

PRESERVATION AND INNOVATION
The Tasks of Government in Developing Countries

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I suggest that the main obstacles to growth and development are neither technological nor economic, but social factors. This assertion may jar on those who hold the view that given the economic inputs, the rest of the complex facets of the economy and the nation take care of themselves and produce the desired change. I shall therefore share some of my thoughts on this subject.

It was not until I was made responsible for the Atomic Energy programmes of this country and came face to face with problems of development through the application of advanced technologies and basic research, that I became conscious of the problems -that are encountered when Government has to perform a role which goes much beyond the maintenance of law and order and the security of the nation. Collaborating with Dr. Kamla Chowdhry in a study** of the growth of the activities of the Atomic Energy Commission of India, an organization for developmental tasks, and of Bhabha, an outstandingly successful innovator of our times, I was struck by the illumination of many complex issues.

I recognize that governments are involved in providing stability as well as change to society, two seemingly conflicting goals. At one end of the spectrum are certain administrative services, acting on past precedents and traditions providing security and continuity, impersonalized to the extent that if one person is substituted by another, every one knows how the successor will behave and operate under a given set of circumstances. At the other end, there are organizations based on research and development, involving individuals who act on insights and hunches, non-conformists questioning assumptions, innovating and learning. The two extremes require organizations and working cultures, which are rather different. We would have near disaster if we have a judge who is an 'innovator' instead of a 'preserver'. On the other hand, an educational or a scientific administrator would be sterile and ineffective if he is a preserver rather than an innovator. Most tasks encountered in the contemporary world call for organizations wherein creative thinking and innovation are essential ingredients of survival as well as growth. Industrial and agricultural development, and the conduct of foreign affairs call for innovators, rather than traditional administrators.

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It is perhaps useful to note that if in a given situation we are content to leave all environmental conditions unchanged, we can at best achieve an evolutionary change through the natural course of survival and growth. On the other hand, forcing the pace of development needs probing the boundary conditions of each situation so as to push in the direction in which change is possible. The instruments of change have therefore to be those who do not take their environment for granted.

Most of us are familiar with the hierarchical organization structures involving vertical controls which continue to dominate governments whose principal role until recently was one of preserving a social order. They carry an administrative service, characterized by anonymity coupled with security of tenure, insulating individuals from outside pressures. The system has built in controls, which act negatively, attempting to stop a wrong thing from happening.

To realize how distant this culture is from one wherein innovators are involved in developmental tasks, we can examine some of the factors, which have been observed in the study of Atomic Energy. Organizations were built round men, and no organization chart stood in the way of recognizing and rewarding talent. Amongst professional groups of scientists and engineers, motivation and control was largely inherent and contained in professional commitments. Control was exercised through discussion and judgment of peers with administration performing largely the role of service. Autonomy of working conditions and selfdevelopment were important to the innovators. Horizontal control systems are effective when they involve mobility and interactions. The economic analogue of horizontal controls is competition. Horizontal controls are implicit and do not have to be imposed from above. For instance, if there is a situation where supply exceeds demand, the price is controlled by competition rather than by price control. Each competitor, without having to be told so, fully realizes the negative implications of his charging a higher price than others. The military application of it is seen in arms control through the balance of terror. Armed conflict between the U.S. and the U.S.S.R. during the last twenty years has been prevented not by action of the United Nations, but by the implicit threat of reprisals.

While vertical controls are dependent on a system of reporting and feedback involving more than one level, horizontal controls are dependent on direct interaction at the same level. The 'hot line' between Moscow and Washington is necessary to preserve stability through horizontal controls between the two power blocs. The effectiveness of vertical controls are dependent on the time span of delegation. For instance, if the Public Accounts Committee reviews the operation of a Government undertaking two to three years after an event has occurred, its comments cannot have any possible effect in producing control on tactical decisions by the management. With a time span of this order only a strategic decision such as one involving the establishment of a steel plant could be questioned with relevance to controls.

One may ask why competition, which is synonymous with horizontal controls, has become associated with capitalism? Are horizontal controls contrary to socialism or the State ownership of the means of production? Would it hurt if Hindustan Steel were not just one company? Would not the managements of Bhilai and Durgapur have positive incentives if they were competing with each other and with TISCO and Indian Iron? Can vertical controls of a Board of a monolithic corporation or of the Bureau of Public Enterprises, or of the Parliamentary Committee on Public Enterprises, or the Auditor General provide adequate substitutes for what can be gained through accountability for task performance in a situation of survival and growth in a competitive economy?

Vertical controls usually specify what cannot be done. The Industries Development and Regulation Act is a typical example of such control. Top bodies involved in such control can rarely function in anything but roles of strategic decision-making. When they involve themselves in the decision-making processes of day-to-day administration, the system indeed gets fouled up. I would suggest that since vertical controls inhibit innovation and remove the decision-making process from the operating level, they are unsuitable as a system for the developmental tasks of government.

We are not suggesting here the abdication of supreme authority at the top most echelon of government. But one is talking of a self-restraint and exercise of power based on understanding of the control systems appropriate to developmental functions. One is moreover asking for a sophistication which recognises that there is a distinction between a formal and a real organisational structure, the social culture of an organization being influenced mainly by the men who are in it, the determining factors being their assumptions and outlook on life and their attitudes related to their past training and traditions. It is because of this that one despairs of finding solution to our real problems by only organisational changes.

In research laboratories, and in other developmental tasks it seems important that the Chief Executive, besides being involved in policy-making and administration, maintains direct contact with his professional role. The creation of administrative practices appropriate to a given technology or set of tasks comes with familiarity and knowledge-of-acquaintance of the technology or tasks concerned.

There is a need for a constant interplay between the basic sciences, technology and industrial practice if economic progress is to result from the activity undertaken. The wearing of several hats by the same person, and the mobility of personnel from one type of activity to another have undoubtedly provided the impetus for growth in the projects of the Department of Atomic Energy. We may contrast this with the practice prevalent in higher educational institutions for basic sciences and technology and national laboratories where the work of applying the results of research to practical ends had to be done through other units, not originally related to the laboratories or the men that work in them.

The various factors indicated earlier are interrelated and mutually dependent. A change in one influences the total scheme of things, for in organisational structures and culture, the whole is more than the sum of its parts. Structures, procedures and techniques are important but these must be sustained by a cluster of attitudes conveying care, trust and nurturance on the part of responsible persons.

With the problems that we are facing in the country today, it is pertinent to ask how the considerations, which we have discussed, are relevant to Government. The foremost need would be to identify activities where developmental functions are primarily involved. Organizational reforms involving systems of horizontal and vertical controls would grow naturally when men who are appropriate for these tasks are placed in positions of responsibility.

Will we have the conviction and courage to introduce these changes? The answer is surely crucially related to our survival.

The Convocation is a ritualistic farewell to those who have graduated after two years of exposure to what the Institute stands for. There is a great emphasis here on the decision making process. What is equally important is an understanding of the backdrop of the physical and social environment in which we operate. For it is through assumptions made from an understanding of the background that innovators derive their nourishment. I am sure you have acquired plenty of this here, but hope that you will continue to test and renew your assumptions on the experiences that you gain. I wish that you would perform successfully the role of innovators.

*** Paper "Organisation for Developmental Tasks: Atomic Energy Commission of India" by Kamla Chowdhry and Vikram Sarabhai, 1968.*

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