

Improving Environmental Regulation

Multi-Perspectives on the Development of the U.S. EPA

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Abstract—The United States Environmental Protection Agency (EPA) is an agency of the U.S. federal government for protecting human health and the environment. This paper studies the organizational development of the EPA and assesses the agency performance from perspectives of Bolman and Deal's four-frame model. It analyzes the validity of the four-frame model and proposes recommendations for the EPA reform.

Keywords—organizational development; EPA; four-frame approach; environmental regulation

I. INTRODUCTION

The U.S. Environmental Protection Agency (EPA) was established in December 1970 under the Richard Nixon Administration. It is a federal regulatory agency outside of the cabinet departments. The mission of the EPA is to protect the human health and the environment. With the changes in political, economic and social environment, the EPA consistently confronts challenges of reforming the agency and improving environmental regulations. Great effort has been given to the EPA's organizational restructuring and program management [1–3]. This paper reviews the origins and development of the EPA and assesses the agency performance by using the Bolman and Deal's four-frame model [4]. It tests the validity of the model in the EPA case and consequently proposes some recommendations.

II. CREATION AND GROWTH OF THE EPA

Despite the longtime concern for resource conservation and land management and the later interest in population growth, the federal government played limited role in environmental policy making until about 1970 [5]. In 1969, the Congress passed the National Environmental Policy Act and declared that the federal government should work to foster and promote the general welfare that man and nature can exist in productive harmony.

In July, 1970, President Nixon established the EPA. Under the Reorganization Plan No.3, the Departments of Interior, Health, Education and Welfare, and Agriculture as well as the Atomic Energy Commission, the Federal Radiation Council, and the Council on Environmental Quality transferred environmental duties to the EPA. By December 1970, the plan had been approved by Congress,

and the EPA was in action [3].

The EPA is charged with a variety of federal research, monitoring, standard-setting and enforcement activities. Some activities and programs are consulted and cooperated with state and local governments. During the past four decades, the regulation effort by the EPA has been in general consistency with the Congressional legislation on human health and environmental issues. For example, in the 1970s, the Congress passed the Clean Water Act and the Clean Air Act. In correspondence, EPA set early human health exposure levels. In the 1980s, the Superfund law was passed to clean up old abandoned waste sites, whereas EPA and communities set forth an emergency response planning in the event of environmental accidents. In the 1990s, the Clean Air Act Amendments set the stage for further protections, such as dust and soot. Additionally, the EPA partnered with companies to explore innovative, voluntary approaches. In the new century, the EPA responded to the 9/11 air quality, mercury emissions, and the climate change issues.

EPA has never been a small agency. In 1971, it had about 5700 employees with a budget of \$4.2 billion. By 1980, the agency had grown to more than 13000 employees. Its budget by that time was more than \$7 billion. The EPA budget shrank during the Reagan Administration but resumed its growth later. By 1999, EPA had more than 18000 employees and a budget of \$7.6 billion. In recent years, the workforce and budget of EPA stabilize at around 17000 employees and \$8.3 billion [6]. Although the budget provides some guidance as to the agency's capacity, its spending authority is less important than the costs incurred by those subject to the agency's various regulations [7].

III. BOLMAN AND DEAL'S ORGANIZATIONAL THEORY

In their book, *Reframing Organizations*, Bolman and Deal suggest an integrated set of four frames to decode organizational complexity. The four created frames are the structural frame, the human resource frame, the political frame, and the symbolic frame. Each of the frames has a particular salience in itself but their combination with leadership and ethics is the greatest strength. This section provides a brief overview of the four-frame theory.

A. The Structural Frame

Structural perspective emphasizes goals, specialized roles and formal relationships. Organizational structures,

often in the form of organization charts, are designed to fit the strategic missions, organizational environment and technology development. Organizations create division of labor and allocate responsibilities for differentiation and integrate diverse activities by means of both vertical and horizontal techniques.

