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MANAGING THE AGRICULTURE SECTOR

by

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INDIAN INSTITUTE OF MANAGEMENT  
AHMEDABAD

## MANAGING THE AGRICULTURAL SECTOR

Shreekant Sambrani

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### *Concept of the Agricultural Sector*

No discourse on Indian developmental priorities begins without a reference to the agricultural sector. This is particularly true of the more recent pronouncements. This is also somewhat paradoxical. At one time, judging from the Western experience, it was held that as a society moves up the developmental ladder, its dependence on agriculture reduces. In fact, this lessening of the importance of agriculture came to be regarded as a principal indicator of development. In our country, however, we have emphasised agriculture increasingly as we have moved along the developmental path.

One principal reason for this paradox is sheer numbers. At the last count, 70 per cent of the India's population depended on agriculture in one form or the other for its livelihood. Over 40 per cent of our gross national product is still contributed by agricultural production alone. Another reason, of course, is that we are as yet extremely vulnerable to fluctuations in agricultural production. In other words, our developmental edifice is a rather delicate structure built upon the none too predictable foundation of agriculture.

To the managers, agricultural sector means much more than agricultural production alone. To them, apart from the 70 odd million rural households, such diverse organisations as Shaw Wallace, ITC, Amul, Rallis and HMT have all come to signify the agricultural sector. And then, of course, there is the government and a variety of public agencies. If we consider the contribution of all such organisations to the GNP, it will far exceed that of the rest of the organisations in the economy put together.

What binds together these diverse organisations is that they all contribute critically to the maintenance and growth of agricultural output. Organisations supplying inputs such as fertilisers, pesticides and implements, processing and marketing outputs, supplying credit and other institutional facilities and in general, overseeing developmental activities, are all part of the agricultural sector. This is a definition somewhat different from that generally used in national income statistics. But this is closer to a general economic analysis, which presupposes that linkages among various sectors are as important as the primary responsibilities themselves. Without a sufficiently strong system of linkages and a growth of such organisations, it would be impossible to fulfil the primary task. Hence, this widening of the coverage under agricultural sector. Figure 1 shows a schematic representation of the variety of organisations which may be involved in the agricultural sector.

