

APPLICATION OF A MODEL OF PLANNED CHANGE  
TO THE ANALYSIS OF THE ORGANIZATION  
OF REGIONAL PROGRAMS

Ada Demb

March 1976

WP-76-16

Working Papers are internal publications intended for circulation within the Institute only. Opinions or views contained herein are solely those of the author.

## Preface

This paper presents an analytic approach to the study of organization for regional development. It represents one of three complementary analysis (2) (3) introduced in the joint working paper "An Overview of Organizational Research in Regional Development: Five Parallel Cases." (1)

The study will be conducted in five national settings -- U.S., U.S.S.R., Venezuela, Scotland and Poland -- by the three authors for the purpose of generating a common data base and case studies. Each of the three analyses will stand separately; however, we recognize the complementarity of the approaches and hope to exploit the potential for synergy accordingly.

## Introduction

The definition of regional development we have posed (1) focusses on regional development programs which alter the nature of development in a region in a direction which would not have occurred as a natural consequence of ongoing economic or social forces. The program thus imposes a "change" on the region which is the result of a "planned" policy decision. In the field of organization research, analysis of the management of planned change has been the focus of attention for twenty years. In this portion of the case analysis I hope to apply some of these concepts to gain further insights into the dynamics of regional development.

The purpose of existing research in this area has been to clarify several dimensions of change in human systems. (1) The most general purpose is to describe and model the process of inducing and maintaining change in human systems. (2) Within the context of the modelling research, attention has been focussed on the nature of the mechanisms for implementing change in organizational settings. (3) This research evolved into the development of strategies for the management of change in large organizations which has been directed toward application in the fields of management and consulting. The objects of this research fall within the first and second of these areas: the dynamics of inducing and maintaining change, and the nature of the implementation mechanisms.

### Purpose and Contributions

The purposes of a study of regional development as an instance of planned change are similar in nature to the contributions of organizational analysis in general. First, there are the methodological aspects. Study of change has focussed largely upon individuals or single organizations as the unit of analysis. Application of these concepts to a multi-organizational system provides an opportunity to assess the capacity of the models to deal with the complexity of larger-scale systems and to judge the quality of insight to be gained.

The second aspect of the methodological contribution concerns the development of an analytic approach that can be used across national settings. There is evidence from consulting experience that the strategies for the management of change in organizations which have evolved from the analytic models (3, above) may be completely culture-bound. In other words, strategies are dependent upon management style, tradition and assumptions which differ from country to country and are, therefore, not generalizable. It is my opinion that the theories describing the dynamics of change are not culture-bound in this manner; however, this is a hypothesis upon which this study in five national settings can shed some light.

The contribution to the study of regional development is primarily empirical and descriptive. A focus on change dynamics and mechanisms should provide a richer description of each of the cases undertaken.

Finally, the development of a culture-free analytic approach should make it possible to surface differences between cultures which are of particular interest to management. While each setting may employ very different mechanisms to implement a desired change, the set of roles or functions these mechanisms fulfill are likely to be common. If there is a single model which describes the dynamics of change, function across systems will be the same and comparison of the mechanisms which fulfill these functions should increase our understanding of the conditions under which specific mechanisms are appropriate. Ultimately, I would hope this could lead to a level of understanding which would enable transfer of selected change strategies in an appropriate manner, from setting to setting or nation to nation.

### Conceptual Basis

A systemic view of organization of regional development leads to a view of regional development as a system, embedded within a national system, and in turn, embedding subsystems of activities. The regional system we have defined (1) as that set of organizations concerned with the management of activities within the region. (see Figure 1)

