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THE ROLE OF THE PUBLIC SECTOR
IN THE INDUSTRIALIZATION
OF THE DEVELOPING COUNTRIES

An Issue Paper*
by
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INTRODUCTION

The developing countries are today engaged in the gigantic task of rebuilding their economies and solving massive problems such as the elimination of poverty, raising of living standards, equitable distribution of incomes, and self-reliance. These tasks which are quite clearly of an enormous magnitude are being tackled by the adoption of a variety of national strategies which obviously differ from country to country, depending upon their historical background and their social, cultural and political environments. Developing countries are using a variety of instruments to achieve their strategic goals. These include direct governmental programmes, private enterprises, cooperatives and public enterprises. The extent of the growth of public enterprises is of course influenced by a variety of considerations, ideological and historical, but irrespective of the varied environments, it is now clear that public enterprises have emerged as a major instrument of national growth and national policy. These public enterprises cover a diversity of economic activities, infrastructural, public utilities, heavy industry, consumer goods, transportation and communication, trading companies, and a range of public services. The success or otherwise of the growth and development in the developing countries would consequently largely depend upon the effectiveness of these public enterprises and the manner in which they are conceived and managed.

The problems involved in the operation of public enterprises are those which arise out of the emergence of governments and public authorities into the world of business. The classical principles which have guided state activity are no longer valid in the complex world of business and commerce. There is therefore clearly the need for creating a management philosophy, a management style, for the running of public enterprises if they

are to discharge efficiently the wide responsibilities placed on their shoulders.

This paper does not seek to provide a comprehensive coverage of all the many and varied management problems which face public enterprises, nor will it attempt to make any *ex cathedra* pronouncements on the subject. The paper has a limited objective of highlighting some of the major and critical issues facing public enterprises which it is hoped will assist in a meaningful and purposeful discussion based on the cross fertilization of ideas and experiences from the developing countries. It should also be noted that the objective of the expert group meeting is confined to those public enterprises which are operating in the strictly industrial sector. While it is my view that it is not really possible to understand the problems of industrial public enterprises without comprehending the total picture of the public sector activities, our concentration will lie specifically in the problems which arise in this area.

The views expressed in this paper are based on the writer's personal experience as a public enterprise manager in India and as a civil servant closely associated with the planning, monitoring and evaluating of public enterprises. The writer has also had the privilege of exchanging views and experiences with colleagues in developing countries at workshops and seminars organised by UNDP, the Asian Center for Development Administration and the International Center for Public Enterprises in Developing Countries.

THE ROLE AND RATIONALE OF PUBLIC SECTOR/PUBLIC ENTERPRISES

As a starting point it would be desirable to ask ourselves how and why public enterprises are created. The origins and genesis of public enterprises and the objectives set for them certainly condition the solution to their operational and managerial problems. An analysis of the origins and genesis of public

enterprises in the developing countries would show that they arise from six sources, namely,

- through inheritance from former colonial regimes,
- through historical eventualities,
- through conscious acts of nationalization,
- through acquisition by negotiation and purchase,
- through take over of 'sick units' of private enterprise,
- through state entrepreneurship.

It is rather important to identify the origin of a public enterprise as this origin makes a deep impact on the nature of problems faced, the style of management, and the goals and objectives. The nationalization of private industry, for instance, may be accompanied by a statement of the reasons for nationalization and the national goals sought to be achieved. But it is also accompanied by the take over of current problems and managerial styles of previous owners. In the case of state entrepreneurship we write on a clean slate. The take over of sick units by definition states the problem to be faced.

The origins of public enterprises are one thing, the objectives are quite another. A survey made by the United Nations, Division of Economic and Social Affairs, in 1974⁺ analysed the varying motivations of developing countries in establishing public enterprises. One thing is evident from the survey. Clear and unambiguous declarations of State intent are not always available. Quoting from a paper presented on the public enterprise situation in Brazil, the report states that the growth of public enterprises there was "according to the conveniences of the moment without a previous formulation of policy, defining or limiting the fields of their activities". On the other hand, there are cases of clarity; an example of this is the Arusha Declaration of 1967 where the United Republic of Tanzania stated the objectives of the public enterprise system as follows:

⁺ Organization, Management and Supervision of Public Enterprises in Developing Countries, ST/TAO/M/65, United Nations, New York, 1974

- "a) to achieve economic justice by controlling the principal means of production,
- b) to ensure the wellbeing of all citizens,
- c) to prevent the exploitation of one person by another or of one group by another,
- d) to prevent the accumulation of wealth which is inconsistent with the existence of a classless society".

