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CONFLICT RESOLUTION THROUGH THE MULTIPLE-USE CONCEPT IN FOREST SERVICE DECISION-MAKING*

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Few administrative concepts or practices have created as much controversy or stimulated as much discussion as multiple-use forestry. On one hand, it has been characterized as a felicitous phrase which excuses bureaucratic control without public participation in the making of forest policy,[1] while on the other it is accused of economic pretensions. The latter charge was made by George H. Hall, who, as an economist, conducted research in the Jefferson National Forest to consider "the extent to which current multiple-use doctrine and practice promote the socially best administrative decisions for the national forests."[2] Concerned with the question of whether this approach produces a desirable decision in terms of costs and benefits, Hall concluded that there is need for operational procedures to permit such analysis.

This article will not attempt to argue any interpretations, economic or otherwise, because multiple-use does have the idealistic tone of Jeremy Bentham's felicific calculus that the purpose of government is to produce the greatest good for the greatest number.[3] A rewording of this utilitarian tenet might read: making that decision which will maximize forest resources while producing the greatest satisfaction of the public's needs, which is by no means an easy achievement and which, in itself, is a highly debatable goal. However, after also completing research in the Jefferson National Forest, this author concludes that there is one aspect of multiple-use practices which often is overlooked, primarily because of the narrow focus generally imposed by academic discipline. From an interdisciplinary interpretation which relates some administrative, psychological, and sociological findings and theories of decision-making to the effect of

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1. *See Generally* C. Reich, Bureaucracy and the Forests (1962).

2. Hall, *The Myth and Reality of Multiple-Use Forestry,* 3 Natural Resources J. 276 (1963).

3. J. Bentham, A Fragment on Government (1776).

the multiple-use formula on the decision-making process in the Forest Service, an inherent advantage is discerned.

To introduce the ensuing discussion of this point, it is necessary first to define briefly the implications of the mechanical concept of decision-making accepted by this study. As a process, administrative decision-making encompasses the conscious selection of a course of action from among perceivable alternatives to attain a desired result. But, in addition to solving problems, decision-making, in a broader sense, satisfies other needs by serving as a "system maintenance mechanism where the organizational system has several classes of functional requirements."[4] In particular, "decision-making, to be effective, must dissipate or absorb the concerns and anxieties and threats generated by malfunction of an organizational process."[5] Specifically, decision-making must resolve internal conflict among work units.

A multi-purpose natural resource agency such as the Forest Service experiences difficulty in making most decisions because its functions are interrelated to such a degree that each decision will produce countervailing effects. Moreover, the hierarchical and regional division of labor and responsibility among formally designated line and staff operatives adds to the potential of conflict in decision-making. Yet, the Forest Service has a "system maintenance mechanism" in the multiple-use concept which usually resolves conflict at the organizational level where a decision is being made.

Although it had been practiced to some degree for many years, multiple-use did not officially become a basic principle of national forest policy until 1960. The primary legislation declares:

> "Multiple-use" means: The management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.[6]

4. The Making of Decisions: A Reader in Administrative Behavior (William J. Gore and J. W. Dyson eds. 1964).

5. *Id.* at 5-6.

6. 74 Stat. 215 (1960), 16 U.S.C. § 531 (1964).

Application of the multiple-use formula thus means that the effect of a decision on all forest resources and the people's utilization of them must be considered. Hence, the consequences of all recognized alternatives for functional decisions are carefully evaluated initially to reduce and eventually to resolve conflict in most cases. Whenever a timber cutting is proposed in a national forest, for example, the effect on recreation, scenic values, soil erosion, water management, and wildlife management must be ascertained; and the decision to cut in a certain area must balance all considerations so as to maximize benefits and uses.

A case illustrating application of multiple-use in the Jefferson National Forest involved the request for a special-use permit to lay an oil pipeline across its land. Since this request could affect a number of forest resources, the obvious alternatives were granting or denying the permit or offering an alternative route. After evaluating the first of these possibilities, it was decided that granting the permit would cause too many conflicts with the multiple-use concept. There would be additional fire control problems, loss of some commercially valuable timber, destruction of several scenic views near recreation areas, and disruption of some wildlife habitats. In the opinion of the decisional unit the benefits of the pipeline would not offset the damages to other forest resources. Yet, the decisional unit[7] did not want to deny the permit because an essential part of multiple-use forestry is providing for the people's needs, and the Forest Service, as part of its image and mission, especially emphasizes cooperating with any enterprise which benefits the public. Therefore, the decisional unit chose the alternative of offering a different route because of its more favorable prospects, and the probability that an alternate route could be worked out in accordance with the multiple-use formula without altering the original request too much. This was accomplished with the pipeline owners being quite satisfied.

