The Project Selection Process in Developing Countries

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The Project Selection Process in Developing Countries

A Study of the Public Investment Project Selection Process in Kenya, Zambia and Tanzania

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Stockholm, May 1975

Lars-Erik Birgegård

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ABBREVIATIONS USED

Bank (the)	The World Bank
CBA	Cost-benefit analysis
CBPP	Contagious bovine pleuro pneumonia
CO	Commodity objective
DA	Director of Agriculture (Kenya)
D-country	Developing country
Dep.Sec.	Deputy Secretary (Kenya)
DEVPLAN	Ministry of Economic Affairs and Development Planning (Tanzania)
DPD	Development Planning Division (in MPEA, Zambia)
ECC	Economic Committe of the Cabinet (Tanzania)
EPD	Economic Planning Division (in Minag, Kenya)
FTC	Farmers Training Centre
IBRD	International Bank for Reconstruction and Development, The World Bank
I-country	Industrialized country
IRR	Internal rate of return
K	Kenya
MF	Ministry of Finance, Treasury (Tanzania)
Minag	Ministry of Agriculture
MPEA	Ministry of Planning and Economic Affairs (Zambia)
MRD	Ministry of Rural Development (Zambia)
NO	National objective
NPV	Net present value
PAL	Project appraisal literature
PPB	Planning, programming, budgeting
PS	Permanent Secretary (Kenya) and Principal Secretary (Zambia and Tanzania)
RQ	Research question
T	Tanzania
Z	Zambia

EXCHANGE RATES

Kenya	£1 = shillings 20	= crowns 11.80	= US$ 2.62
Tanzania	£1 = shillings 20	= crowns 11.80	= US$ 2.62
Zambia	K1 (kwacha)	= crowns 6.20	= US$ 1.38

SUMMARY

The present study is an empirical study of the selection process for public investment projects in the agricultural sector in Kenya with less comprehensive comparative investigations in Zambia and Tanzania. The selection process embraces the focusing at a project idea and the process whereby the idea is substantiated into a proposal, and the consideration of a project for inclusion in a budget. The theoretical framework of the study is the behavioral theory of rational choice as developed by among others Simon, March, Trow, Cyert, Braybrooke and Lindblom.

The two basic objectives of the study were (1) to describe the selection process and to relate the description to the normative literature on public investment project appraisal, which implied an emphasis on techniques used for assessing project consequences, and (2) to explore if simplification being a conerstone in the behavioral theory was a characteristic of the selection process.

In Kenya observations were made with reference to fourteen specific projects, which corresponded to about a years output of agricultural projects from the planning machinery. In Zambia and Tanzania observation was made with reference to five projects in total. In addition non-project specific exploration was extensive, particularly in Zambia and Tanzania. Historic information was gathered through interviews complemented by documentary information.

A striking characteristic of the selection process was the limited search for alternatives, and the limited comparison between alternatives. When a problem was focused at no comparison was made with other problems, and when the basic characteristics of a project were chosen at the early stage very few alternatives were explicitly considered. The basic project characteristics early chosen underwent notably few changes up to the proposal stage. Only one project design was explored, and hence subsequent decisions on the project proposal were accept/reject decisions on that single design. A project proposal was not compared with other project proposals at the various

decision points, but they were considered on their own merits. This was also the case in the budget preparation. Donor financed projects were forwarded to donors as the proposals were prepared, and this meant that there was hardly ever more than one project to consider at one particular decision point, save the budget preparation, at one point in time.

Simplification through omission and factorization as suggested in the behavioral theory of rational choice was found to be extensive, and exploration and comparison of alternatives was far less extensive than envisaged in the normative literature on project appraisal.

Of the various stages in the selection process the early stage was found to be the most significant for several reasons, and this is claimed to be a major outcome of the study. The choice of a problem and the choice of basic project characteristics drastically reduced the number of potential alternatives. Projects to be financed by donors were often presented at a very early stage to the donors, which, given that the donors generally responded positively to consider financial contribution on the basis of a forthcoming proposal, resulted in an early commitment to a particular project idea and a particular set of project characteristics. As noted a project idea underwent few changes in its basic characteristics, and the decisions on the proposal were accept/reject decisions without comparisons between designs and between projects. There was no consensus on a cut-off or threshold rate for the profitability measure, and the profitability of a project was almost always considered acceptable.

These factors implied a notably reduced significance of the decision points at which the project proposals were considered, and a relative increase of the significance of the early phase of the selection process. This was not reflected neither in the analytical efforts devoted to the early phase nor in the project appraisal literature, where emphasis is put on the assessment of a proposal rather than on the early phase.