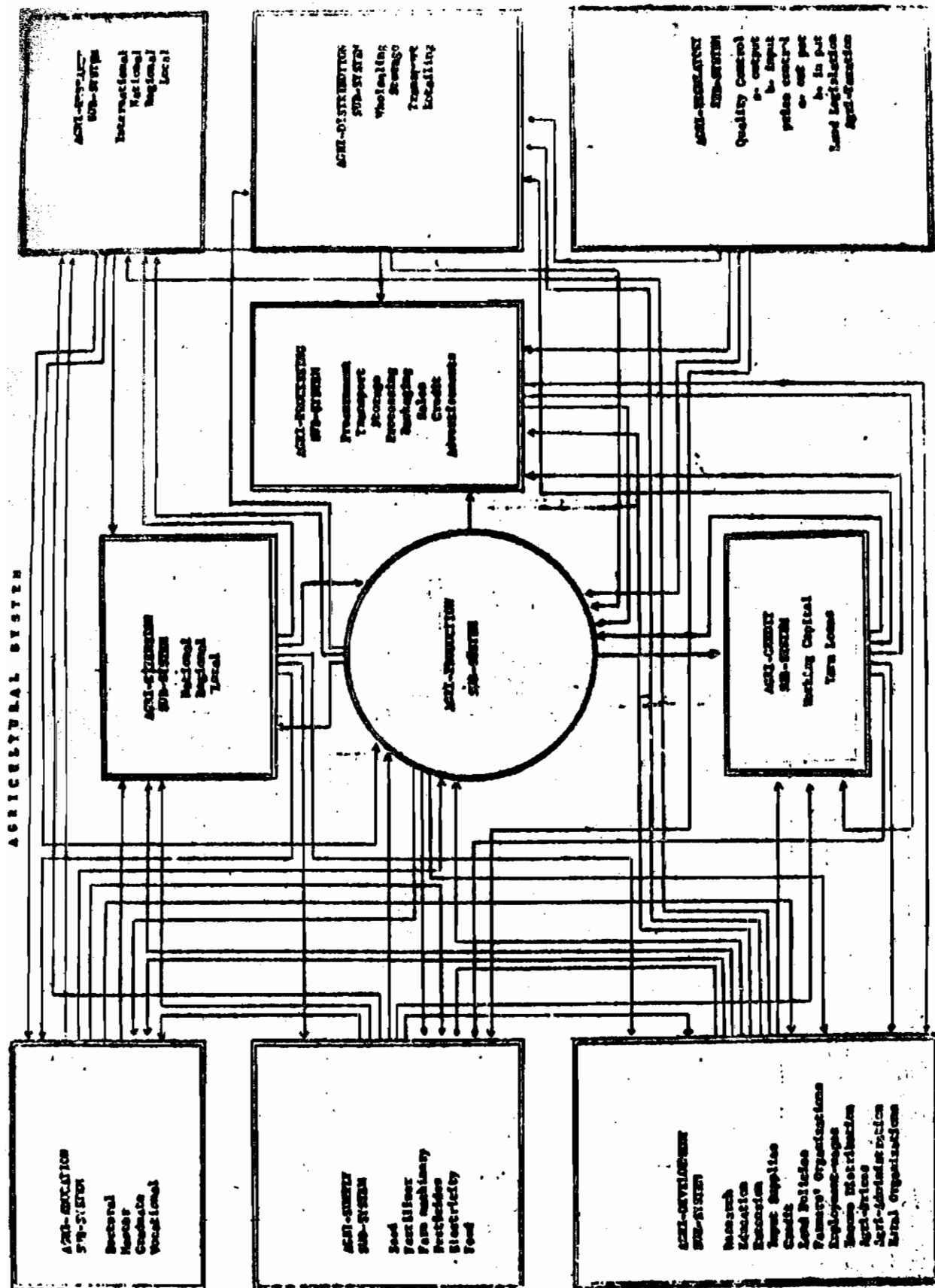


Figure 1: Agriculture System Diagram  
(Developed by Dr D.E. Bosed)

### *The Managerial Approach*

The basic task of a decision-maker is achieving desirable goals with limited resources. This becomes all the more critical in societies where resources are substantially constrained than in cases where they are relatively abundant. Again, the criticality of the activity concerned makes it essential that considerations regarding the best way of achieving the desired results become central. In this sense, extension of management concepts and techniques become useful to any organised pursuit of economic activity. In the Indian context, agricultural sector will not only be included, but also will be one of the main candidates for the application of management concepts.

Figure 2 indicates a schematic representation of the managerial approach to decision-making. This has to be understood in the context of the agricultural sector. For example, problems that a decision-maker will be asked to solve will arise out of either the environment or within the framework of the national development policies and plans. Past performance, the current priorities and the dynamics of the agricultural sector will all contribute to the definition of the problem.

