

# Institutions and Economic Development: The Role of Collective Action Theory

Jeffrey B. Nugent(\*)(\*\*)

How frequently in recommending changes one confronts the retort that such suggestions of change are of no use since “the powers that be” cannot be budged, i.e., the existing system is too entrenched to permit change. Such pessimism about the prospects for change is especially common in developing countries. The purpose of the present paper is to explore the possibilities of drawing on the theory of collective action for some clues about how and under what conditions the familiar obstacles to institutional change in the development context might be overcome.

## *Public Goods, Free-Riding and Collective Action*

The connection between the theory of collective action and institutional change is quite simply that collective action is a necessary ingredient for the creation of public goods, new institutions constituting one kind of public good, and hence also is essential for institutional change. Indeed, the theory of collective action provides a number of interesting and potentially very useful hypotheses concerning the conditions under which the nemesis of collective action, namely, the incentive to “free ride”, can be overcome and hence institutional change can be accomplished.

Public goods, of which institutions are but one kind, can be distinguished from private goods in various ways. Some of the ways that have been suggested, such as the sector of origin of the supplier of the good, are hardly very useful since they simply push the same question to a different level. The most satisfactory and now commonly used criteria in making such distinctions are *joint consumability* and *excludability*. A good is jointly consumable if the same unit of the good can be consumed by a second, third or fourth consumer without reducing the utility that the first consumer derives from it. A good is excludable if for any given group its use is made available to some members of the group but can be withheld from other members.

A pure public good is one that is jointly consumable and non-excludable. Even with the use of these preferred criteria, however, it is clear that their application is seldom free of ambiguity. The extent to which either criterion can be used to identify a public good is a matter of degree. The criterion of non-

(\*) Professor of Economics, University of Southern California and Visiting Professor, Dept. of Economic Theory, University of Barcelona, Barcelona.

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excludability hinges on the magnitude of the costs of exclusion, the higher such costs the closer the approximation to a pure public good.

Likewise, the criterion of joint consumability depends on what might be called the degree of congestion sensed by the different joint consumers of the good. The lower the degree of congestion, the closer is the approximation to a pure public good.

In between pure public goods, which must satisfy both criteria and, of which national defense and disease eradication programs are fairly good examples, and pure private goods, like bread, wine and most clothing, are many intermediate cases. For example, there are computer programs and old-age pension systems which are jointly consumable without congestion but which have only moderate costs of exclusion. Likewise, there are goods like fish in the ocean which are not jointly consumable but the access to which are subject to relatively high exclusion costs. These are cases in which one criterion is well-satisfied but the other such as parking lots, swimming pools, tunnels, open range grazing land and so on that satisfy one or both criteria only moderately well. Moreover, the degree to which any or all of these goods can be considered public goods is likely to vary from one situation to another.

The theory of collective action, which originated with Olson (1965) and G. Hardin (1968), deals primarily with goods which, whether congestible or not, are jointly consumable and non-excludable. It is these goods which provide group members with the incentive to free-ride. This is because with non-excludability, the benefits of the public good produced or maintained by collective action accrue even without participation in the costs of the collective action to create them. Naturally, the more that group members have the incentive to free-ride, the less likely they are to succeed in collective action and hence in creating or maintaining the public good. At the same time, due to joint-consumability and heterogeneous preferences for public goods, and in a world in which people are asked to pay for public goods in proportion to the value they place on them, each member of the group has the incentive to avoid paying for the good by deliberately understating his true preferences for the good. The incentives to free-ride and to falsify preferences are what make collective action problematic if not altogether impossible in many situations.

Relative to the theory of public goods in general, the theory of collective action is more concerned with (1) intangibles like tax rates, quotas, regulations and pricing than with physical goods, (2) practicality as opposed to theoretical elegance, (3) partial as opposed to general equilibrium analysis, (4) research drawing on more different disciplines as opposed to economics alone, and (5) cooperative solutions as opposed to those dictated by governments in either purely decentralized or purely centralized modes. As we shall soon see, however, the last of these characteristics by no means implies that government may not play an important role in achieving collective action.

While, until recently at least, the theory of collective action coming from Olson and his followers has probably had the unfortunate effect of making both analysts and practitioners of economic policy (and especially those working in the development context) even more pessimistic about the prospects for institutional and policy change than they were before, as we shall attempt to show in this paper, the theory could come to play a much more positive role.