It was in pursuance of this declaration that the Second Development Plan of Tanzania launched a massive expansion of public enterprises.

In India, an attempt was made to define the position more clearly in the Industrial Policy Resolution of 1948 and 1956 which specified areas reserved for public enterprises, areas where both private and public enterprises will operate, and areas largely left to the private sector. It was in a sense an attempt to define the parameters of a mixed economy.

Although such declarations and policy resolutions are not always available, a study of the specific reasons given on each occasion for setting up public enterprises or conscious decisions for nationalization, would seem to indicate a common thread of thinking in the developing countries, quite naturally associated with their developmental strategies. The motives and rationale of public enterprises which thus emerge take on the following pattern:

1. the adoption of a fully socialistic model
2. a desire to manage and control strategic sectors of economy,
3. the necessity of providing the economic infrastructure,
4. to control and manage the "essential services",
5. to control the "commanding heights of economy",
6. to manage and control "natural" monopolies,
7. to undertake tasks beyond the capability of private enterprise,
8. to provide a competitive element to private industry,
9. to develop backward areas,
10. to stimulate the advancement of weaker sectors of the economy,

11. to increase the availability of essential consumer goods,
12. to generate full employment,
13. to pioneer technological development,
14. to generate foreign exchange earnings,
15. to stimulate agricultural development,
16. to commercialise activities traditionally run as government departments.

It would be seen that the attainment of some of the above stated objectives must necessarily give rise to the entry of the State into the industrial sector. It is my proposition that the effectiveness of public enterprise management would be greatly facilitated by a clearer identification of the specific objectives sought to be achieved by the public enterprise system as a whole and by individual public enterprises. The issue for consideration, therefore, is - is such an identification always available and are enterprises entirely sure of what they are called upon to do and is it not a common occurrence that enterprises are asked on the one hand to discharge these social objectives, and judged on the other by the classical commercial considerations?

THE PUBLIC SECTOR SHARE IN INDUSTRIAL ACTIVITY

Quantitative and Qualitative Aspects

I note that the expert group meeting will examine the contributions to industrial growth made by public enterprises, these being presumably measured in terms of investment, output, employment, exports, and other quantitative indicators. While I do see the significance of figures which would give us a clearer picture of the trends in developing countries and the growing share and importance of public sector activity in different economic fields, it is my view that this should not remain a statistical exercise. It is of far greater importance to examine the qualitative aspects of growth and the character of the public sector intervention. Let me take a simple example. In India, the production of chemical fertilizers, nitrogenous, phosphatic and mixtures, is in the mixed economy. There are both public and private sector fertilizer plants. The share of the public sector

in quantitative terms has now risen to 60% and this percentage is growing every year as future investments are being made in the public sector mainly because of the enormous capital investment costs in modern fertilizer plants which are far beyond the investment capability of the private sector (a 900 ton ammonia plant linked to a 1300 ton urea plant requires today an investment of approximately 300 million dollars). The critical issues I would like to pose in such a situation are:

- what is the comparative efficiency of the public enterprise plants vis a vis the private enterprise plants (capacity utilization and input / output ratios)?
- have the public enterprise plants pioneered self-reliance in technology?
- how profitable are the public enterprise plants?
- have the public enterprise plants developed marketing strategies suitable to an agro-industrial field like this, particularly in stimulating the efficient use of fertilizers by farmers with better agronomic methods?

Another example is that of a monopoly situation such as the petroleum industry in Iran. The kind of questions which arise in such a situation are:

- has the monopoly position in any way adversely affected the efficiency of the system?
- has the public sector utilised the monopoly position to achieve economies in the cost of production?
- has it meant better planning of future investments and better distribution of oil products?
- how do the operations compare with similar operations in other countries?

Accepting the validity of the philosophy behind public enterprises, policy makers and public enterprise managers must pose issues like these to themselves as part of a courageous self-evaluation process.

THE QUESTION OF INTERLINKAGES

It must be recognised that public enterprises do not work in isolation. Even if they are extremely well managed and become "islands of excellence", they are unlikely to be effective because they are an integral part of a wider scheme of things. The model, Appendix 1, shows graphically the position of a public enterprise within a complex constellation. The interlinkages involved are between public enterprises inter se, between public and private enterprises, between public enterprises and national institutions and between public enterprises and overall national plans and strategies.