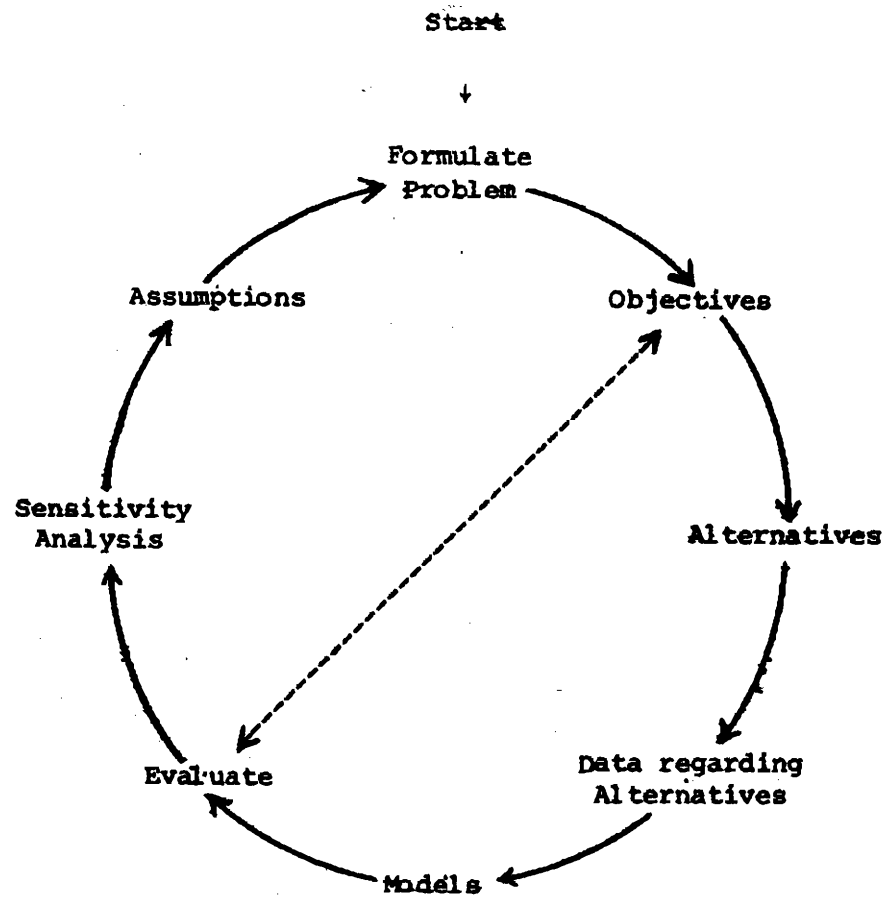


Figure 2 : *The Managerial Approach*

The main elements of managerial activity could be

planning  
directing  
organising  
monitoring  
controlling, and  
evaluating.

These are, of course, linked in an iterative fashion as indicated in Figure 2. The tasks that will be thrown up require therefore not only an understanding of the environment, but also an appreciation of various functional disciplines and concepts. For example, concepts of economics and organisational theory are the first ones that come to one's mind. Quantitative reasoning and specific techniques could also be useful. Monitoring and controlling performance can be achieved through measurement of the outcome, cost data, performance norms and standards and suitable information systems. This knowledge is to be applied to identification, formulation, appraisal, implementation, monitoring and evaluation of specific projects and programmes. In a later section, a few concrete examples will be given.

The manager's task, however, is not complete with the preparation of paper programmes and projects. These have to be implemented. For this,