### *The Prisoners' Dilemma and its Solution*

The classic illustration of the free-rider problem and the obstacle that it creates for success in collective action is that of the prisoners' dilemma represented in very succinct form in the matrix of payoffs available to the two prisoners named Pedro and Pablo in Figure 1. The prisoners have been charged with theft and assault but direct and independent witnesses are lacking and hence the state's case against them hinges greatly on the statements of the prisoners themselves. Both Pedro and Pablo have two options, namely to cooperate with each other by vindicating each other, or to not cooperate with each other by implicating the other in the crime. Actions of the latter type are encouraged, as they often are in practice, by applying a lighter sentence to someone who confesses and even giving rewards to anyone who cooperates with the state by implicating his actual or would-be collaborators in crime. As is typically the case the two prisoners are kept apart and so each must act independently without knowledge of the action of the other.

The first element in any pair of payoffs in the matrix represents that to Pedro and the second that to Pablo for the combination of actions by Pedro and Pablo indicated by the row and column in which the figures appear. Hence the numbers in the first row and column of the figure indicate that both Pedro

and Pablo would receive payoffs of (+)1 when they cooperate with each other by neither confessing nor implicating the other. Note from the second row and column entries that, when neither cooperates with the other (but instead cooperates with the state by confessing and implicating the other), each receives a light sentence, i.e., a payoff of -1. Hence, when they both fail to cooperate with each other, they both come out considerably worse-off than when they both cooperate.

The paradox arises from the fact that, when neither is certain about what the other will do, it will be in the interest of each not to cooperate, leading to the likelihood that in fact both will wind up with light sentences, i.e., with payoffs of -1. This can be seen from the fact that, when Pedro is uncertain about what Pablo will do, he compares the payoff he would receive under each possible action of his own and that of Pablo. Supposing first that Pablo will cooperate, Pedro realizes that his payoff would be greater if he does not cooperate, namely 2, than if he should cooperate, in which case it would be 1. Likewise, supposing Pablo will not cooperate, Pedro again finds his payoff greater if he doesn't cooperate (-1) than if he does (-2). Hence, no matter what action Pablo should take, Pedro finds it in his self-interest not to cooperate, or in other words to free-ride. Similarly, Pablo, not knowing what action Pedro would take, finds it in his interest to not cooperate, i.e.,  $2 > 1$ ,  $-1 > -2$ . Even if Pedro and Pablo had reached a prior agreement to cooperate with each other, for the reasons we have just seen each would have the incentive to violate or free-ride on the agreement to cooperate.

**Figure 1. Illustration of Prisoners' Dilemma: The Matrix of Payoffs to Pedro and Pablo, respectively.**

<i>Pedro's Action</i>	<i>Pablo's Action</i>	
	<i>Cooperate (Not Confess)</i>	<i>Not Cooperate (Confess and Implicate Pedro)</i>
<i>Cooperate (Not Confess)</i>	1, 1	-2, 2
<i>Not Cooperate (Confess and Implicate Pablo)</i>	2, -2	-1, -1

It is the incentive to free-ride inherent in the prisoners' dilemma which makes cooperation and hence even very simple forms of collective action so difficult to achieve. As a result, a great deal of thought and research has gone into the attempt to find ways of avoiding the paradoxical result that Pedro and Pablo would wind up in a Pareto- inferior equilibrium. One type of solution is to have both Pedro and Pablo bring into their decision process other extrarational considerations such as that it is "good" to cooperate even if it isn't in one's self-interest. Another approach is to convert this static, single-period game into multiperiod one of indefinite length in which each prisoner would be able to observe the action of the other in the previous period. In such cases free-riding in any given period may imply additional costs in subsequent periods, thereby making collective action more likely than in the static prisoners' dilemma problem. In practice, however, people do not have lives or planning horizons of indefinite or infinite length. As a result, the dominant strategy for the last period is again going to be "not cooperate" or "free-ride", and once those playing in the next-to-last period realize that non-cooperation is likely to prevail in the last period, non-cooperation becomes the dominant strategy in that period as well, etc., implying a return to the original prisoners' dilemma situation.