The first and major linkage is between the enterprise and the total national strategy. It is presumed that public enterprises in the industrial sector are working within the framework of a declared national industrialization policy. This presumption may not always be justified. Developing countries are, fortunately, becoming increasingly conscious of the necessity of formulating an industrialization strategy within which the component activities can find a logical place. Such a strategy would involve:

- a declaration of long term objectives,
- an assessment of strengths, weaknesses and opportunities,
- a calculation of the resources available in terms of raw materials, money, technology and personnel,
- an exercise in priorities,
- an exercise in optimization,
- and in mixed economies, a clearer delienation of the roles of private and public sectors.

The preparation of such an industrialization strategy would normally fall within the province of national policy makers and planners, but with the growth of industrial public enterprises there is a pool of professional and technical talent available in the public sector system to assist the planning process. The individual public enterprises should, on the one hand, link

themselves to future thinking, and on the other hand conduct their current operations in harmony with the industrial strategy.

Within this system, the industrial public enterprises have close interlinkages among themselves. We often find that the outputs of one enterprise become the inputs of another. In this context very difficult problems arise about supplies, pricing policy, and the dependence which one enterprise has on another. There is clearly need for establishing between the industrial enterprises a much greater degree of coordination than exist today. A very interesting example of such coordinated planning arose in the fertilizer industry in India. It was found that in many plants there were situations where the ammonia units were functioning but the urea units had broken down. In other plants at the same time there were problems in the ammonia units but the urea units were functioning well. Because of the interdependence the entire plant in either case came to a standstill. A system has been evolved of tank waggons to carry ammonia from plants where they can be produced to other plants where they can be converted into urea. The net result has been a considerable improvement in the optimization of the total system. When we speak of interlinkages between the industrial public enterprises, we cannot forget that the interlinkage moves deeper to other public sector undertakings not described as industrial units according to UNIDO terminology. A classical example of this is public enterprise power plants which can hold the total industrialised sector to ransom if they do not function to capacity.

The interlinkage between the public and private enterprises has a different flavour. Here also there is a necessity of definition and coordination. While there are often competitive situations, the more familiar pattern in mixed economies is one of complementarity. Inputs of public enterprises often come from private supplies and vice versa. It is being increasingly

realised in such situations that the traditional hostility between the two sectors is totally counter-productive.

Allied to this question is the relationship of public enterprises to small scale industry. One would like to assume that public enterprises would be pioneers in encouraging and fostering the growth of small scale industries and indeed there are some good examples of this sort - the ancilliary industries supported by the Hindustan Machine Tools in Bangalore. But of late a rather distressing development seems to have occurred. Small scale industries are often being placed in a competitive position to large public sector industries. I feel that the Japanese economy which has created a very cooperative 'modus vivendi' between large scale and small scale industry holds some very useful lessons for the developing countries.

The interlinkages described above are within the national scene. There are today increasing possibilities of establishing interlinkages among the public enterprises in the industrial sector in the developing countries on an internationally cooperative basis. The recent joint investments made in the ASEAN region for establishing oil refineries, petro-chemical complexes and fertilizer plants is a case in point. The basic idea behind such a cooperative effort is that a small country may not have the market to support an optimum sized plant. Common markets and joint investments seem to be the answer. Another form which the international interlinkage can take is within the new TCDC strategy. Public enterprises can extend a helping hand to each other by sharing their specialists and experienced managerial staff to mutual benefit.

While I have described the interlinkage situation in terms of the entities which are interlinked, one must also recognise that there are policy interlinkages. Major questions arise in this context:

- are the operations of the enterprises linked to the national goal of self-reliance and technology?
- in what way are the enterprises helping to conserve and develop local natural resources?
- are the enterprises contributing to the export effort and to import substitution?
- what role are the enterprises playing in building up a pool of cadres for the further industrialization of the country?

PROBLEMS AND ISSUES IN PUBLIC ENTERPRISE MANAGEMENT

Many of the issues which have earlier been raised are directly connected with the central theme - how are public enterprises run, how efficient are they, what are the constraints to better performance, is there a need for developing a special managerial philosophy and style, and most critical of all, how are they evaluated? The ultimate test of the rationale of public enterprises will clearly lie in their performance. Public enterprises cannot long survive on ideological slogans or vague claims to be discharging social objectives. The responsibility for assisting the progress of growth and development implies that the heavy investments made in public enterprises are worth while investments, that the goods and services which they produce and sell are of high quality, that they create a feeling of satisfaction in the minds of consumers and citizens.

Obviously in this skeleton paper it will not be possible to analyse in depth the variety of managerial problems facing public enterprises. Appendix 2 of this paper is a model indicating the public enterprise management cycle. We may perhaps devote some attention to the critical points in this cycle.