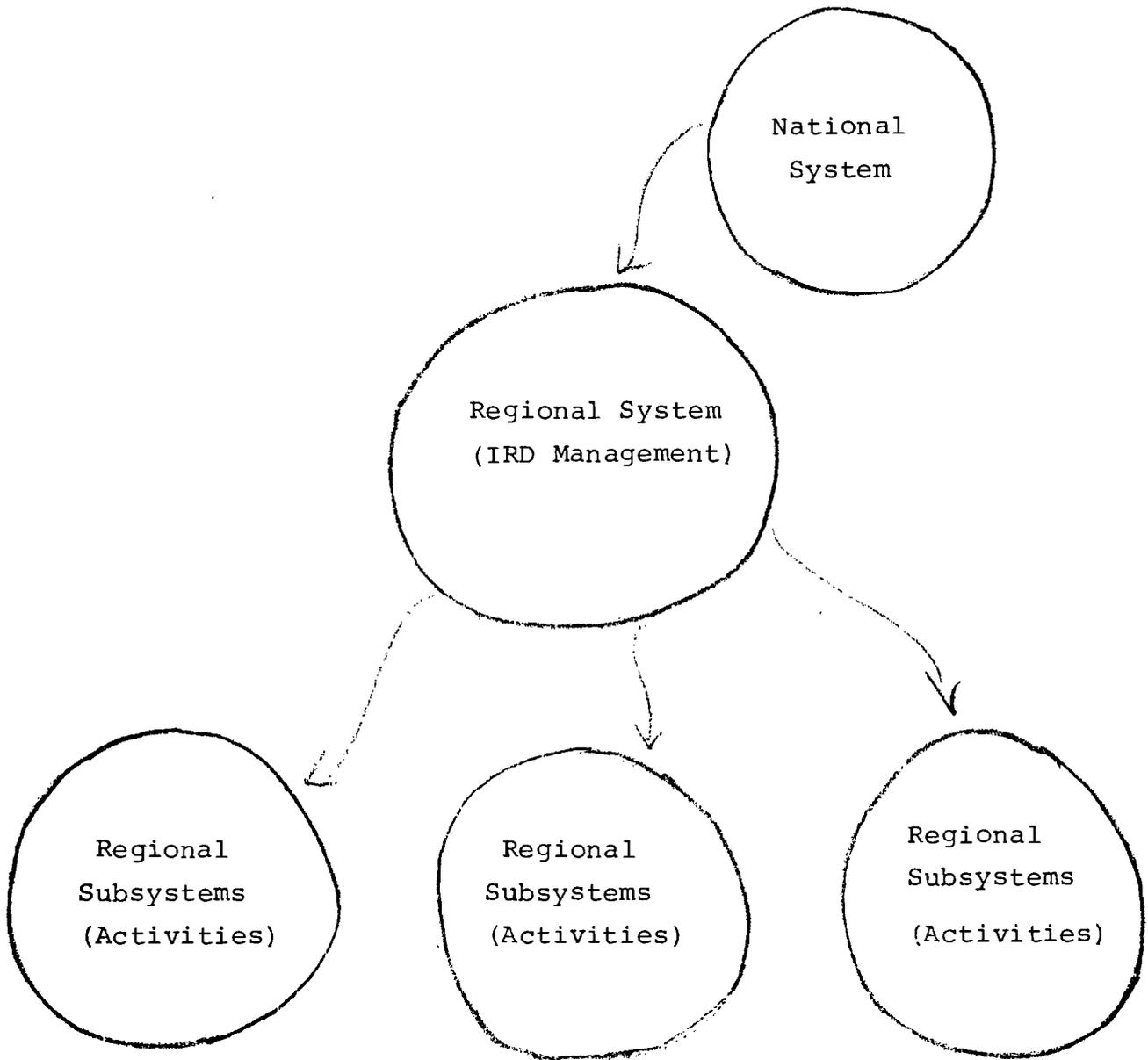


Figure 1: Systemic View of Organization of Regional Development

An approach to regional development which uses change as its analytic dimension focusses largely upon the relationships between systems and sub-systems. We will focus primarily upon the relationship between the national system and the regional system. It will also be useful, however, to understand the scope of the authority or power which the regional system can exert to implement changes in its subsystems.

The analysis of change presented here complements the approach to organization structure represented by the cybernetic approach (3). It amplifies a set of relationships described by this model in the direction of understanding its capability for implementing a major organizational change.

### Dynamics of Change in Human Systems

Models of planned change are generally based on a model of change in human systems posed by Lewin (1947) and elaborated by Schein (1961). I use this analytic model as a framework for this portion of the analysis. This discussion first describes the characteristics and stages of the model, and then presents its application to regional development.

The model of change is based on a description of human systems as existing in a state of dynamic equilibrium. In any system there are a variety of forces moving that system toward change and a variety of forces restraining that system from change. In a stable system, the forces largely balance on another. All systems are changing to some degree at any given time and it is this process which produces growth or development in the usual sense.