Other commonly suggested solutions to the prisoners' dilemma are

- (1) to play "tit for tat" or to match the behavior of the other in the repeated game context
- (2), to impose cooperative solutions by government mandate
- (3), to change the incentive structure, e.g., through government manipulation of prices, and
- (4) especially to create social norms conducive to cooperation. In the latter case this could be by imposing stiff penalties on those who do not cooperate. Naturally, however, all such solutions pose collective action problems in themselves inasmuch as they would require the acceptance of "tit for tat" rules by all parties, the creation of governments, or at least new government policies, or the creation of social norms, all of which are likely to be susceptible to the incentive to free-ride and hence may prove difficult to achieve.

## *Interest Groups and Organizations*

The most straight-forward type of application of collective action theory is to the emergence of interest groups and organizations. While in principle the creation of an interest group is quite distinct from creating an organization, since most such groups form organizations of varying degrees of permanency, the two tend to go hand-in-hand, organizations being created to reduce the start-up and long run costs of collective action.

While as noted above many of the principles of collective action theory were articulated in the spirit of highlighting the obstacles to collective action, in fact they can just as easily be interpreted inversely as identifying the conditions favoring success in such action.

The main contributions in this field have been by Olson (1965, 1982) and his followers who have focused on the identification of *group characteristics* favorable to success in achieving collective action. While Olson (1965) has emphasized the use in this theoretical model of the non-excludability criterion in defining public goods, in fact as noted above most of his applied work has dealt with collective goods which are also jointly consumable and without much congestion, and which are most vulnerable to free-riding.

Olson's theoretical analysis deals primarily with a static game framework where non-cooperative solutions are dominant strategies. His contribution lies in the identification of restrictions on individual behavior and the interactions among group members that may lead to success in collective action despite the existence of the free-rider problem. In particular, Olson (1965, 1982) and his followers have argued that collective action is likely to be more feasible: (a) the smaller the group(1), (b) the more homogeneous the origin of the group, (c) the longer the members of the group have been associated with one another or the group has been in existence, (d) the closer the social and physical proximity among group members(2), (e) the more differentiated (in a complementary way) the goals of different members (or subgroups) of the group(3), (f) the greater the sensitivity of the group to a threatened loss arising from inaction, and (g) the more unequal the distribution of wealth of power among group members(4). What makes these principles (hypotheses) relevant and potentially important is that most of them can be operationalized relatively easily.

While, as suggested above, Olson's theoretical framework is that of a static game, his discussion of characteristics (c) and (d) as favorable to success in collective action can be interpreted as a recognition of the fact that, if one allows for repetitive interactions among group members, cooperative solutions are more likely to be reached.

In situations where the obstacles to collective action would otherwise seem formidable, the prospects for collective action are likely to be enhanced by the availability of "*political entrepreneurs*". As Hardin (1982, p. 35) defined them, "political entrepreneurs are people who, for their own career reasons, find it in their private interest to work to provide collective benefits to relevant groups." Political entrepreneurship can help explain why certain groups may become engaged in successful collective action even if on other bases, such as their large numbers, homogeneity of goals, geographic dispersion and other group characteristics, one would think that these groups would be likely to remain "latent"(5). Indeed, since large numbers and geographical dispersion may be attractive characteristics to political entrepreneurs, this can be an important offset to the Olsonian hypotheses suggested above.

Although somewhat more subjective and hence more difficult to operationalize, it may also be possible to identify certain *psychological attitudes* of group members in their particular environment which would help overcome free-rider and other problems plaguing collective action. In particular, if group members should subjectively feel a loss in status to which they have in the past become accustomed, and especially if this loss is rapid and substantial, such a group may be much more likely to engage in successful collective action to rectify the situation than another group whose current position is no worse than what it was in the past, even if the latter's position is absolutely worse. Similarly, the more essentially threatening (i.e., threatening to group members very existence and survival) is the status quo, the more likely that group is to be involved in a successful collective action.