The Planning Stage

Assuming that the objectives of the enterprise have been clearly stated and that it is adequately interlinked with other components in the system, there is an underlying need to create a framework of corporate thinking within the enterprise. The

preparation of long term corporate plans which are now being attempted by industrial public enterprises is an exercise in forecasting, planning optimum growth, establishing priorities, and seeking a capital investment philosophy and methodology. Important issues arise out of this line of thinking:

- are policies stable enough to enable public enterprises to prepare long term corporate plans?
- have the necessary skills been developed within the enterprises for this form of planning?
- how are capital investments made - are they accompanied by properly conceived feasibility studies and project reports, is there an intelligent choice amongst competing investments?
- what are the considerations involved in making a capital decision - are they commercial or are the techniques of social cost benefit analysis being used?
- is there adequate professionalism in the bureaucracy for making capital investment decisions?

The Project Phase

After investment decisions are taken, the enterprises enter the most difficult stage of project construction. Adequate attention is not paid to this stage and this is clearly one of the weak areas. Here are some issues:

- has a professionalism developed of project management?
- are the standard tools of PERT, CPM and other methodologies used?
- do projects suffer from time and cost overruns?
- how are technologies selected?
- how is equipment procured?
- are the efficiencies assumed in the investment a reality at the time of commissioning?

The Operational Phase

After commissioning, we reach the core stage of day to day management. This involves the classic functions of financial management, production management, materials management, marketing

management, maintenance and personnel management. It is a common assumption that these managerial disciplines are of the same nature irrespective of whether the enterprises are publicly or privately owned. There is a certain prima facie plausibility in believing that a steel plant or an oil refinery have to be professionally managed in the classical manner irrespective of who owns it. We are finding by experience that this view is too simplistic and a number of interesting issues are beginning to crop up:

- in financial management, what is the nature of pricing policies and how is money handled?
- in personnel management, what precisely is meant by saying that the public sector is a model employer, and is there a move towards participative management?
- in marketing, are there not special responsibilities of public enterprises to ensure a more equitable distribution and to bring goods and services to rural areas?
- in production management, what about the conservation of raw materials and the use of domestic supplies?

I am raising these issues because I think that it would be worthwhile examining whether the traditional schools of management aimed at industrial efficiency and commercial profitability are entirely suitable for the environmental circumstances of public enterprises. There can be little dispute that productivity, capacity utilization and the optimum use of all resources should become virtually a religion in public enterprises and there is no excuse for what is often seen - wasteful inventories, ineffective use of working capital, inadequate systems of maintenance and very sad to say, confrontation situations between labour and management. Conceding that the standard factors of efficient management are needed, there is a plus factor in the managerial philosophy and style of public enterprises which we will have to look for.

Evaluation Phase

Private enterprises having relatively clear cut objectives of survival, growth and profitability, are not difficult to evaluate.

The shareholder will judge the performance of the enterprise by the dividend cheque which he gets every year. What of public enterprises? In the context of the multidimensional objectives we have discussed and the frequent conflicts between these objectives, standards of judgements tend to vary. This situation arises largely because different interests tend to view public enterprises from different angles and make different demands. Appendix 3 is a model which indicates the separate interests and what they demand. Unfortunately a sophisticated evaluation methodology in these circumstances is not yet in sight. An interesting attempt to meet the situation is provided by the social accountancy system in Yugoslavia. While of course this system is intimately related to the whole environment of self-management in Yugoslavia, there are some interesting lessons to be drawn from SAS, particularly in its attempt to quantify the achievement of social objectives. It is my view that the starting point of the problem is at the entrepreneurial and investment stage. If at this stage there are more specific declarations of what the enterprise is supposed to do, of what it is expected to achieve, what policies it would follow, is it expected to make profits, is there a subsidization element, if there is clarity at this early point, there will be clarity at the evaluation stage. If not, and this unfortunately is the current situation, the evaluation process is anyone's guess.