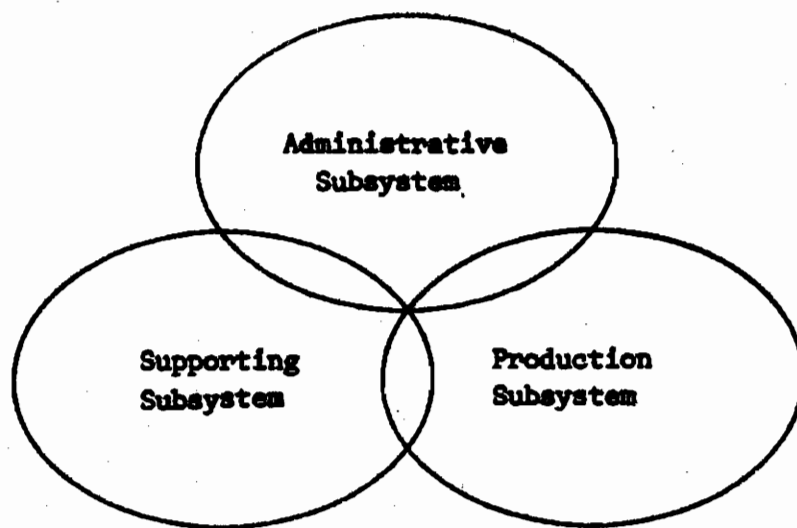


the systems of operation may have to be modified and if necessary, completely redesigned to suit the requirements of changing environment the increasingly complex nature of developmental tasks. Leadership and creativity in organisations are primarily concerned with the designing of new systems of operation for modifications to the old system and finding ways of implementing these in such a manner that the modified or new systems are effectively internalised. This requires an understanding of the magnitude and direction of changes required in the system as well as capability of persuading the persons operating the existing system to accept and operate the new systems.

In addition to bringing about changes within the organisation, managers must also be able to maintain effective interfaces with other organisations. The totality of agricultural sector could be divided into essentially three subsystems. These are illustrated in Figure 3. The constituents of the production subsystem are essentially the numerous farmers, cultivators, livestock operators, fishermen, plantation operators and so on. The supporting subsystem includes organisations which are in the private, public and the cooperative sector and which have specific functions such as supplying inputs or marketing outputs. The administrative subsystem is charged with the responsibility of overseeing both the development programmes and regulation of the other two subsystems. Each of the three subsystems is in intimate contact with the other two.\* An understanding of the factors facing the other two subsystems becomes essential. We can best illustrate this through to specific examples.

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\* I am grateful to my colleague Professor V.R. Gaikwad for the thought contained in this and the preceding paragraph.



**Figure 3 : *Agricultural Sector and Subsystems***

A seed marketing organisation found itself saddled with unsold stocks. It tried to launch a very vigorous selling campaign. Consequently, it found itself caught in a squeeze of mounting stocks of fast deteriorating quality and inability to meet the quantity requirements of contracts entered afresh. This vicious circle forced the company to repurchase stocks of seeds distributed through the government to cultivators and sell these back to the government. The state government as the regulator and purchaser, refused to pay the contracted amounts.