The influence of donor preferences on techniques used in assessing project consequences was evident. Cost-benefit analysis (CBA), which

is the approach generally proposed in the project appraisal literature, was applied, involving discounting of cash flows. The internal rate of return (IRR) was the profitability measure exclusively used. There was no consensus on a reference rate with which to compare the IRR's. There were notable shortcomings in the application of CBA. Shadow prices were rarely used, and consideration of risk and uncertainty was confined to 'conservative estimates' or 'contingencies' added to cost items. The command in CBA and its underlying theory as well as in capital budgeting theory was found to be low among expatriate staff involved in the process. (Only expatriate staff were explored.) Reliability and validity in the analyses can be expected to have suffered accordingly.

Senior decision-makers seemed to consider it important that the profitability reached a minimum level, but if so, other considerations became more important. The information provided by the CBA was not used in the budget exercise, and projects were not ranked according to their profitability. There were no attempts made to ensure a uniform application of CBA by prescription, and at no stage in the selection process were other techniques like e.g. scoring systems or check lists applied.

Despite considerable differences in many respects between the three countries studied, the characteristics of the selection process focused at were with minor differences the same. Is is hence claimed that the findings may have a wider applicability. Search for alternatives was more extensive for large projects and for new projects than for small and second phase projects.

CHAPTER I
INTRODUCTION AND PROBLEM IDENTIFICATION

I.1 THE AUTHOR'S EMPLOYMENT AS A PLANNING OFFICER IN THE MINISTRY OF AGRICULTURE IN KENYA

Between 1970 and 1972 I was employed as a planning officer in a staff function, the Economic Planning Division, in the Ministry of Agriculture in Kenya. This Division, as is indicated by its name, was charged with the planning responsibility for the agricultural sector. Among the more notable activities performed were policy planning and project preparation, and I was extensively involved in both.

The way project ideas were chosen and formulated into projects was at times seen with some uneasiness by some of us in the Economic Planning Division (and also outside). We often failed to convincingly explain to ourselves, why we chose a particular project and not another and why we designed a project in a certain way. Influenced by our fragmentary knowledge in cost-benefit analysis and capital budgeting we felt, even with modest ambitions, a wide discrepancy between what we did and what we ideally should have done.

In the following sections it is described how the interest for these problems was enhenced, how a research problem eventually was identified and how a certain approach was taken to solve that problem.

I.2 CHARACTERISTICS OF THE SELECTION PROCESS AS CONCEIVED DURING THE EMPLOYMENT

The unstructured observations of the selection process made during the employment in Kenya indicated a number of characteristics, which will be briefly mentioned below.

A satisfying approach. No attempts were made at the various stages in the selection process to look for an optimal solution. If an alternative that appeared acceptable was found, search was halted. Search was in most cases superficial and generally ceased after limited efforts.

Few alternatives considered. Restricted planning capacity and an implicit presumption that a project was to be prepared and not a set of project alternatives resulted in that only one alternative design of each project was explored in depth.

Projects were considered in isolation. As projects were prepared throughout the year and subsequently submitted to donors there was not a set of projects at one point in time to compare and rank. Even in the preparation of the annual budget it was not clear, whether comparisons were made.

The calculation of project profitability. The data and the assumptions used in these calculations were often felt to be dubious, and the confidence in the outcome was often mixed. The calculations hardly ever caused any change in the expected outcome of the decision to accept or reject a project. Furthermore, the command in the techniques was rather low (this is particularly evident in retrospect!), which enhenced the scepticism towards the exercise. Profitability criteria seemed to play a limited role in the preparation of the annual budget. The attempts to apply more advanced techniques appeared to be more dictated by the information requirements of donors than a felt need for information for 'internal' use.

Implicit assumptions of independence and sequential choices. The above-mentioned consideration of projects in isolation implied and assumption of independency. Only limited efforts were made to analyze linkages with other activities.

Also when a specific project was formulated certain aspects of the project were pursued and others neglected for a time (= assumption of independency) to make the task manageable. Consistency was then looked for at certain points. The assumption of independency permitted sequential decisions in an iterative process to build up the project.

I.3 NORMATIVE LITERATURE ON PROJECT FORMULATION AND PROJECT APPRAISAL[1/]

The feeling that the normative literature on project formulation and project appraisal was not entirely relevant to the problems encountered in the project selection process was founded during the two years in Kenya and further enforced as a result of a more extensive penetration of that literature and of what somewhat vaguely is called the development planning literature. The reasons will be explored below, where references will be made to the literature.