B. The Human Resource Frame

The human resource frame sees an organization as much like an extended family and the most valued asset in it is the people. Organizations exist to serve human needs rather than the contrary. By “cultivating and investing time in employees, managers strengthen the foundation of the entire enterprise”[8]. On the other hand, a good fit benefits the employees. Individuals can find meaningful and satisfying careers, salaries, opportunities from the organization.

C. The Political Frame

Political frame emphasizes that scarce resources and divergent interests cause conflicts and parochial interests compete for power and scarce resources. It also emphasizes that organizations and their constituents are coalitions that they bargain, negotiate, compromise or compete with each other to influence their goals and decisions. The focus is “not on resolution of conflict, but on the strategy and tactics”. Poor conflict management leads to the kind of infighting and destructive power, while good management can stimulate the creativity and innovation that enhance the viability and competence.

D. The Symbolic Frame

The theory views organizational structures and processes as secular theater and organizational structures, activities and events as dramaturgical performance played to both internal and external audiences. Under this theory, the organizational structure can be viewed to reflect and convey prevailing social values and myths. The governmental agencies are established to address the challenges of the existing ambivalence or conflicts. The organizational processes also serve important symbolic functions through a number of common activities: meetings, planning, evaluation, collective bargaining, and the exercise of power.

E. Leadership

Leaders’ actions generate responses from others that in turn affect the leaders’ capacity for taking further actions [9-10]. Most often, definitions of leadership focus on strategic thinking, communication and other skills that involve working with people. It is common to equate leadership with position, but one can be a leader without a position of formal authority. Bolman and Deal argue that leadership is not a matter of what a leader does but of what occurs in a relationship. They reframe the “narrow and oversimplified” leadership and summarized the four images to capture a holistic picture of leadership in practice.

IV. FRAME THEORY IN THE EPA’S CONTEXT

This section employs the four-frame approach to analyze the EPA case, the theoretical implications are thus provided.

A. The Structure of the EPA

EPA is the largest regulatory agency of the federal government. It includes 12 headquarters offices, 10 regional offices and 27 laboratories across the country. The EPA takes the divisionalized form to operate the ten regional offices. Each regional office has a separated institutional framework and is responsible within its states for the execution of the Agency’s programs. This structure has not been much changed since 1970.

In EPA, The establishment of the regional offices assists the enforcement of comprehensive national environmental policies. The regulatory rules were set by the headquarters, but the agency is dependent on the states for performing the crucial activities. The setup of the regional offices is to manage such kind of power delegation.

Divisionalized structure has the advantage of economies of scale, ample resources and prompt responsiveness. It also has risks of losing control over operating activities. In the case of EPA, it is noted that the efforts to control over regional offices met with limited success because the regional administrators have close local connections and enough independence. The regional administrators, often from state environmental agencies, perceived issues not only in terms of their own obligations to headquarters, but also in terms of their commitments to the states. In fact, if a regional administrator became aligned with the states’ interests, he or she could bypass the decisive policy set by headquarter agency. Besides, more than half staffs in EPA are engineers, scientists and policy analysts and a large number of other employees are specialized in the areas of laws, financial management, public affairs and information management. The agency has similarities of the professional bureaucracy. The managerial levels are kept narrow between the headquarter offices and the professionals, creating a decentralized profile. Though EPA had thought about controlling the pollution through ecological chain since it was established, however, it would rather choose a stable “in-between” approach, co-directing the mixed media and ecological chain.

B. Human Resource Management

The Office of the Human Resources is attached to the Office of Administration and Resource Management, one of the four offices that deal with the administrative affairs within the EPA. It provides supervision and direction to and serves as the steward for the Agency’s human resource programs, organizational services, and other designated management activities.

Empowering employees are key activities of the EPA. The agency initiated a series of programs to provide comprehensive federal employment benefits and the progressive incentives. For example, the Employee Learning and Development Plan is to encourage and provide access for learning and development activities in different forms within the Agency. Flexible Work Schedule Program is to allow the staff to tailor the work schedule with the personal needs and professional goals. Some employees can even work at home temporarily or during a part of their workweek under a newly established Flexiplace Program.