Success in collective action by a particular group, e.g., group A, may also be affected by whether or not *other groups*, such as B, C, D, etc., engage in collective action [Becker (1983)]. Specifically, group A may be deemed more likely to succeed in such action the more one of these other groups has been successful in engaging in an action which is harmful or threatening to the interests of A. By the same token, the greater the *tolerance* on the part of groups B, C, D, etc. for group A's collective action and

the benefits thereof for A, the greater the likelihood that A's action will be successful. Likewise, the more that members of groups B, C, D, etc., perceive that the success of A may anticipate subsequent improvements for themselves, the more tolerant of A's actions and of the benefits accruing to it they are likely to become. This is what Hirschman calls the "*tunnel effect*" [Hirschman (1972, 1981)].(6) Of considerable importance in determining the degree of tolerance on the part of the other groups is their perception of the fairness or deservedness of the benefits to A. If these benefits are deemed to be attributable to hard work and/or skill, they are more likely to be tolerated than if they are obtained by what is perceived to be luck or unfair tactics [Hoffman and Spitzer (1985)]. Since greater tolerance and positive tunnel effects are more likely among groups with overlapping memberships, the existence of such groups may be expected to increase the likelihood of success in collective action [Olson (1965)].

The *environmental circumstances* in which group members find themselves and in particular the alternatives to collective action that are available to them may also play an important role in group actions. For example, Hirschman (1970, 1981) has focused on the likelihood of and nature of the possibilities for "exit" solutions (rather than "voice" or collective action solutions) to unfavorable circumstances. Specifically, he hypothesized that the easier it is to exit and the more attractive are the alternatives to remaining in the group, the lower is the possibility of successful collective action. For example, collective action may be less likely the easier it is to substitute private goods for public ones. On the other hand, among those who choose not to exit, those for whom exit is most attractive may well have the most influence.

Because of the importance of group perceptions, the *communication and organizational skills and knowledge* of the *technology* of collective action on the part of group members and especially those in leadership positions may also contribute to success in collective action. For example, the prospects of success may be enhanced by the ability of the proponents of the action to conceal from all parties the magnitude of the costs and to exaggerate the benefits. One way in which this might be accomplished is by suggesting an analogy between the action under consideration and previously successful, apparently similar action, even if the analogy should actually be false [Hirschman (1967)](7). Success in collective action can be enhanced by the clarity of the logic connecting the action with its intended benefits and by the extent to which that logic is communicated to all group members [Nelson (1984)]. Organizational ability can be of strengthened by organizing local, homogeneous groups into national (or even international) federations [Olson (1965)]. Since expectations of the ability to execute and enforce collective action may affect an individual's willingness to participate, the prestige, elite status and power of group leaders may also be highly conducive to success in collective action [Wade (1987)]. Likewise, any actual improvement in the technology of the collective action which increases the expected benefits relative to the expected costs could be expected to increase the likelihood of collective action.

The prospects for success in collective action are also likely to be enhanced by the practice of *selective incentives*. Both positive and negative incentives are likely to be useful in inducing success in collective action by an existing organization. For example, with respect to positive incentives, the prestige and honor accorded to those making especially large or well-sustained gifts as part of the organization's fund-raising appeals is often a useful tool for encouraging large and regular financial donations. Likewise, many groups find that offering rewards to their contributors and true participants in the form of special fringe benefits, such as discounts on purchases and giveaway items, is a useful means of increasing their fundraising ability. With respect to negative incentives, the ability to impose penalties in the form of fines or even physical punishment has often been found to be an effective means of reducing free-riding and accordingly increasing the prospects of success in collective action, as least in some circumstances [Olson (1965, Ch. 6), R. Hardin (1982, pp. 31-34)].

A related consideration is the *by-product hypothesis* advanced by Olson according to which the group or organisation may provide for private goods to members (trips, newspapers, ...) who participate in the provision of the public good. This is a way or type of selective incentive that transforms the payoffs in order to induce cooperation. However, the by-product hypothesis has been criticized on the grounds that one might suppose that there would exist private organizations which would be more efficient in providing separately for the private good, thereby undermining its usefulness as a by-product incentive.

Given the aforementioned importance of organizations in reducing the average cost of collective action, and the operational difficulty of determining the existence of organization-less interest groups, collective action theory is probably more directly applicable to the creation of interest group organizations than to the creation of the interest groups themselves. In the case of broader encompassing groups, however,

because they are far more difficult to organize, selective incentives would have to be emphasized. In particular, positive selective incentives may be necessary to encourage active participation and leadership and negative selective incentives to prevent members from violating group decisions. Organizations may also be useful in serving the interests of political entrepreneurs [R. Hardin (192, p. 36)] and for monitoring the activities of opposing or partner groups whose efforts may affect the results of collective action of the group.