At this point, the consequence of conflict in administrative decision-making must be ascertained. Is conflict a positive or a negative force in the decisional process? In particular what implications does conflict have for decision-making in multiple-use forestry? Answers to these and related questions depend upon the intensity of the conflict and the degree of its resolution. In a sense conflict can be viewed as competition which contributes to the making of sound decisions. Group decision-making, such as that necessarily involved in multiple-use forestry, will presumably produce competition and conflict when there is "the simultaneous presence of at least two mutually incom-

7. The decisional unit in this case consisted of the staff officers for the affected functions and the rangers whose districts were to be crossed by the pipe line.

patible response tendencies."[8] This especially seems to be the case whenever members of a decisional unit perceive a threat to their individual vested interests within the organization.

Although group decision-making contains compatible social interaction which results in considerable discussion, exchange of ideas, and a thorough examination of alternatives before a choice is made, even basically cooperative groups manifest some healthy competition among their members. One organizational analysis has found that this competitive condition produces a significant advantage because:

> This competition is the social mechanism that mobilizes the energies of group members and encourages them to devote effort to finding solutions. It is this social mechanism that induces them to bring their different frameworks to bear on problems, resulting in the correction of errors.[9]

Competition becomes detrimental to decision-making only when it degenerates into conflict which results in a "breakdown in the standard mechanisms of decision-making so that an individual or group experiences difficulty in selecting an action alternative".[10]

Not only will it disrupt the process of alternative selection, but psychologists have discovered that conflict in the pre-decision stages leading to alternative formulation is followed by dissonance in the post-decision period. According to Festinger's theory of cognitive dissonance "the greater the conflict before the decision, the greater the dissonance afterward."[11] Dissonance from a decision can be a negative force in the administrative process by causing unnecessary diversion of attention from other important matters. For example, "the more difficulty the person had in making the decision, the greater would be his tendency to justify that decision (reduce the dissonance) afterward."[12] However, since dissonance is commensurate with conflict, the former can be eliminated or reduced by resolution of some or all of the latter. If there has been resolution of conflict in the pre-decision stages, then there should be less dissonance after a choice is made. This means, among other benefits, that justification is easier and not unduly time consuming. Psychologically, the decision-makers should consequently experience less

8. L. Festinger, Conflict, Decision, and Dissonance 3 (1964).

9. Peter Blau and W. Richard Scott, Formal Organizations: A Comparative Approach 121 (1962).

10. J. March and H. Simon, Organizations 112 (1958).

11. Festinger, *supra* note 8, at 5. *cf.* L. Festinger, A Theory of Cognitive Dissonance (1962).

12. *Id.* at 5.

frustration and, therefore, be in a better frame of mind to cope with simultaneous and subsequent problems. In this respect the procedures of multiple-use forestry become important to decision-making in the Forest Service.

An essential requirement of multiple-use forestry is the preparation of plans for every area and resource in a national forest. Each level of the organizational hierarchy participates in this process of planning. Beginning with the Chief Forester in Washington headquarters, guidelines are established at the top levels. In the Chief's office "coordinating instructions" are "developed in the manual or Regional guides . . . to integrate management of a resource, use, or activity with one or more other resources, uses, or activities."[13] These instructions are especially designed "to prevent, minimize, or resolve conflict between uses"[14] at the operational level; and since the operational level decisions will be based on these instructions, implementation is authorized through letting contracts, issuing permits, executing project and resource plans and so forth. Moreover, "coordinating instructions" provide the foundation for subsequently preparing more detailed multiple-use guides and functional plans, and for making management decisions.[15]

At the regional level the "coordinating instructions" are refined in more specific detail to frame "a sound procedure for analyzing all of the resources, uses, and activities on a particular area of land" and to guarantee more "consistency in policy and decisions between units and successive administrators where similar management situations occur."[16] By supplying clarifications for formulating multiple-use plans and for making management decisions, regional guides reduce confusion and contention among the functions and objectives within a geographic jurisdiction. On the basis of these guides the Supervisor of each national forest drafts his set of multiple-use guides which are supplemented by management plans prepared by each staff officer for his specialized activities. The District Ranger then becomes responsible for the final stage of translating the guides and plans prepared at the higher levels into specific actions. To do this, each District Ranger divides the land under his control into homogeneous areas designated as compartments and with the par-

13. Forest Service Manual, Title 2100—Multiple-Use Management, ch. 2105, "Glossary" 1.

14. *Id.* at Chap. 2110, *Coordinating Instructions* 10.