C. Political Arena and Agent

Almost every environmental problem seems to end at the EPA's doorstep. The EPA has been chronically overworked to address the enlarging regulatory programs without creating priority among them [2]. In addition, the EPA was organized along media lines, instead of along major functions, such as research, monitoring and enforcement, though it initially intended to do so. Each media office, corresponding to individual statutory support system, has its own political and professional constituency. More important, any proposal to change the organizational design or budget allocation will incite a bitter political battle over the alternatives. The EPA is arena for the internal conflict.

On the other hand, EPA is just one agent within a larger ecosystem. In the U.S., responsibilities for the environment scattered among dozens of congressional committees and subcommittees. The executive branch is also institutionally fragmented. Twelve cabinet departments and the EPA, the Nuclear Regulatory Commission, and other agencies share the responsibilities of environmental affairs. Although most environmental policies are concentrated in the EPA, the departments of the Interior, the Agriculture, Energy, Defense, and the Department of State are increasingly important actors as well [4]. Besides, the state and local governments have grown favorable environmental interests and more and more become motivators. Therefore the challenge for the EPA is to work as agent and seek compromise with all these external constituents.

D. Symbolic Feature

In 1960s, the environmental pollution problem raised wide attention among the politicians and the public. Therefore, the creation of EPA was part of the response to the growing public concern that federal government needs to do something about the deteriorating conditions of water, air, and land. This serves symbolic functions: it represents the belief in the virtues of planning and the value of an integrated program of action; but the agency has not formal authority over the regulated organizations and few funds to use [11].

Initially, EPA sets the noble goals: managing pollution in a way that reflected the interrelatedness of the environment, preventing unintended environmental side effects, and achieving a balanced rate of growth. However, according to Marcus [1], "the goals remained unattainable as the narrow perspectives of bureaucrats worked against achieving such broad principles". But seen from the symbolic perspective, EPA has made efforts to set regulatory standards solely on the basis of health considerations and EPA has actively promoted the implementation of a series of environmental programs. Though the EPA is sometimes criticized to set lofty goals and concern little compliance costs, this symbolism had actually the strong support of the most citizens, which makes EPA face less pressure from the Congress.

E. Leadership

Christine Whitman was the first woman elected as Governor of New Jersey in November 1993 and was appointed by George W. Bush as Administrator of the EPA

in 2001. The governorship of Whitman has been the most significant in terms of policy development and enforcement on greenhouse gas reduction, although many controversies exist. Under her leadership in the EPA, a series of market-based policies and voluntary initiatives were initiated, such as Climate Leaders, Energy Star, SmartWay Transport, Water Quality Trading Policy and Clear Skies Initiative.

Generally, she was considered moderate and was generally well-received by environmentalists [12] and especially, was regarded as one of the strongest advocates on climate change policies. However, in June 2003, "despite formidable political skills and experience, Whitman was out of a job. She had vastly underestimated the complexity of the EPA's mission and the punishing cross-pressures on her that resulted [2]. Former Utah Governor Mike Leavitt became Whitman's successor. Two years' later, Leavitt was replaced by Stephen Johnson.

V. DISCUSSION

Bolman and Deal established four frames to study the development and changes of the organizations. They expected reframing can "inspire inventive management and wise leadership", because the managers and leaders "require a high level of personal artistry in response to today's challenges, ambiguities and paradoxes. However, four-frame model is still a simplified and idealized model for guiding the organizational change, especially when it is applied to the organization like the EPA.

A. The Priorities of the Frames

Limited by the psychological and intellectual skills, the notion of framing something is to focus on a moment in time, a scene, or a set of ideas, whereas an effective leader should understand the history, the present conditions and embraces the future vision for the organization. The four-frames facilitates to understand the situation, but far more work than just reframing is needed to find solutions to the problems and make final decisions.