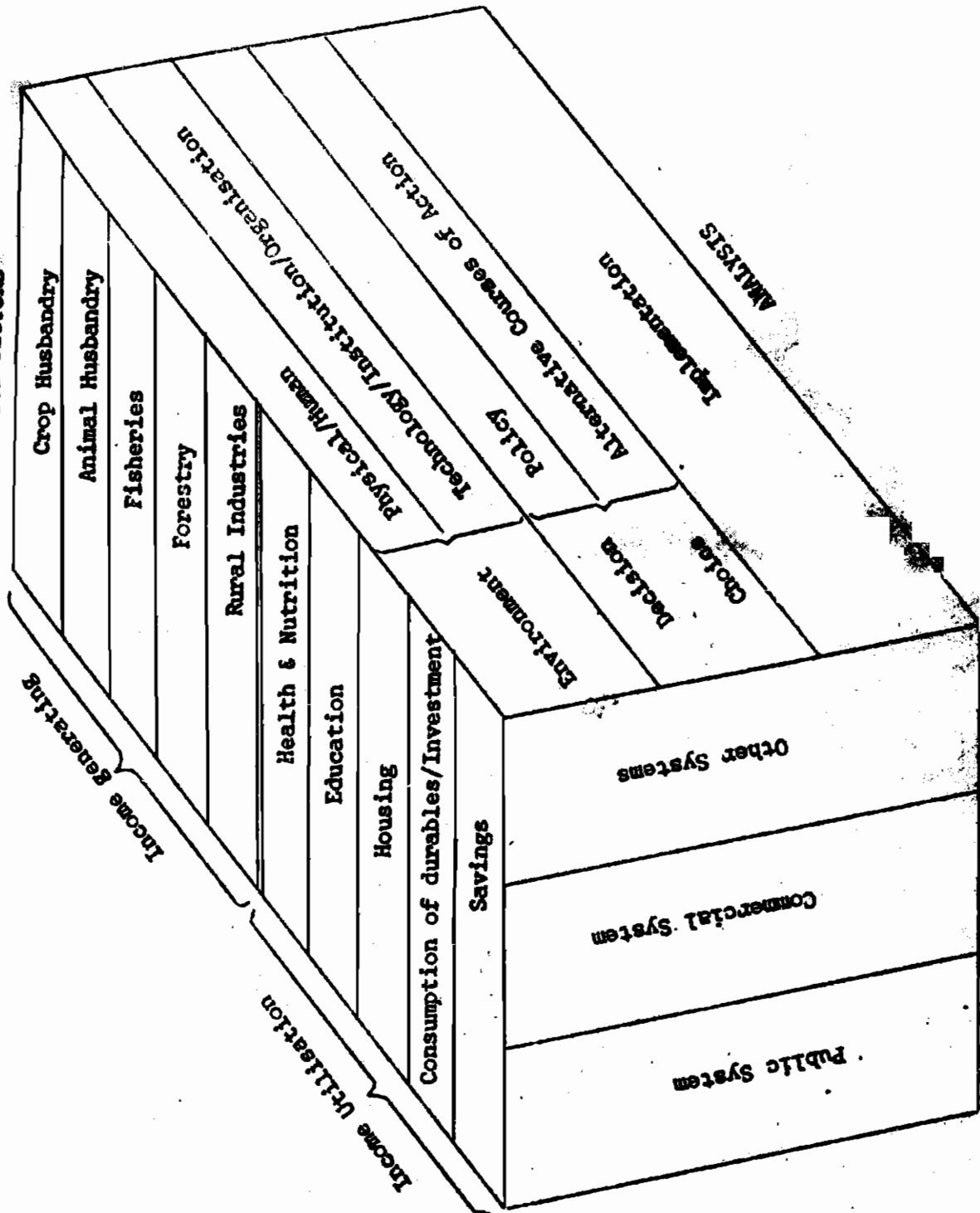
The situation reflects an inadequate appreciation of the government commercial firm interface. Again,

A pesticides manufacturing and selling organisation found that subsidies offered to pesticide purchasers vary drastically from state to state. Similarly, credit availabilities also vary not only from state to state, but also one time period to another. As a result, the organisation had to constantly modify its strategies.

This shows the importance of the interface between the all three subsystems.

Figure 4 indicates an attempt at systematising the various tasks and subsectors, as well as organisations involved in the agricultural sector. We may consider it as the defining framework.

**SUB-SECTIONS**



### *Illustrations*

One can find many illustrations of the applications of the managerial approach to the agricultural sector. The beauty of it is that quite often these applications are tried by people who are not really aware that they are doing something unusual. Essentially, what we are talking about is the use of common sense, qualified, however, by the consideration of as large a number of alternative choices, as well as relevant criteria as the situation might demand. In a relatively simple case, both the number of alternatives and the trade-offs involved will be limited, and as such, it should be possible to use one's judgment to choose among them. Essentially what the farmer does when planning his crop activities is to take into account his expected net returns, the availability of various inputs, limitations imposed by natural factors and so on to arrive at a suitable crop mix. The operations research analyst puts a linear programming framework on this. The basic logic involved, however, is not significantly different.

When a very large irrigation project was being set up with the assistance of an international financing agency, the agency insisted that all the work involved be broken down into small individual activities. These could then be scheduled in the sequence demanded by physical relationships amongst them. Several of these activities could be carried on simultaneously by different units; yet others could be conducted only after the preceding activities were completed. In essence, this is the application of technique called PERT.

In an exercise to plan service centres and communication network for relatively backward block in a state, 44 service centre locations were identified. It was essential that all of these be connected by a road network. The state public works department estimated the cost of constructing roads to be around Rs 9 crores. A little systematic thinking and application of a technique called minimal spanning trees revealed that this network could be so planned as to limit the cost to about Rs 1.3 crores, which was well within the budget.