Organizations may choose structures and working rules designed to minimize the total long-run costs of collective action. Since selective incentives and monitoring are costly activities, formal organizations attempt to organize themselves in such a way as to reduce them as much as possible in unit cost terms. When exogenous shocks occur, well-managed organizations may institute appropriate changes in group objectives so as to avoid the start-up costs of organizing a new collective action group.

### *The State and its Role in Collective Action*

The state can exert profound influences on the likelihood of success in, and the nature of, collective action.

First, the state can indirectly affect the likelihood of success in collective action by influencing the ability of organizations to practice selective incentives vis-a-vis their members. Among the means by which the state can do so are the services it provides to the public, legal constraints on the procedures that groups can follow in their efforts to apply selective incentives to their members in support of collective action by the groups, and its attitudes toward freedom of association.

Second, the state can undertake the collective action on behalf of a certain group by itself. Indeed, in this context the principles of collective action would seem directly applicable to explaining why certain groups may be more successful than other groups in gaining the support of the state. Indeed, the scattered, heterogeneous and large size of farmers' groups relative to industrialists who are highly concentrated geographically, small in numbers and typically with a lot of sunk costs in developing countries is already given considerable credit in explaining the urban bias of policy that is typical of developing countries. The same principles of collective action are also being recognized for explaining the reversal of the policy bias, in this case in favor of agriculture, that occurs at high levels of development, where industry tends to be more competitive, less concentrated geographically and less homogeneous in background but farmers become fewer in number, larger in size, more commercially-oriented, more capital-intensive and therefore with more to lose than in the case of subsistence farmers.

### *Rent-Seeking*

It is also clear, however, that the state and its agents are not necessarily only neutral and passive witnesses to the process of competition among groups for influence over government policy. This is where the closely associated theory of rent-seeking comes in. With rent-seeking in pursuit of the contrived rents that arise from government regulation, government agents or bureaucrats may have selfish motives in addition to the public interest at heart in their decision-making and other activities. Politicians and bureaucrats may be seen and their actions understood as political entrepreneurs using collective action principles to identify the groups which can most easily be taxed to pay for the transfers or services provided to the more favored groups.

While it has become conventional in the literature, e.g., Tullock (1980), to conceive of rent-seeking as a zero-or-even-negative-sum game in which society is likely to be made worse off as a result. I would argue that this need not be the case. Rent-seeking may under certain conditions constitute a positive-sum game wherein, even if zero-sum in the short run, may provide best benefits in the long run.

Another potential contribution of the rent-seeking version of collective action theory is to explain the nature of the resources transferred directly or indirectly from one group to another. In other words, it can help explain what kind of resources or taxes the weak group may be least unwilling to give up and that kind of transfers or services the favored group would be most happy to obtain. Naturally, the state may be left with an important role in transforming what it receives from weak groups into what it transfers to strong groups.

A further step down the road to explaining the state, how it works and why and its role in collective action is provided by the political exchange variant on collective action theory. Politics is, like markets, but another medium of exchange. As Buchanan puts it:

Politics is a structure of complex exchange among individuals, a structure within which persons seek to secure collectively their own privately defined objectives that cannot be efficiently secured through simple market exchanges. In the absence of individual interest there is no interest. In the market, individuals exchange apples for oranges; in politics, individuals exchange agreed-on shares in contributions toward the costs of that which is commonly desired, from the services of the local fire station to that of the judge [Buchanan (1987, p. 1434)].

While exchange can take many forms, a common and also important form is vote-trading. Potentially, vote-trading could be excessively risky, thereby undermining the existence of this important exchange process. For example, even if two individual legislators find it in their common interest to vote for each other's pet projects, unless each can be assured that the other will honor the commitment to vote-trade, each will have an incentive to free-ride on the agreement and not vote-trade. However, to mitigate this problem and thereby facilitate vote-trading most legislatures require open voting (as opposed to secret ballot), allow relatively long terms of tenure, and provide incumbents with a number of advantages for reelection. Having a good reputation for reliability and strength of commitment in honoring commitments to vote-trade is also likely to constitute an important source of political capital for legislators, thereby increasing their importance and value and providing them with incentives to be reliable in their vote-trading activities.