The model is described by three stages: Unfreezing, Changing, and Refreezing. The process is defined as (1) upsetting the status quo equilibrium to create a climate for change, (2) implementing the change, and (3) integrating the change into a new dynamic equilibrium. Figure 2 represents these notions diagrammatically.

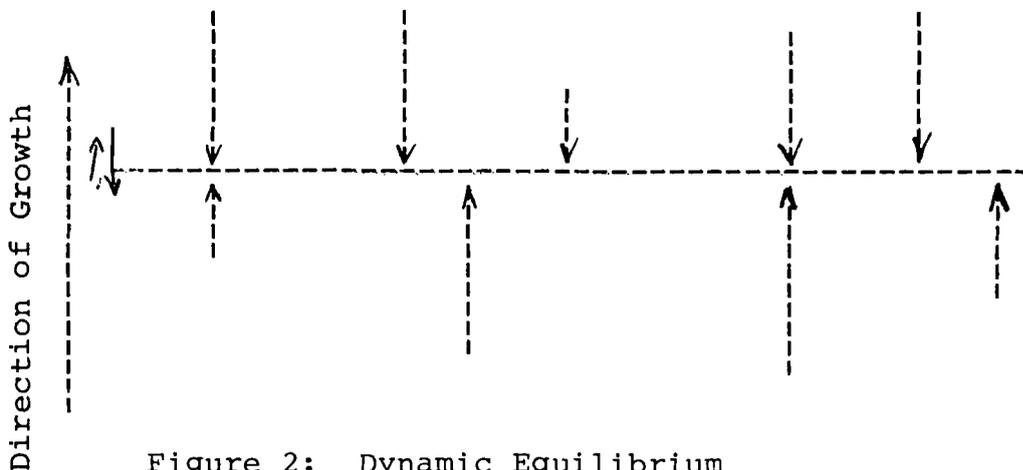


Figure 2: Dynamic Equilibrium

Stage I: Unfreezing

It is the balance of forces that generates the inertia of stable systems. Thus, the first stage in a change process is that of destabilizing the equilibrium to the point where the system develops a positive attitude toward the possibility of a major change. This destabilization Lewin has labelled a process of unfreezing.

The necessity of an unfreezing stage is based on an assumption that a system in equilibrium tends to remain in that state, i.e. that there is a preference for the status quo. A corollary of this is the likelihood of resistance to major change.

What is it that determines the level of stability (inertia) of a given system? We might hypothesize that the stability of the base-line equilibrium varies directly with the complexity of existing organizational activity. The size and number of organizational subsystems (networks) in a region would, thus, determine the inertia of the regional system. The greater the number and the more interconnected are the linkages, the greater the stability. Alternatively, one might say the "vested interest" in the status quo increases with the number and level of interdependence of subsystems or networks of organizations. In such a situation the nature of the restraining forces would be such considerations as existing agreements among organizations - contractual or informal, or consumer and supply networks. Further, however, in a regional system which involves communities and social structures, occupational expectations and family traditions are additional restraining forces.

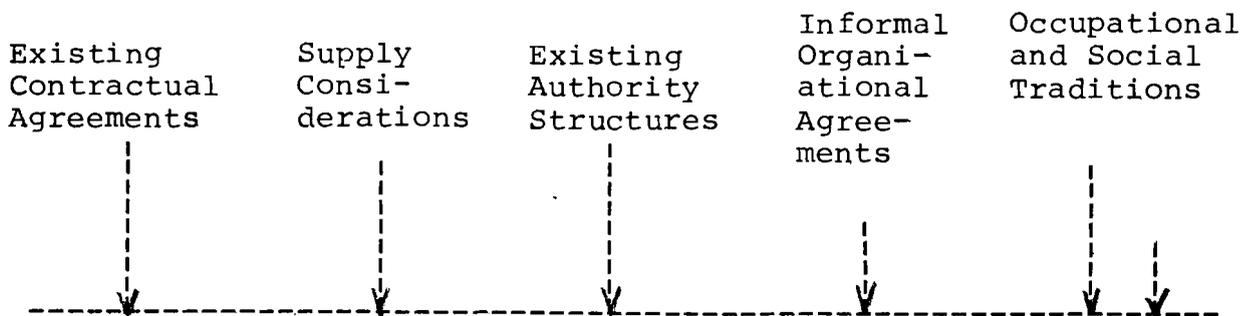


Figure 3: Postulated Restraining Forces

This would suggest that the magnitude of the disturbance required to destabilize a given equilibrium would also vary directly with the complexity of the existing system. Thus, for a regional program designated for implementation in a complex organizational setting we would expect to observe that preparation for the program implementation (the unfreezing phase) would have involved the introduction of pressures to unfreeze the equilibrium at multiple key "force points" within the system.