It is wellknown, for example, that the farmers' decisions are greatly responsive to policy interventions by the government. Support prices, input availabilities, discharges into irrigation networks, extension drives and technological dissemination, all determine not only the type of crop to be grown, but also the variety. A study is currently underway for determining the appropriate policy intervention mix to achieve nutritionally desirable results.

Planning for a programme or region is among the most important tasks that an administrator or a manager faces. Yet quite often, these go by default because of a bewildering variety of facts. Planning also gets affected for want of sufficient attention at the operational stage. Relationships between planning and control are often not fully understood. Figure 5 shows a flow among various components of this planning activity, which could be easily operationalised and put to use.

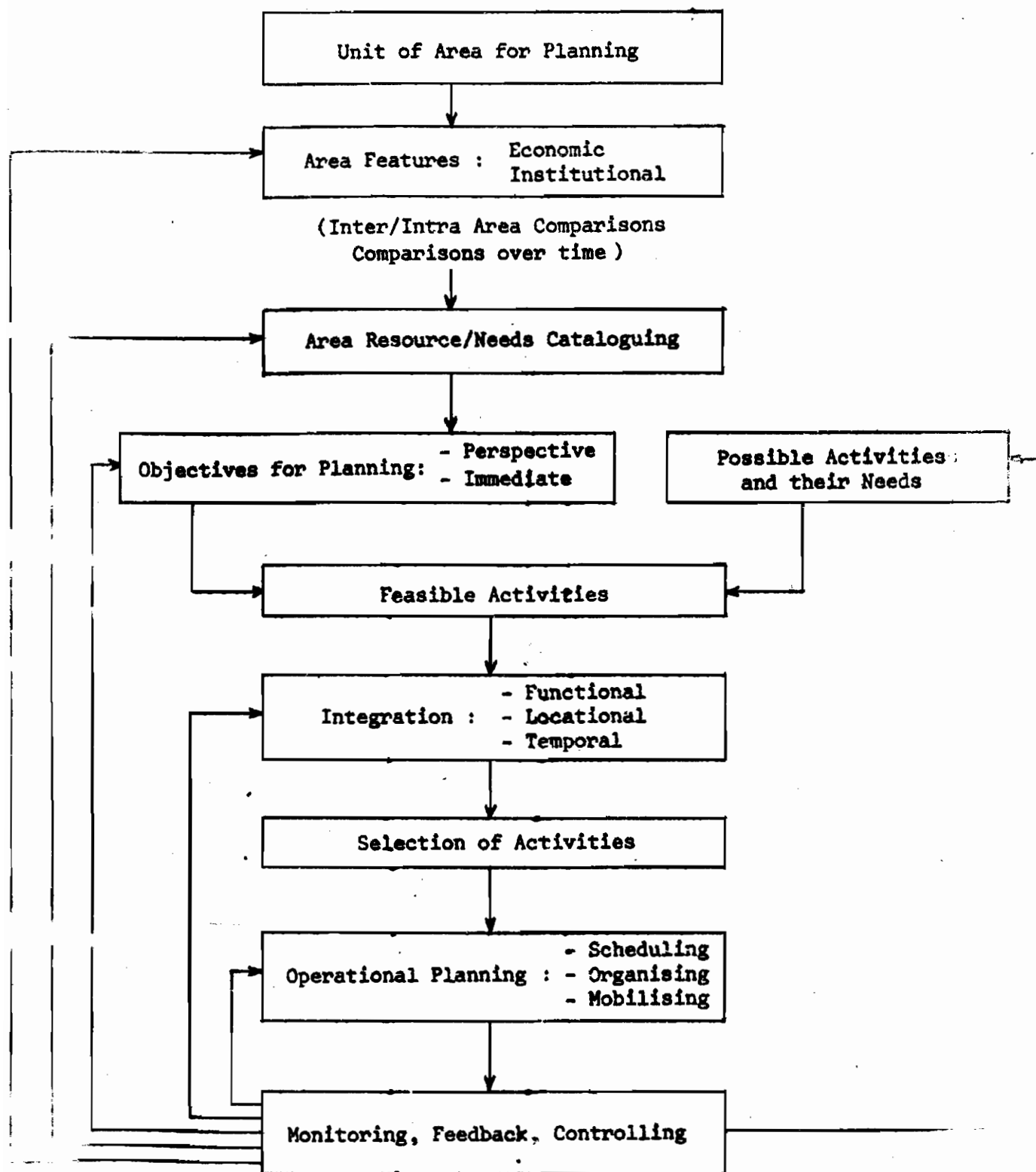


Figure 5 : A Flow Chart for Area Planning

These are but a few instances of applying management principles to tasks faced within the agricultural sector. The more common techniques are well-understood and already practised. Among these could be the management of inventories and stock situation, promotional campaigns and the use of available media, motivation of field level functionaries for the achievement of desirable results, reorganisation of staff for result orientation, and so on.

*Work in Management of Agriculture: The Case of CMA*

The role of agriculture as a crucial sector of the Indian economy was recognised at Indian Institute of Management, Ahmedabad right from its inception. A faculty group to study the problems of the agriculture and co-operative sector (Agco) was set up in 1963, a year after the Institute had started.

Understanding existing management practices and problems faced by managers was considered the first step in efforts to improve managerial abilities. This called for research. With only a limited manpower at its disposal, IIMA decided initially to concentrate on a sub-sector of agriculture of manageable proportions. The first such activity to be studied was dairy enterprises in their entirety, from organising milk production to distributing dairy products. This led to short duration training programmes for managers of dairies. A multi-level exposure of the managers was planned to ensure a thorough appreciation of management concerns