15. Forest Service Manual, *supra* note 13, Glossary 3. A management decision is defined by the Forest Service as "A statement in a multiple-use plan of the action to be taken on a specific area to carry out relevant coordinating instructions to meet management direction".

16. Forest Service Manual, *supra* note 13, at Chap. 2120.1 "Regional Guides" 12.

ticipation of the Supervisor's staff he designs projects for maximizing the resources of each compartment.

In a national forest there is coordination among the Supervisor, his staff, and the District Rangers in this planning process with consideration necessarily being given to local conditions and situational differences which may not correspond to the guidelines established for the larger region. Therefore, some variance among competing demands and programs resulting from these differences may be automatically resolved by the mechanism of multiple-use. Nonetheless, irreconcilable conflict will sometimes occur in the preparation of plans, particularly at the compartment level between a staff officer and a District Ranger over what should be a primary purpose or over what activities should be included in the plan. Such disputes must be referred to the Forest Supervisor for a final decision. Even so, there seems to be less conflict at the national forest level because of multiple-use planning than might otherwise be expected of a multi-purpose agency.

The preparation of plans develops consensus regarding maximization of functions and purposes not only among the staff officers of a national forest but also among its ranger districts. Furthermore, such consensus is promoted hierarchically between ranger and staff levels, between national forest and regional levels, and between regions and headquarters. Minimization of hierarchical controversy thus promotes stability within the Forest Service although the factors of distance and scope would be expected to create considerable intrinsic conflict. A psychologist, Daniel Katz, emphasizes that in this type of organization conflict actually arises not because of "misunderstandings" but from the conflicting interests of many subgroups who have different goals and perspectives while competing for a bigger share of organizational rewards.[17] The usual result of this condition is more centralized control with subsequent loss of identification in the organizational mission by those members in lower hierarchical ranks. Hence, there will normally be less commitment to the organization and its goals.[18] This is definitely not the case in the Forest Service, which delegates considerable authority to its field operatives, because the involvement of all organizational levels in multiple-use planning increases identification with the agency and its goals.

A sociological study of intra-organizational conflict in several

17. D. Katz; *Approaches to Managing Conflict,* Power and Conflict in Organizations 105 (R. Kahn and E. Boulding ed. 1964).

18. *See* J. Thompson, *Organizational Management of Conflict,* 4 Ad. Sci. Q. 389 (1960).

diverse organizations has suggested that "certain techniques of supportive leadership, and a system of high mutual influence cross-cutting specialities and organizational echelons" seem important in minimizing hierarchical strife.[19] These techniques are inherent in the planning process of multiple-use at the forest level where functional and project plans must be developed in pursuance of regional guides or conform to management decisions and plans based upon the guides. In turn regional guides must correlate with the "coordinating instructions" established in the Chief Forester's office. Consequently, there is agreement among the hierarchical levels which is reinforced by the interaction among the levels in the preparation of these plans. Since "coordination instructions," regional guides, and supervisor's guides are not developed in a vacuum, pressures from the lower levels of the hierarchy will influence decisions above, particularly with regard to geographic differences and needs. An example of such interaction exists in the Jefferson National Forest effort to increase the game bird population by stimulating wild turkey propagation in an area where turkeys were once abundant and by experimenting with the introduction of India's Kalij Pheasant which has habitat requirements similar to those of the native grouse. These projects were part of a successful campaign to restore the area to the hunting paradise once enjoyed by Indians and early settlers in the region.