Other measures that legislatures take to facilitate political exchange are the adoption of majority (as opposed to consensus or unanimous) rule, the formation of political parties, the granting of committee prerogatives, and the use of tenure in service as a criterion for membership and leadership selection which has the effect of creating property rights in positions [Weingast and Marshall (1987)].

While much less is known about the process of political exchange in the case of autocratic governments in which elected legislators play less important roles, many bureaucracies seem to be organized in similar ways and hence the explanations for success in collective action may be similar. For example, promotions may be based on reliability, cooperativeness and other such characteristics to a greater extent than efficiency and hard work.

Ministerial rotation undermines the incentives for any one minister to cut the budget of another; public enterprises may be created in such a way as to create linkages and joint ventures between different ministries.

### *The Non-Inevitability of the Tragedy of the Commons*

One of the most well-known application of the prisoners' dilemma outlined in Figure 1 above is that of the "tragedy of the commons". This is a collective action problem involving the maintenance of public goods characterized by considerable congestion and non-excludability. Given non-excludability, each party, acting independently and without certainty of the actions of the other, has an incentive to overuse the commons. The result is of course the same as that in Figure 1 above in that all parties wind up in a Pareto-inferior equilibrium illustrated by the entries in the second row and column of that matrix. This basic notion has, as suggested above, led to great pessimism about the possibilities of avoiding such tragedies as overgrazing on the edges of the Sahara, over-fishing of lakes, rivers and oceans, and pollution of water, air and sound practically everywhere.

One commonly suggested solution is, of course, to privatize the commons. But in some situations privatization can be excessively expensive to accomplish or alternatively sufficiently imperfect and inefficient as to make it either impractical or distinctly suboptimal to do so. Government regulation as mentioned above poses the question of how such regulations can come into existence, i.e., suggesting the need to solve another collective action problem. Hence, one can well understand the pessimism that has arisen with respect to dealing with tragedies of the commons.

However, in recent years there have been appearing an impressively large number of anthropological, sociological, political science and various descriptive economic studies which reveal a wide variety of

imaginative ways in which societies have managed to come up with cooperative solutions to these problems, especially at the local level.

Secrets to success in such cooperation seem to include leadership by community elites (possibly on account of asymmetry in the distribution of income and wealth), relatively inexpensive means of monitoring and enforcing community-determined rules, barriers to entry from non-members of the community, stability in community membership and the high cost of exit from the community and its cooperative solution [Libecap (1986), Runge (1981, 1986), Ostrom (1986) and Wade (1987)]. Cooperation and the way out of the tragedy of the commons can be made more likely by introducing “matching behavior” or “reaction rules” [Guttman (1987a, 1982), Taylor (1976), and Thompson and Faith (1981)] like the aforementioned “tit-for-tat” strategy wherein each party reacts to the behavior of the others in a matching way. For example, the adoption of an “if you stint (not overgraze), I stint, but if you don’t, I won’t either” rule would transform the pay-off matrices of the prisoners’ dilemma of Figure 1 above in such a way as to induce cooperation.

In general, therefore, the general presumption of collective action failures and hence of the need for private property rights and/or for externally imposed solutions to cooperation problems would seem to be seriously overestimated. Cooperative solutions can be obtained and can be more efficient in transaction costs and possibly also in productive efficiency terms than private property solutions or central government dictates in certain circumstances. As a result, each system is likely to have comparative advantages and disadvantages relative to the other, implying that the choice between them is likely to be dictated by environmental and historical considerations as expressed in the transaction costs of creating and maintaining such solutions. Ostrom (1985, 1986, 1987) and Erickson-Blomquist and Ostrom (1984) and their colleagues at Indiana University have recommended the undertaking and careful evaluation of empirical case studies of situations in different countries in which tragedy-of-the-commons problems have or have not been successfully confronted.

### *Collective Action, Institutional Change and Development*

Institutional considerations can have rather profound effects on the ability of countries to adapt to environmental shocks and to develop economically and socially. Therefore, the theory of collective action, by furthering the understanding of society’s ability to generate efficient institutions and appropriately designed and timed policies, could be of considerable help in allowing countries to achieve their development objectives at minimal cost. In this way, collective action theory could come to play an important role in the theory of economic and social development. Indeed, since virtually any policy of institutional change and the provision of various development-related public goods such as infrastructure require collective action, the theory of collective action could well provide a critically important link between institutional analysis, on the one hand, and development theory and policy, on the other.