I.3.1 Limited Attention Paid to the Formulation Stage

In the development planning literature the focus is the aggregated analysis to form the strategy framework within which planning at micro level or project level can take place.[2/] Disaggregation in

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1/ In the jargon of scientists and practitioners in development planning the concept 'evaluation' is often reserved for an asessment of a consequence of a project after or during its lifetime, whereas 'appraisal' refers to the same exercise ex ante. This study deals with ex ante considerations of investments, and consequently the concept 'appraisal' will be used.

2/ See e.g.
(i) Tinbergen, J., Development Planning, London 1967.
(ii) Lewis, W.A., Development Planning, London 1966.
(iii) Knall, B., Grundsätze und Metoden der Entwicklungsprogrammierung, Wiesbaden 1969.
(iv) Hirschman, A.O., The Strategy of Economic Development, New Haven 1958.
(v) Weitz, R. & Rokach, A., Agricultural Development: Planning and Implementation, Doerdrecht 1968.
(vi) Clarck, P.G., Development Planning in East Africa, Nairobi, 1965.

For an annotated bibliography on development planning literature see Meier, G.M., Leading Issues in Economic Development, Oxford 1970, p. 149 et seq.

this literature generally halts at sectoral level, where industry, agriculture, education, etc. is discussed. Even if the micro level is considered as for example by Tinbergen, this discussion does not go that far to cover the process whereby one project idea out of a set of potential ideas is chosen and substantiated into a project proposal.[1/]

In the project appraisal literature (PAL) the emphasis is put on the development of techniques for appraising project proposals rather than on the build-up of the proposal. These authors generally take as their starting point, that somehow a project idea has been selected for pursuance. Furthermore, they are not very elaborate on the process that leads to a certain proposal, but concentrate on the appraisal of such proposals as the basis for comparison of them.

Little and Mirrlees[2/] forego altogether the problem of which project idea to pursue and have the following to say about the formulation of a project proposal:

> "In other words, a large number of economic decisions will have been made already (when the project is presented to the Central Office of Project Selection), either at the level of the initiating department, commission or centralized public authority, or by the designing engineer." (p. 14)

and

> "But often there are a number of alternative projects, i.e. different ways of producing the same product.[3/] Then the Present Social Value for each proposal need to be worked out, and the one with the largest PSV chosen." (p. 19)

Little and Mirrlees do not foresee that detailed cost-benefit analysis will be applied to all but still to a few alternatives.

1/ Considerable attention has been paid to certain aspects of project design like the choice of technology in view of relative factor prices, availability of skills, etc. See e.g.
   (i) Sen, A.K., Choice of Techniques. An Aspect of the Theory of Planned Development, Oxford 1972.
   (ii) Spencer, D.L., Technology Gap in Perspective, New York 1970.

2/ Little, I.M.D. & Mirrlees, I.A., Manual of Industrial Project Analysis in Development Countries, Volume II, Paris 1968.

3/ In this study the above mentioned 'projects' would be called alternative designs of a project. For definitions see p. 273.

Dasgupta, Sen and Marglin[1/] seem to suggest as well, that cost-benefit analysis will play a role in the choice of design of projects by stating:

> "There are always a very large number of elements one can vary in formulating new projects. Which of these are important and worth pursuing will depend on the guidance provided by social cost-benefit analysis." (p.14)

This statement is even more demanding, as it can be interpreted so that all elements should be considered through a cost-benefit analysis. Dasgupta, Sen and Marglin do not concern themselves with the formulation phase in any other way, but concentrate on the appraisal of a project proposal. It should perhaps be noted, that such a demarcation of their interest of course is justified in its own right.

King[2/] has devoted his work to summarize the experience gained by the World Bank of project appraisal. It is a collection of case studies based on project proposals submitted to the Bank for consideration. For obvious reasons King does not concern himself with the process of elaboration of a project idea to a project proposal. He suggests, however, that:

> "At any of the various stages (of project preparation), the techniques of project appraisal can be applied to see whether some aspects have been overlooked, whether some more attractive alternatives have been overlooked..."(p. 5)

Gittinger[3/] discusses briefly the selection of project ideas, and he suggests, that sectoral studies will generate the set of ideas to pursue. He says:

> "From this broad strategy approach should come identification of those specific projects on which initial feasibility studies will be undertaken to be followed, if the indications are favorable, by a detailed project preparation necessary before investment can proceed."(p. 4)

From there on his presentation is confined to techniques for appraisal of a project proposal.

1/ Dasgupta, P., Sen, A. & Marglin, S., Guidelines for Project Evaluation. New York 1972.

2/ King, J.A. Jr., Economic Development Projects and Their Appraisal, Baltimore 1967.