ORGANIZATIONAL AND INSTITUTIONAL ARRANGEMENTS

A great deal of attention seems to be paid to the externalities of the legal and organizational aspects of public enterprises. There are those who believe that the proper legal structure provides an in-built insurance policy to success. Thus there are arguments about which form is the best, - departmental undertakings, public enterprise companies registered under the National Company Law, or statutory corporations established under parliamentary enactments. There are further refinements such as holding companies, sectoral corporations, multi-unit companies, and

so forth. A country like India provides an example of the utilization of all these organizational forms. A survey made some years ago by the Bureau of Public Enterprises in India revealed that there was very little connection between the outer shell of organizational structure and the inner reality of high performance. There were efficiencies and inefficiencies in all these formal structures. The answer would obviously have to be looked for elsewhere; not in legal structures but in the relationship patterns and environment for performance. The issues involved would include:

- is there an adequate autonomy conceded to the managements of public enterprises?
- how is this autonomy balanced by accountability?
- what are the systems of appointment to top managerial posts?
- how are the professional cadres trained and motivated?
- what is the extent of commitment, involvement and participation in the system?
- is there an atmosphere of confrontation between labour and management?
- is there cooperation or conflict between the public enterprises?
- what is the degree of understanding, professionalism and managerial sophistication exercised by the bureaucratic and political levels vis a vis public enterprises?
- what is the nature of the auditing system - is it propriety audit or performance audit?
- is initiative encouraged or are the public enterprises becoming bureaucracies themselves?
- is there a true faith, confidence and belief in the minds of public enterprise employees in the tasks in which they are engaged?

I do appreciate that the issues which I am raising involve a close understanding of national environments, but it is my case that the search for improved performance in public enterprises will lie in these issues rather than in devising patterns,

structures and organizational forms which have no life of their own.