Until now my emphasis has been on how to reach a particular solution to a collective action problem, a static solution to a static problem as it were. In the longer run, however, a more relevant and important problem is whether or not and how a transition can be made from one static solution to another as circumstances change over time. Unless such transitions can be accomplished at relatively low social and economic cost, the process of economic and social development is unlikely to be smooth, efficient and on-going.

For any given group, transition and change to a solution that is known to be better may well be impeded by a number of factors. First, in rationally weighing the efficiency gains of change against the foreseen costs in terms of diminished incentives for accumulation of fears of insecurity that may result from destabilized expectations, the group may choose to forego the change. Secondly, even if the group should find the change in its collective interest, important subgroups within the group may be disadvantaged to such an extent as to take collective action to block the change. While in principle others might be able to compensate and thereby buy off the opposition of the disadvantaged group, especially in situations where there might be many different ideas about how to do this or how much they should be compensated, they might well have difficulty agreeing on a specific means of doing so. Also, ideology created to facilitate the stability and homogeneity of the group could also get in the way of change. Even without an active opposition, there may be strong inertial forces that have to be overcome before change can be accomplished. Such forces are likely to be especially important when the payoffs to any one individual adopting the innovation are positively related to the number of others who also undertake the change. This is the result



of the prominence that is given to expectations about the actions of others in such situations and implies that a critical minimum of adopters has to be attained before the collective action for change can be successful. Advocates of this "critical mass" theory of collective action refer to a variety of different mechanisms such as the presence of economies of scale and network externalities as in Arthur (1985) and David (1985, 1986) and Markus (1987), collective opinion as in Rogers (1983), tastes as in Akerlof (1976, 1980), pressures to conform to peer behavior as in Jones (1984) and the formation of public expressions of preferences, including preference falsification as in Kuran (1987a, 1987b).

Nevertheless, knowledge of the aforementioned static and dynamic principles of collective action could be useful in overcoming these obstacles to change. For example, selective incentives might be applied at the group level that would have the effect of making it difficult for the harmed subgroups to organize. Likewise, the group might adopt decision-making rules for arriving at compensation mechanisms that would automatically limit the number of alternatives under consideration at any given time to a very small number and thereby facilitate the achievement of consensus on the best way to achieve group objectives. Ideology might well be crafted in such a way as to glorify adaptability and change, at least when accomplished within a framework that also ensures a minimally acceptable degree of stability, indeed in a way that a number of constitutions and their interpreters have actually done. In circumstances in which the attainment of a critical mass is important, it may justify measures to exaggerate the trend in the direction of change or at least to communicate as widely as possible the actual trend. It could also suggest the use of selective incentives specially designed to achieve the critical mass. Moreover, the fact that spontaneous collective actions, e.g., in the form of riots triggered by drastic government actions such as the removal of bread subsidies and price controls, have occurred would seem to suggest that, at least when relative deprivation is keenly felt, collective action may be attainable without having to satisfy all the alleged prerequisites such as having an organization and a group with desirable group characteristics. Naturally, too, the state can play a potentially important role in this process by the way in which it reacts to group initiatives, its policy toward free association and the rules it establishes for decision-making and behavior within and by interest groups and organizations. Hence, just as with respect to the more static aspects of collective action, pessimism about the possibilities for change would seem to be easily exaggerated.

### *Some Suggested Applications*

While a few applications of the theory of collective action to the explanation of institutions and especially of changes therein over time have been inserted primarily for illustrative purposes in the previous sections, our basic message is that the applications to date, at least those of relevance to long term development, have only barely begun to scratch the surface. Indeed, the potential for more applications of collective action theory to development would seem to be very great.

One kind of application that has already been initiated in simple form by Olson (1982) is to derive certain implications of the quantity and quality of collective action by interest groups for the rate and character of subsequent economic development. In particular, Olson has argued that, in relatively secure and stable environments at least, interest groups are likely to harden and strengthen over time, in the process imposing on subsequent development the characteristics of inequity in distribution and inefficiency, thereby lowering the overall rate of economic growth in the long run. From this perspective, it is clear that major disturbances in the status quo, such as foreign invasion, civil war, natural disasters or economic integration of a profound sort, could have hidden desirable consequences for growth in the long run. Olson has also suggested that new industries in most countries should be less burdened by hardened special interests and their distortions than older industries.