Adherence to the multiple-use formula thus facilitates adjustment of conflicting views in making a decision that will achieve a maximum use of forest resources while satisfying the public's demands. There is, however, some disagreement over how much the multiple-use formula accomplishes as a device for settling disputes. For example, George Hall observes that multiple-use guides prepared by the supervisor "establishes general methods for handling conflicts arising from competing demands among activities,"[20] but he believes that this benefit of multiple-use is limited because it "works best where conflicts can be resolved by intensive management and temporal variation."[21] Hall states that the formula in economic effect "will not resolve the conflicts which arise over forest product-mixes where decisions about combinations [*sic*] change the characteristics of one product or substantially lower its 'quality.' "[22]

As noted earlier, Hall concludes that applying the multiple-use formula "becomes a problem of evaluating the costs and benefits

19. C. Smith, *A Comparative Analysis of Some Conditions and Consequences of Intra-Organizational Conflict,* 10 Ad. Sci. Q. 504 (1966).

20. Hall, *supra* note 2 at 283.

21. Hall, *supra* note 2 at 287.

22. *Id.*

from alternative decisions," and he advocates developing managerial procedures to effectuate this principle.[23] To the contrary, this study concludes that in most cases the process imposed by administratively following the multiple-use formula enables forest decision-makers to weigh costs and benefits while resolving conflicts among themselves, inasmuch as they are required to study every alternative in terms of local conditions, needs, problems, and uses. A case illustrating this conclusion concerns the issuance of a mining permit in the Jefferson Forest.

After a geologist's survey indicated the existence of low grade iron ore in a heavily forested area of excellent fishing and hunting resources, a company interested in prospecting for future operations applied for a mining permit. This application was acted upon by a decisional unit composed of the District Ranger and the staff officers for fire control, lands, recreation, timber, water and wildlife management. In selecting an alternative, conflict arose over whether to grant or deny the permit because of its negative consequences for certain functions; and if the decision were affirmative, on what conditions and for what areas to issue the permit. The controversy centered chiefly around each participant's responsibility, with concern being strongly expressed for these interests: 1) conserving some large tracts of nearly mature hardwoods of high commercial value; 2) preserving the recreational and scenic values of national forest land surrounding a privately owned mountain cascade for which the District Ranger was negotiating a purchase almost certain of success; 3) protecting several wild turkey habitats of tall masted trees; and 4) restoring strip mined land to prevent soil erosion. Nevertheless, there was agreement on the need to serve the public interest since mining activities could bolster a sagging local economy in an Appalachian borderland.

Despite the conflict naturally engendered by serious, professional arguments defending these competing functions, there was no breakdown in the decisional process. Balancing every consideration as much as possible, alternatives were reworked until the permit could be granted. Prospecting was confined to a relatively remote, but geologically typical, area. There, the mining survey could test the feasibility of mining without significant adverse impact on the inconsistent uses of the forest, and as a side benefit for the forest, the mining company would cut several new access roads for fire control and future timber cuttings. The decision was further justified when the cost of extracting the iron ore from native rock proved more

23. *Id.*

expensive than anticipated and the lodes were found to be more shallow than originally believed. The requirement of multiple-use forest management, thus, reconciled differing objectives in this instance. Other similar cases were collected by this study.

Foresters in the Jefferson National Forest contend that multiple-use not only can settle much immediate conflict but that through the preparation of plans, multiple-use can become a decisional rule for the future. Older administrators in the Jefferson conclude there was more disagreement before the Congressional enactment of multiple-use because each forester then was more strictly a technician concentrating on his special area of responsibility. There was often little compulsion to develop concern for other related activities. Consequently, there were inevitable clashes of interests in decision-making, and decisions were evidently more the result of individual predilections than of any formal rule. Today, as a result of multiple-use requirements, foresters must develop a broader view of forest activities since they are involved in decisions affecting varying functions.

By resolving conflict in decisional situations multiple-use seems to control organizational behavior in the Forest Service. Multiple-use complements Herbert Kaufman's study of the other ways Forest Rangers develop conformity to permit a greater decentralization of authority.[24] Multiple-use appears to be the means by which the entire hierarchy is integrated. Such desirable organizational conformity should result from the resolution of conflict in the key activity of decision-making through the preparation of multiple-use plans.

Although these conclusions are based on a study of only one field component of the Forest Service, it would seem they would have service-wide validity because multiple-use is applied throughout the organization. The question for future investigation is whether the multiple-use concept is similarly operational in other natural resource agencies.

24. *See generally* H. Kaufman, The Forest Ranger: A Study in Administrative Behavior (1960).