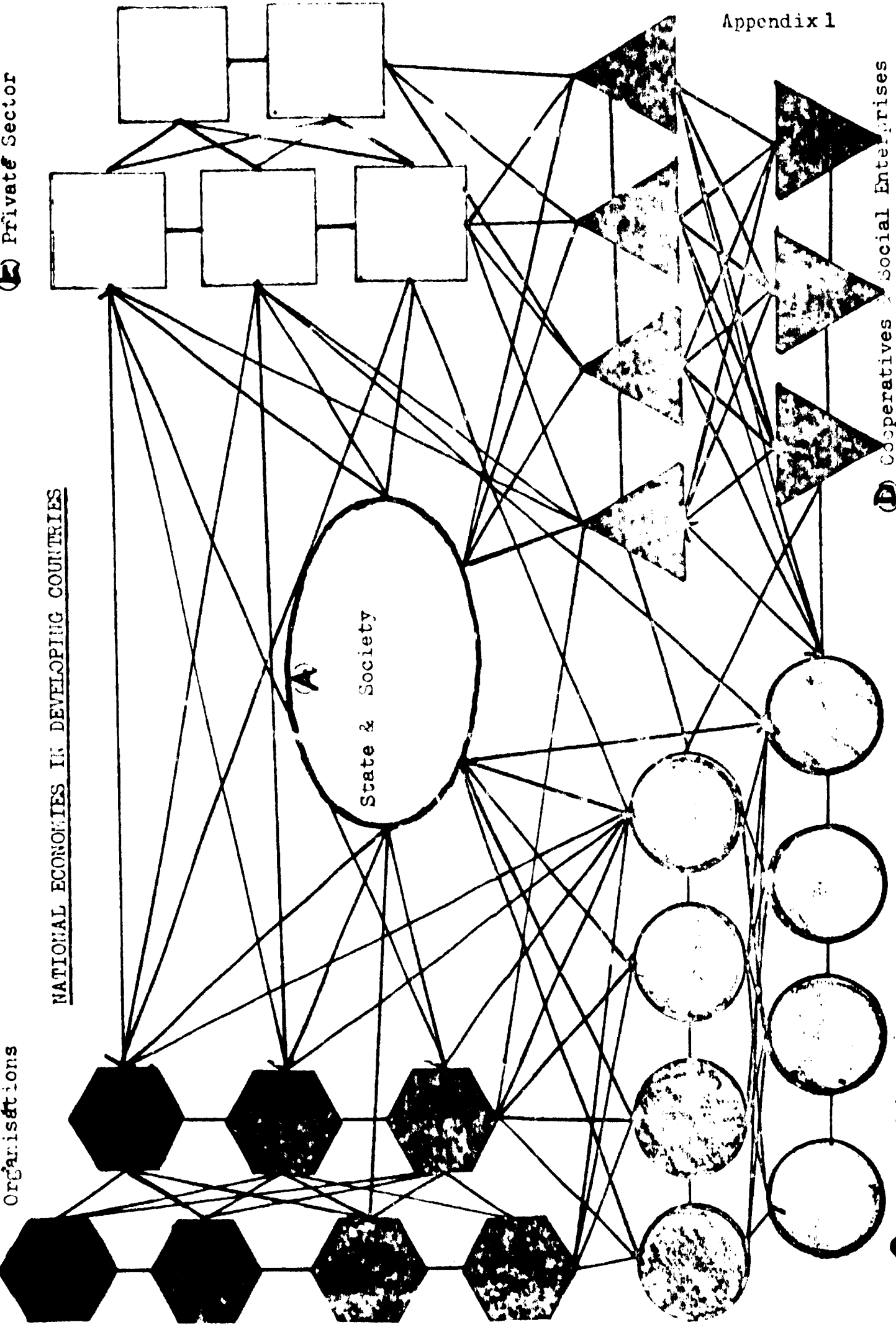
CONCLUSION

The range of subjects which is sought to be covered in the expert group meeting is so wide that an issue paper of this sort can at best indicate some of the significant areas which require further research and exchange of experiences amongst developing countries. Keeping in view the dominant position which public enterprises now have in the developing countries and the gigantic tasks which have been entrusted to them, the search for adequate solutions to their organizational and managerial problems can brook no further delay. There would obviously be need for in depth studies on specific aspects but it is certainly a useful starting point to make a broad survey in the first instance, if only to identify what is of real significance and establish a scheme of priorities for the future.