A second determinant of the level of stability of the equilibrium would be the total energy level of the system. If it were a low energy equilibrium, maintained by weak forces -- disruption of the inertia could be accomplished through the introduction of relatively small pressures. If the equilibrium is maintained by an interlocking network of legal, psychological, economic and social forces of long historical tradition, we would hypothesize it to be a high-energy equilibrium requiring an unfreezing effort of equally high intensity.

Implicit in this model of change is the restriction on its application to settings where prior organization exists. In fact, for purposes of application to regional development we have two choices; a) to apply the analysis to the four cases where the designated region is already developed, i.e. non-virgin territory or b) to apply the analysis to current system capability for effecting change. While either is possible, ours will be a mix of the two. In the process, we will have in mind that historical data on behavioral change suffers from a distinct validity problem: descriptions of behavior usually differ dramatically from actual behavior even in current time, and these discrepancies tend to be greatly distorted by "hindsight." Thus, we will focus on the capability of the system and the mechanisms available to it for effecting change in the present using examples from the past to understand the behavior induced by a particular tactic.

Examples of unfreezing events abound in organization and human experience. An organization which finds itself unable to meet production goals for four or six months running will probably develop an attitude at both top and operational managerial levels that a major change might be a positive thing. Similarly, an organization which attained satisfactory production level, but which was confronted on a continuing basis with the production results of a peer organization which far surpassed its own achievements might also develop a positive attitude toward a major change. Such unfreezing may occur as a result of either external or internal pressures. In some cases, the origin of the change, the credibility of the instigator may be a sufficient unfreezing force.

### Stage II: Changing

Once the unfreezing process is understood, our attention shifts to the mechanisms of the change process itself. Our interest is directed toward understanding the nature of the mechanisms used to implement the change. Are they economic, legalistic, psychological, educational? Are they the result of hierarchical authority relationships or are they aimed at changing peer behavior?

In human systems there are at least three alternative strategies for accomplishing change. (1) In a system of dynamic equilibrium it is possible to overwhelm the forces hindering change by a greater force in the direct of change and thus move in the desired direction. (2) It is possible to remove or ameliorate the forces hindering the change, thus permitting existing positive forces to

move the system in the desired direction. The latter tends to be the more efficient and effective strategy in human systems. The principle is quite straightforward: If you have two forces in opposition, an increase in the magnitude of one will tend to increase the magnitude of the resistance. Finally, (3) An entirely new force can be introduced which would move the system in the desired direction. A mix of tactics tends, of course, to be the usual solution. These solutions should differ depending upon the national setting, and on the stage of the regional development program itself. The first stage of analysis would consist of characterizing these strategies and tactics.

### Stage III: Refreezing

The notion of a dynamic equilibrium captures the necessity for the third stage of the change process, the refreezing. In organizational terms one would label this as a process of "institutionalization" of the change. That is, we examine the process by which the new behavior is rewarded and supported by structure within the setting which have already achieved credibility. Unless those forces surrounding the object of change have been adjusted to complement the change, the system will re-orient itself to the original position, or find itself unable to maintain the change over time.

The object of the institutionalization is to integrate the new behavior into a new equilibrium. Two examples serve to illustrate this: if a production unit is required to experiment with innovative technology, corollary adjustments of total production targets are necessary to encourage the experimentation--as it would temporarily reduce the production potential of the unit. In the academic world we can observe university efforts to encourage inter-disciplinary work among faculty. These efforts often fail because promotion and tenure decisions must rest with departments whose criteria reflect the interests of the discipline-oriented academic system.

In systemic terms, the institutionalization involves the matching of the behavior induced in the subsystem with expectations in other systems with which it interacts. Thus for example, to maintain a change in enterprise activity imposed by a regional authority, corollary adjustment of sectoral authority expectations would be required. The unit responsible for a new behavior cannot be expected to maintain that behavior if it produces conflict in another sphere. Our interest is in the nature of the solution which resolves these inconsistencies.