Another area for potential application would seem to be at the level of the individual group. Especially for groups which are generally considered to be too weak and unorganized like farmers, consumers, senior citizens, and so on, suggestions for strengthening them might be socially useful. In Nugent (1988) I have demonstrated that individual groups may be able to maneuver themselves in such a way as to raise their prospects for success. For example, they may deliberately distort the structure of their group to make themselves stronger, affect their environments or at least their perception of these environments, sequence their pursuit of objectives in such a way as to both lessen the degree of free-riding and increase the prospects of acceptance on the part of government and policy and so on. By analyzing comparative experiences,

and recognizing the importance of leadership to the success of collective action, it becomes rather obvious that the outcome for collective action by any given group need not be as pessimistic as much of the literature would lead us to believe. Armed with leaders who understand the principles of collective action, otherwise latent groups might be able to achieve a great deal of collective action. Clearly much more can be learned about how best to apply selective incentives and to identify those which are likely to be most useful.

A third and even more vitally important application would seem to be in identifying the prospects for success in important policy reforms. Not only should the principles be of considerable help in distinguishing success from failure in past attempts at reform, but also they could well prove to be valuable as a guide to external agents like international organizations on how best to allocate scarce time and other resources.

Fourth, future applications could help plug up current gaps in the theory. For example, such applications could be chosen in such a way as to identify the conditions under which rent-seeking can be useful to long term development. Alternatively, they could help us determine how rent-seeking would work in environments more characteristic of developing countries than has been the case to date. So too, future applications could usefully be directed to learning more about the dynamics of collective action and the determinants of individual and group actions in circumstances close to the relevant critical mass.

Fifth, applications of collective action theory could help tie together a field like industrial organization, with its explanations for certain kinds of oligopolistic behaviour or for the existence of monopolistic competition, with political economy by explaining the mechanisms whereby firms in such industries collude and conditions under which they may be more or less successful. Naturally, the knowledge of such matters could be rather useful to those conducting antitrust policy. Likewise, additional applications of collective action theory could help link such theory with public economics in general, e.g., by examining the relationship between the type of public good and the mechanisms of and prospects for success in collective action.

## Notes

- (1) Small size is alleged to be advantageous for collective action not only because communication among members is facilitated but also because the incentive for free-riding is diminished. However, as we shall see below, there are also reasons for believing that a "critical mass" of numbers or resources may be necessary in certain situations.
- (2) Characteristics (b), (c) and (d) facilitate communication among members and make it easier for them to agree on methods and objectives. They may also lead to greater altruism among group members, increase the sense of responsibility among them and make it more difficult for individual members to refuse to go along with the wishes of the majority.
- (3) Characteristic (e) makes the objectives more additive rather than competitive to one another, thereby raising the prospects for "logrolling" and other means of satisfying the different objectives of different subgroups at the same time. This raises the prospect that these subgroups will support each other and then join in a collective action benefitting all groups.
- (4) This characteristic makes it likely that the critical minimum of support for the collective action can be achieved even in the event that some smaller, less wealthy and powerful members choose to free-ride.
- (5) We use the terms "latent", "dormant", "passive" and "inactive" interchangeably to identify groups which are neither organized nor actively engaged in collective action. As shall be pointed out below, however, even latent groups can be forced to take collective action if conditions deteriorate sufficiently. Generally, however, such action is temporary in nature. After the action -successful or not- the group returns to its latent state.
- (6) The basic idea is that a driver who is stuck in a traffic jam inside a tunnel with two lanes of traffic going in the same direction may feel better when the traffic in the other lane starts to move even if that in his lane doesn't. He does so because he interprets that fact as anticipating subsequent movement in traffic in his own lane. Hirschman (1968) provides an application.
- (7) Naturally, this doesn't mean that deliberate deception is necessarily going to lead to success. Indeed, to be persuasive in this respect the claimant has to have credibility, something which gross misrepresentation is hardly likely to generate.

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