The group had been aware of the enormous influence of public intervention on the performance of the agriculture sector. It therefore took up studies on block development administration and high-yielding varieties programme. The intention of these studies was to understand not only processes of administering development but also roles to be played by commercial and cooperative organisations in these processes. Growth possibilities for organisations supplying seeds, fertilisers, protective chemicals, pumping and power equipment, credit for investment and inventories, as well as for organisations procuring, processing and marketing the produce of farms were critically linked to the developmental activities. Activities of the Agco group rapidly expanded to study problems of such organisations and activities, and subsequently, to offer training programmes in these areas. The group was redesignated the Centre for Management in Agriculture (CMA) in 1971.

The six-year history of CMA is marked by, on the one hand, demands on the Centre from many different directions and on the other, efforts at weaving together its varied experiences into a common theme. Notable in this connection are the Centre's concerns with the processes and problems of rural development.

The Centre devoted considerable attention to development programmes and their administration in the early and mid-seventies. Among these were studies commissioned by the National Commission on Agriculture. The problems of small farmers, rural unemployment, dry farming, rural leadership structures and communication patterns were additions to CMA's research interests. The Government of Gujarat sponsored a study to suggest modernisation of agriculture development administration at the district level and below.

Repeatedly, these research efforts led to the same theme: the central problem of rural India was its poverty which manifested itself in low incomes and poor command over factors controlling the quality of life and hence efforts at developing rural areas and people must necessarily address themselves to these concerns. Prolonged debates within the CMA and the Institute as a whole led to the conclusion that fresh studies in these areas were needed. A group outlined a general approach to a major study spread over several years and regions. Not only were surveys to be conducted, but actual plans for the development of several areas were to be drawn up, which could then be put into operation by appropriate agencies.