3/ Gittinger, J.P., Economic Analysis of Agricultural Projects. Baltimore 1972.

The focus of Solomon's Analysis of Projects for Economic Growth[1/] is indicated where he states:

> "The process of project analysis outlined in this book specifies for any project data that are required, format to be used and yardstick to be applied." (p. 28)

Solomon yet pays some attention to the generation of project ideas, which he sees as a result of a resource and demand analysis, but no mention is made of how to choose ideas to persue. On the formulation of the project Solomon says:

> "The problem of finding promising alternatives generally has close relation with the availability of technical knowledge in the specific fields, ... , hence the need for teamwork of economists and other specialists during the analysis." (p. 121)

The central theme of the book still is techniques to appraise project proposals.

I.3.2 Comprehensiveness and the Techniques Proposed

The discussion in this section is limited to what is called the project appraisal literature (PAL).

It is clear, that the authors cited above do not expect the decision-makers to be optimizers. Still their conception of the search process both in respect to how far it should go as to the techniques to be applied may be discussed.

Referring to alternative designs (as defined in this study) Solomon states:

> "..., normally a large number of alternatives will be considered in the design of a project. Fortunately, many if not most of the alternatives that will be considered will be "obviously" unfavourable, but even so there will be a large number for which the answer is not so obvious." (Solomon, 1970, p. 116)

Solomon then suggests, that cash flows are discounted to discriminate between alternatives.

1/ Solomon, M.J., Analysis of Projects for Economic Growth, New York 1970.

Little and Mirrlees; and Dasgupta, Sen and Marglin are already cited to indicate, that a number of alternative designs are explored, and that this exploration involves the computation of cash flows.

Turning to the techniques suggested for project appraisal in the literature here mentioned they all aim at the determination of payment streams that are discounted. A distinction is furthermore made between profitability from the viewpoint of the entrepreneur and the society, and the stand is taken in favor of project appraisal in the letter sense.

Little and Mirrlees; and Sen, Dasgupta and Marglin label their approaches social cost-benefit analysis and are as such theoretically anchored in the welfare theory. These authors suggest an extensive use of shadow prices and elaborate ways to determine these shadow prices are presented.[1/]

Gittinger, Solomon and King are less explicit in their discussion of shadow prices, but recommend a limited use of them (for foreign exchange and labor).

The techniques suggested in the literature referred to in the preceding paragraph have two characteristics, although less pronounced by the three latter authors, which are relevant to the application of them. First they are analytically complex and second they are highly demanding on data availability and planning capacity.

I.3.2.1 Characteristics of the Normative Literature Summarized

The normative literature relevant to project selection seems to:

(1) Discuss the formulation of a strategy framework within which project selection can take place. Disaggregation normally halts at sectoral level, and little if any attention is paid to the substantiation of project ideas into project proposals. (The development planning literature.)

1/ It should be noted, that there are considerable differences between the approaches to determine shadow prices in the two studies with disagreement on theoretical grounds. The issue has caused an extensive argument. See e.g. Bulletin. Oxford University, Institute of Statistics and Economics. Oxford 34, 1, pp. 1-168.

(2) Concentrate the focus of attention to the development of techniques as social cost-benefit analysis at different levels of sophistication as a means to determine the desirability of a project proposal. It is then often more or less explicitly suggested, that such an analysis should be applied to alternatives in a search for the ultimate design of a project. (The project appraisal literature.)[1/]

I.4 CHARACTERISTICS OF THE SELECTION PROCESS AND THE NORMATIVE LITERATURE - THE RESEARCH PROBLEMS IDENTIFIED

The normative literature discussed in the preceding section was not felt entirely relevant to the problems encountered in the project selection process as experienced in Kenya. In particular the following points were noteworthy:

(i) An essential part of the selection process, namely the choice of which project to persue and the chains of decisions from there on until a project proposal was at hand was hardly covered in the normative literature.

(ii) In this literature it was often assumed, that at different stages a substantial number of alternatives were considered and chosen among, and that cost-benefit analysis was applied to determine the preferred project design.
This did not appear to be the case. Few alternatives were considered at different stages and the calculation of payment streams was not made for more than one design of each project. Furthermore, projects did not appear to be compared with each other.

(iii) The degree of sophistication in the techniques used to determine the profitability of projects was generally far lower than suggested, and measured with the standards in the literature often quite or even very unsatisfactory. Shadow prices were not used, risk and uncertainty was not considered

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1/ A parallel can be drawn with the literature on product planning in the firm. Child, Davis & Näslund (1972) observe, that this literature either deals with the topic as a strategy problem or deals with different stages in the product development process emphasizing techniques. - Child, J.I., Davis, H. & Näslund, B., New Product Development and Corporate Strategy. European Institute for Advanced Studies in Management, Working Paper No. 72-36, Brussels 1972, p.2.

and there was no uniform application of the techniques to different projects. Neither had planning officers the necessary command in these techniques nor was there sufficient time to choose such more comprehensive approaches.