NATIONAL ECONOMIES IN DEVELOPING COUNTRIES

(A) Public & Parastatal Organisations

(E) Private Sector

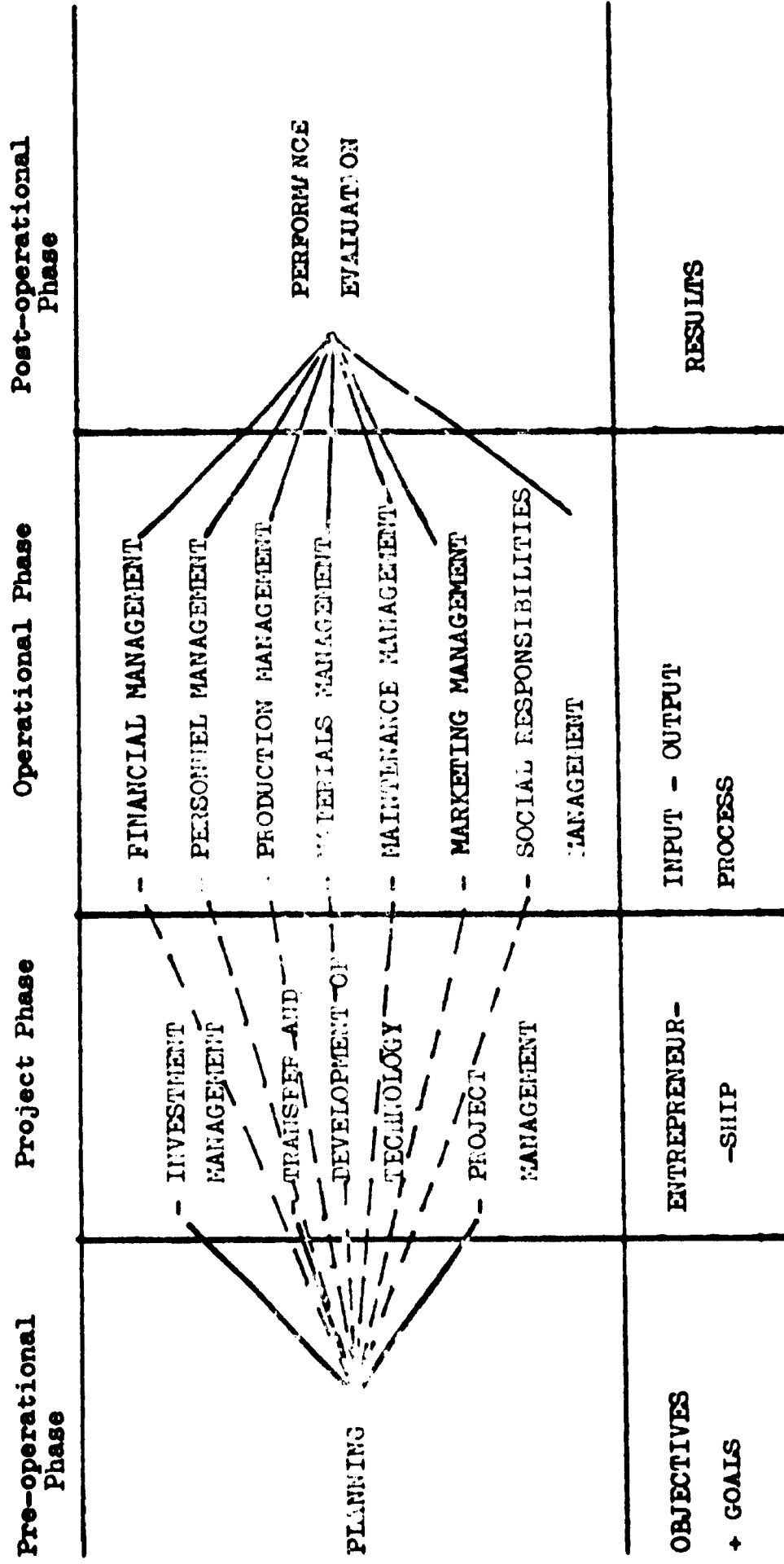


(D) Cooperatives & Social Enterprises

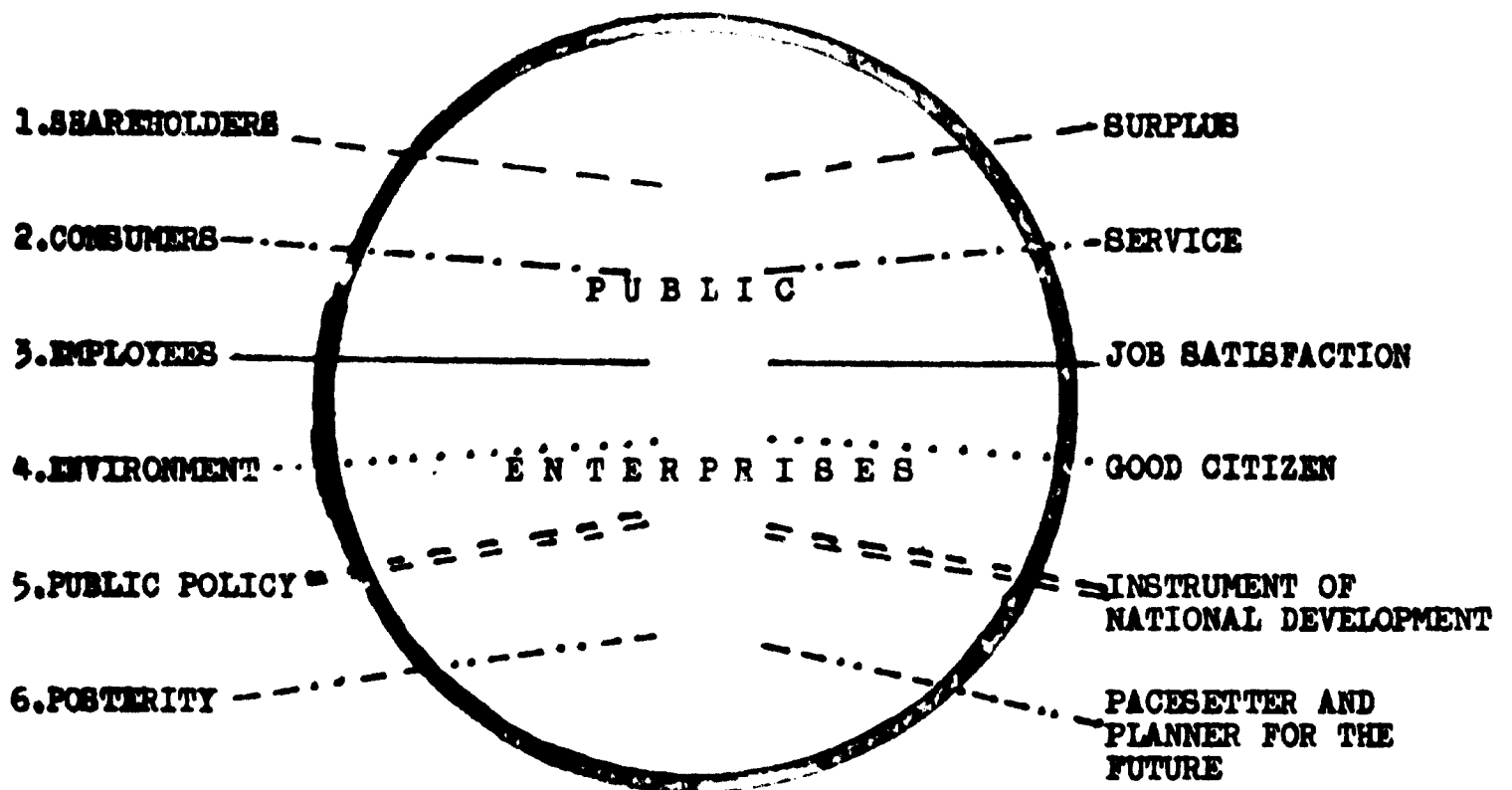
(C) Public Enterprise