In addition, making full sense of a situation by integrating four frames helps leverage the best possible solution, but in reality, some frames may have more relevance in certain situations than others; people often need to prioritize the frames to seek solvability. Although the authors provide suggestions on choosing the most effective strategies through several guiding questions, the conclusive frame choices are arguably practicable.

B. External Environment of the Organization

Bolman and Deal's four-frame theory stresses on multiple perspectives of the internal issues of an organization and find solutions uniquely by individual effort. In Bolman and Deal's arguments, it all depends on the creative leaders that can "integrate frames for effective practice". The leadership skills permeates the processes of strategic planning, decision making, reorganizing, evaluating, goal setting, communication, meetings, and motivation. Thus the organizational development becomes more self-controllable and more of artistic. However, in the EPA's case, as described in the political frame part, EPA is

only a regulatory agency under the executive branch. The responsibilities for the environment are divided within the branches of federal government and state and local governments. The environmental regulatory policy made by the EPA at any given time has to be shaped by interaction of long term social, economic, technological and political forces and short-term fluctuations in the political climate. It is far beyond the EPA or its leaders' capacity to bypass the key actors and dominate the policy process.

C. Features of the Organization

Generally, the four-frame theory deals with the organization with relatively simple structure and small number of the business directions. For the organizations like the EPA, the pictures from the four-frame theory are still indistinct and require to be magnified. However, a simplified enlargement would complicate a unique situation, thus bypassing the interaction of the other factors. Therefore, the best approach is to reframe the organization based on the missions or visions of the organization, and the leadership provides the innovative spirits into the reorganizing work which balances well all the interests and synergizes all the positive factors. From the beginning, the program offices, usually called the media offices, have been the most important organizational units in the EPA. Each office lives with its own statutory support system and is populated by a variety of professionals. To change the EPA's organizational design will inevitably incite apprehension of the existing programs.

VI. SUMMARY AND RECOMMENDATIONS

This paper employs Bolman and Deal's four frame model to observe the mechanism of the US EPA and its program operation. Although the model is useful in decoding the confusing and troubling organizational situation, however, to enhance the regulatory performance, we have to study the unique characteristics of the EPA and understand the complexity of the reform.

Based on the above evaluation and analysis of the EPA regulatory performance, this section provides a list of recommendations for guiding the restructuring work.

- Integrate the reframing approaches. Under the core mission of promoting comprehensive environmental management, the leadership at the EPA should draw insights from successful practices, and be flexible and creative in restructuring the organizations. Depending on where the changes start, the reform process can be "top-down" (structural frame), "bottom-up" (human resources and political frames), or the combination of both (symbolic frame). The role of the strategic leaders is to direct the change in many subtle and important ways.
- Address environmental issues from a cross-media approach. The EPA shall develop and implement a strategy that enables the agency to quickly organize cross-media teams to work on specific issues related to ecosystem, geographic, or pollution prevention initiatives. Besides, it should seek statutory change and update from the Congress in order to integrate environmental protection efforts across media.
- Reorganize regional offices by eco-regional boundaries. The EPA can replace the traditional administrative division by establishing eco-regions as new jurisdictional area. This will help the agency overcome the difficulties of fragmentation and provide institutional momentum for the integrative ecosystem management.
- Strengthen information management. EPA should improve and expand the present activities of the Office of Environmental Information (OEI) in data collection and exchange, information technology and access service. The Congress can create an independent bureau of environmental information or statistics to provide better information on environmental conditions and trends, and to assess the EPA program performance.
- Improve the credibility of science in EPA regulations. The controversy with respect of the integrity of the EPA's science frequently involves how the political leadership uses the scientific evidence to serve the political requirements. Even so, science is the base for policy making. EPA shall evaluate current policies concerning the use of science at the EPA and provide publicly available scientific findings associated with regulatory proposals. The scientific activities should receive oversight by respected scientific societies and research institutions.

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