### Analysis of Change Processes

In general, analysis of change focusses on a question of consistency between means and ends. It seeks a response to the question of whether the design and management of the change process achieved the desired results. Ultimately, this is a question of effectiveness, where the criteria for assessment are based on the level of achievement of a previously-defined goal. More specifically, questions can be posed according to stages of the model,

### Consistency Analysis

The consistency dimension of the analysis seeks response to the general question of whether the design of the change process matched the nature of the change to be implemented. Specific questions can be posed according to the stages of the model.

Stage I. Did the energy and comprehensiveness of the un-freezing process match the energy and complexity of the system? Were the forces used to destabilize the system and to overcome the inertia, of sufficient strength to achieve a climate of willingness to consider change?

Stage II. Did the change mechanisms produce the desired result? Were the responses to the change mechanisms consistent with expectations? Was the scope of the mechanisms sufficiently broad as to cover all relevant actors within the system? Was the implementation process comprehensive?

Stage III. The organizations in a regional system are embedded in several layers of systems each of whose forces contribute to the equilibrium of the regional system. Once the change was implemented, were inconsistencies eliminated at all relevant levels, e.g., if local tax policies needed to be adjusted, were corollary adjustments made at the national or regional level? Can the new behaviors be carried out by organizations within the constraints of requirements imposed on them by their other responsibilities? Has there been a system overload at any point?

### Data Requirements

The analysis of change is predicated on an ability to develop information about (1) the level of complexity of the regional system prior to development, (2) the numbers and kinds of change mechanisms used to induce new behavior, and (3) the relative strength of these mechanisms.

Complexity. To generate a measure of inertia and energy, we can turn to several types of information. First, however, we must understand that for the moment, such measures must be relative to other cases. It is not the purpose of this project to develop indices. Thus, we will turn to mapping of networks of organizations, number and nature of communities existing in the region, and level of "vested interest" in the status quo, which could be represented by investment in major industries (public or private). The working assumption is that the greater the number of organizational networks (overlapping or in aggregate), the older the community structure, and the higher the level of investment, the greater will be the inertia and energy level of the system prior to development.

Change Mechanisms. In general, this data should be available from officials at various levels in both the national and regional settings. It amounts to a listing and categorization of organizational, legal, and social mechanisms applied to implement the policy decision. Of particular interest here is the role of organizations which are a part of the regional system itself. We are interested in the location of authority within the regional system to activate change levers, i.e. to change tax structures, output requirements, etc. Along with the identification of mechanisms we will try to learn in whose hands their activation lies.

Relative Strength of Mechanisms. It is clear that certain levers are perceived to be of more impact than others by those affected. We will seek to ascertain the nature of the change that can be expected to occur from particular mechanisms. Clearly this represents perceptual and judgmental data. It will rely upon the responses of the managers of organizations affected by the regional development. In addition, however, we can draw upon management or sociological studies of organization behavior in a given national setting. This data relates particularly to efforts to understand which mechanisms fulfill similar functions in different settings.

#### Note on Data Collection

The development of the data base for this analysis is part of the joint work proposed by Davies, Demb and Espejo (1). Clearly, the development of the change description draws and depends heavily upon data collected by the questionnaire presented in the Espejo paper (3). Beyond this it appears that the data on complexity and the nature of the change mechanisms will be the most readily available.

Because this represents such a novel application of the model, it will not be possible within the scope of this research project to collect all data, at the level of reliability that is desirable, to support an unquestionably valid analysis. However, for the purpose of evaluating the usefulness of insight provided by the change model in this setting, we should be able to use data at a lower level of completeness. Conclusions will, of course, be modified and limited accordingly.

References

- (1) Davies, C., Ada Demb, and Raul Espejo. March 1976. "An Overview of Organizational Research in Regional Development: Five Parallel Cases" LOP, IIASA.
- (2) Davies, Cyril, March 1976. "A Force Field Approach to Assessing Organization for Integrated Regional Development" LOP, IIASA
- (3) Espejo, Raul, March 1976. "A Method to Study the Organizational Dimension of Regional Programs" LOP, IIASA
- (4) Lewin, Kurt, 1947. "Frontiers in group dynamics: concept, method and reality in social science," Human Relations I, 5-42.
- (5) Schein, Edgar, 1961. Coercive Persuasion (New York: W.W. Norton & Co.)