goods or services affect a substantially different population

from any previously established public enterprises. Even when the population affected by the provision of two different public goods is similar, individuals would still be motivated to attempt to devise separate institutional facilities, or at least separate decision rules, whenever the shape of the total collective decision making cost curves varied considerably for different public goods. From this logic, then, one can derive the following hypothesis concerning the behavior of individuals at the local level. If able to do so within the basic constitutional framework, individuals will attempt to establish different public enterprises (or devise different decision rules) whenever:

- 1) total collective decision-making costs are less than total collective benefits to be derived from collective action and possess substantially different shape than the costs associated with any existing public jurisdiction, and/or
- 2) collective benefits affect substantially different groups of individuals.

* * *

The logic of constitutional behavior developed above begins to offer an explanation for the decisions individuals make in the organization of different public enterprises at the local level. If this explanation is valid, one would expect to find a wide variety of organizational forms being employed in practice to solve different public problems. This is, of course, what we do find when we observe the on-going political process.^{15/} However, the explanation most frequently offered for this repeatedly noted pattern of governmental

^{15/} Robert C. Wood thought this pattern notable enough to emphasize it when titling his recent book on the political economy of the New York metropolitan region, 1400 Governments (New York: Doubleday Anchor, 1961).

organization at the local level differs substantially from the one developed above. Many scholars have assumed that the current pattern of local government results from "the ad hoc development of governmental units with little rational control. . . ." ^{16/} Random events rather than rational events are frequently cited as causative factors. Those who have argued that the pattern of overlapping jurisdictions is caused by random events have also argued that this pattern should be eliminated. Our reform literature is filled with allusions to the need for a "one community-one government" solution to local governmental problems.

However, citizens who reside in center cities where the organizational form closely resembles the "one community-one government" model have not found this form of governmental organization entirely

^{16/} Scott Greer, "Dilemmas of Action Research on the Metropolitan Problem", in Community Political Systems, edited by Morris Janowitz (Glencoe, Illinois: The Free Press, 1961), p. 193. Greer summarized the basic presuppositions of the social scientists engaged to prepare a "research" report on the needs of St. Louis, Missouri for reform. In his words: "It was hypothesized that the ad hoc development of governmental units with little rational control would have these consequences: (1) great variation in the legal foundations and the real purposes of governmental units in the metro area, even resulting in governmental legitimacy used chiefly to prevent integration, (2) overlap in the units of government providing the same or similar services, resulting in conflicts of authority and duplication of service, (3) great variation in the size of governmental units, resulting in an assignment of services (which must be provided the citizens according to the usual division of labor among local governmental units in America) utterly disproportional to the jurisdictional and fiscal resources of the governing unit. It was further hypothesized that this congeries of heterogeneous and overlapping governmental units would produce these results: (1) great variation in output, or service levels, among the different units, (2) great variations in the efficiency or cost benefit ratio, among the units, and (3) a generally low level of some services throughout the area, due to the deleterious effects of poor services in one governmental unit upon the services in other, interdependent units. . . . Finally, it was hypothesized that size of governmental unit would have no relationship to the vitality of the local political process. . . . These propositions were not initially stated as hypotheses; their validity was assumed, for they were part of the over-all ideology of the movement to save the cities."

satisfactory. Recent urban unrest results from many inter-related factors. At least one factor would appear to be the incapacity of individuals in center cities to articulate their demands for public goods and services effectively and to have a substantial voice in the public decisions affecting their own community lives. At a time of crisis such as we are currently experiencing, it would appear appropriate, if not essential, to search for a better explanation for the organization of governmental jurisdictions at the local level than one that attributes causal effects to random factors.

The congruence of some observed regularities with a postulated pattern of behavior derived from an explanatory theory, does not, in itself, validate the explanation. Before this beginning of a explanation can be validated or rejected, several developments are needed.

- 1) An attempt to develop a contrary logic for why rational individuals would attempt to constitute a single governmental unit for a large and complex community.
- 2) Further and more rigorous development of the logic of constitutional behavior outlined above.
- 3) Specific empirical investigations designed to test hypotheses derived from either model.