Chiefly as a result of this direction of its research, the Centre began to get involved in a new activity, the training of public officials. In 1973, the Institute entered into a five-year collaboration with the Lal Bahadur Shastri National Academy of Administration for offering a capsule on the management of district development programmes for the Indian Administrative Service probationers. The responsibility for running this capsule was given mainly to CMA. A programme on the management of rural development, meant largely for bureaucrats and bankers, was started in 1974. The North-Eastern Council invited the Institute to offer a programme on the management of agricultural and rural development for its officers. All of these have become regular yearly additions to the calendar of programmes run by CMA.

In addition to these programmes, the Centre continued to run a one-year Programme for Management of Agriculture (PMA). While the PMA graduates could be placed in suitable positions, they and their employers communicated a feeling that perhaps one year was too short a period. A two-year programme was designed to overcome this limitation and merged with the PGP. Candidates with a bachelor's degree or its equivalent in agriculture or related subjects were admitted through admission procedures common to all entrants. They had, however, to commit at the beginning of their studies to undergo a set of special courses, the Specialised Package in Agriculture (SPA), during the second year. 1973-74 was the last year of the PMA and the new two-year integrated programme was started in 1974-75.

CMA shares findings of this research with managers, administrators, scholars and other interested persons in a variety of ways. Seminars and conferences are held frequently. Members of CMA participate in similar deliberations elsewhere. They publish articles, papers, monographs and books for both scholarly and general audience. CMA itself brings out a monograph series to report on its research. The series includes about 70 titles by now. Teaching materials used in the various programmes are often based upon this research as well.

Its two-year programme of preparing agriculture graduates for managerial positions in various organisations has had a good response from the prospective employers. So far, this response has come primarily from commercial organisations. Management development programme of the Centre are in

good demand. In addition to the existing programmes, the Centre has agreed to a request from the Khadi and Village Industries Commission to conduct a programme for managers to the handloom sector. The Centre has been approached by a number of other organisations to devise specific programmes for their staff. Such requests have not been met mainly because of the existing limits on the Centre's time.

International organisations have also recognised the capabilities of the Centre. The Food and Agriculture Organisation of the United Nations had invited some members of the Centre to be the faculty at its training programmes for small and medium scale fishery enterprises. It has now approached the Centre for the possibility of setting up a regional training centre for the Indian ocean countries. A study on the effectiveness on the community development project sponsored by the UNESCO has just been completed.

### *Words of Caution*

The necessity of managing agriculture in a systematic fashion quite often could blind us to the obvious realities. The most important of these is that the ultimate results to be achieved are on the fields of a very large number of farmers, on whose activities the administrator or manager has no control. Yet his own effectiveness depends critically on how well they accept the initiative and incentive provided by the administrator. In this sense, the agricultural sector differs substantially from others. For example,

steel-making would concern at most half a dozen units. The manager has to co-ordinate his activities only among these. There is no gainsaying the fact that the best laid plans could go awry for no apparent fault of the manager.

This very multiplicity of decision-makers involved requires a fairly reliable and accurate information system. Yet as everyone will readily concede, this is perhaps the most glaring lacuna in the entire agricultural sector. Farms are devised on the basis of unrealistic assumptions, which are to be filled by field level functionaries whose own skills are meagre and whose understanding of the purpose for which the information is being collected is practically non-existent. Not much value can be set on the type of information generated through such a process. Understanding this, however, does not mean that there is no need for accurate information. Simpler forms, identification of key result areas and grounding of the field level staff in the objectives for which information is being gathered could all help in improving the data base.

The expected results in the agricultural sector are subject to uncertainties over which no one has any control, such as climatic variations and natural disasters. On the one hand, this makes the application of management a little difficult, but on the other, it makes it even more important to be systematic in our approach. It is essential to work out contingency plans in case of such emergencies and to be prepared for the various possibilities. Last minute efforts at crisis management are likely to be both more cumbersome and expensive.

These words of caution are meant not to discourage the application of management to agriculture, but are to encourage it. These are merely voiced with the intention of making the prospective manager or administrator more realistic in his approach, and hopefully a more effective one.

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