D. T. Narayanaiah

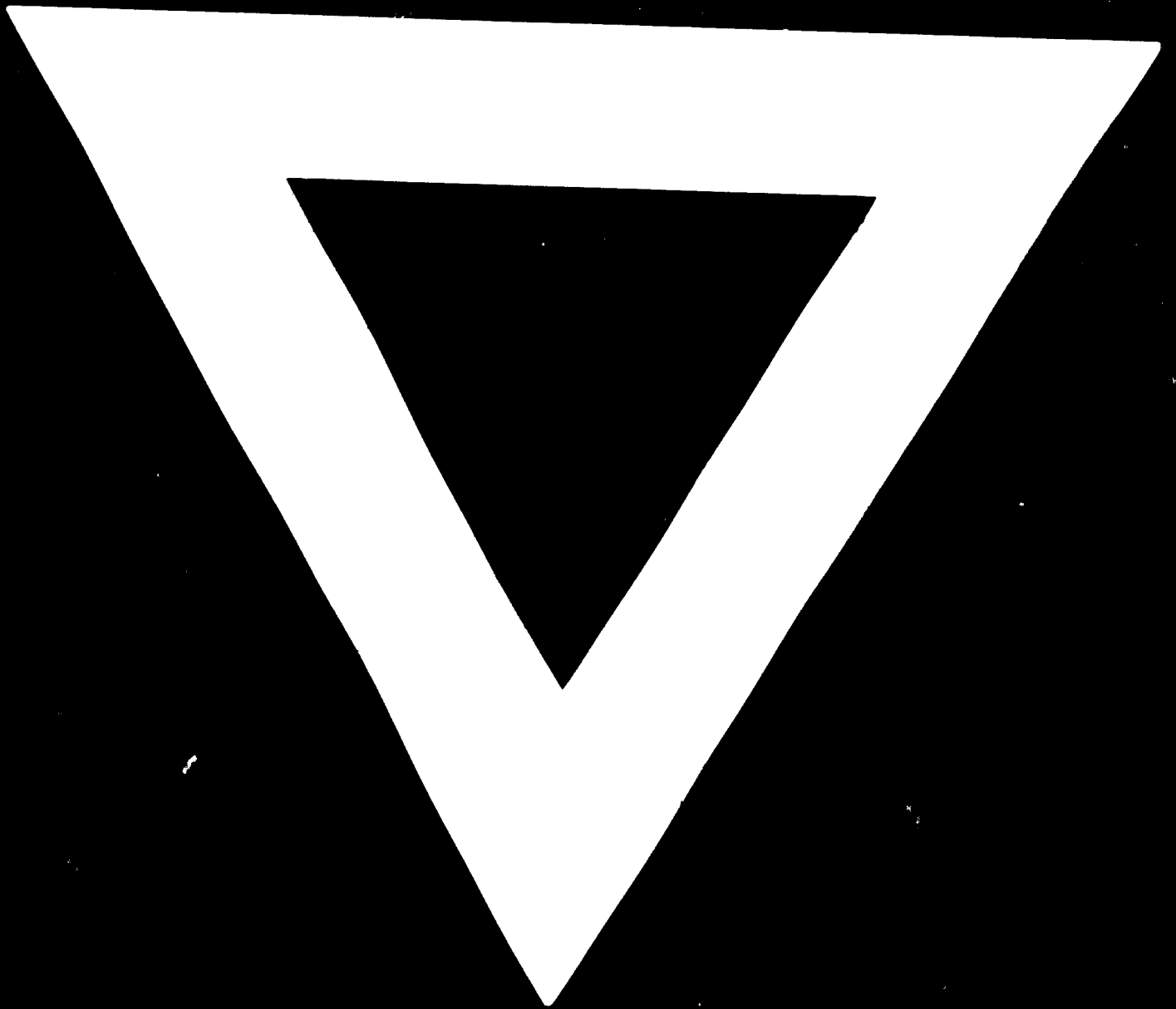
THE PUBLIC ENTERPRISE MANAGEMENT CYCLE



PROBLEM SOLVING IN THE FRAMEWORK OF THE
MULTI-DIMENSIONAL OBJECTIVES OF PUBLIC
ENTERPRISES



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