(iv) In the project appraisal literature the determination of the profitability implicitly was assumed to play a significant role in the selection process. Since data used in the calculations often were dubious, the result of the calculations hardly ever seemed to change the probability that a project would be accepted, and given the fact that projects were not ranked on the basis of the profitability criterion its role appeared to be considerably overemphasized in the literature.

(v) The normative literature did not recognize the one-by-one approach in a context where projects are prepared irregularly throughout the year and most of them subsequently submitted to donors for financing. The literature assumed the consideration of batches of projects.[1/]

I.5 THE OBSERVED CHARACTERISTICS OF THE SELECTION PROCESS AND THE BEHAVIORAL THEORY OF RATIONAL CHOICE

In section (I.2) a set of characteristics of the selection process as conceived during the employment in Kenya was presented. These characteristics appeared to be easily described in terms of the behavioral theory of decision-making developed by authors like Simon, March, Cyert, Trow, Braybrooke, Lindblom and their followers.[2/] An early

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1/ King is here an exception. He says: "... they (projects) are usually selected to meet identified, specific needs or to take advantage of special opportunities ...", and: "In these circumstances, the desirability of the project being appraised is determined, not by comparing it with other possible projects, but by measuring it against the estimated real marginal rate of return on newly invested capital in the country. It is in this context the (World) Bank usually reviews projects." (King, 1967, p. 4)

2/ (i) Simon, H.A., Models of Man, New York 1957, and Administrative Behavior, New York 1959.
(ii) March, J.G. & Simon, H.A., Organizations, New York 1959.
(iii) Cyert, R.M., Simon, H.A. & Trow, D.B., Observations of Business Decisions. The Journal of Business, Vol. XXIX, 1958, No. 1.
(iv) Cyert, R.M. & March, J.G., A Behavioral Theory of the Firm, Englewood Cliffs 1963.
(v) Lindblom, C.E., The Science of 'Muddling Through'. Public Administration Review, Vol. 19, 1959, pp. 79-88.
(vi) Braybrooke, D. & Lindblom, C.E., A Strategy of Decisions, New York 1969.

association to these authors was re-enforced by a subsequent deeper penetration of their theories.[1/] The characteristics observed pointed in particular to simplifications in the selection process, and as will be discussed in the following chapter simplification is a major component in the behavioral theory of decision-making.

The basic ideas in the behavioral theory of choice, advanced during the late 1950's and the early 1960's in the field of economics by among others the above-mentioned authors, have become widely accepted, and a series of empirical studies have been made to test the model in a more comprehensive way, or to test certain hypotheses in the model. A number of such studies will be referred to in subsequent chapters.

It may be argued with reference to these studies, that there was empirical evidence to support the fundamental hypotheses in the behavioral theory of rational choice. Limited efforts seemed to have been made to test the theory in a d-country, however, and that appeared to justify an attempt to establish whether the theory or parts of the theory were valid in such a context as well and more precisely in the context of a public administration. Simplification as a part of the theory was early focused at, and there seemed to be characteristics in a d-country, which might result in observations of high degrees of simplification, at the same time as there were exogenous factors, which particularly referring to the project appraisal techniques used might give low degrees of simplifications.

In other words, the study of the project selection process in a d-country anchored in the behavioral theory of decision-making could be seen as an extention of the empirical research on this theory to a d-country, where certain contextual factors might increase the interest of the study.

1/ Apparently a possible relative higher degree of familiarity with these theories than with other theories may explain the way in which the observations of the selection process were made during the employment and accordingly which characteristics that were focused at.

I.6 THE OBJECTIVES OF THE STUDY

On the basis of the reasoning in the two preceding sections the main objectives of the study were formulated to be:

(1) To describe the project selection process in the agricultural sector and to relate that description to the normative literature on project appraisal.

(2) To test if simplification being a major component of the behavioral theory of rational choice was a characteristic of the project selection process in the context of a public administration in a developing country.

As noted in section (I.4) it was felt, that the normative contributions so far had not been entirely useful particularly in assisting the decision-maker in his choices at the early stage of the selection process. Hence, an objective with prescriptive ambitions was formulated. This objective was attached less weight than the two preceding, however.

(3) To deduct normative conclusions on the basis of the description of the selection process and to explore ways to improve decision-making particularly at the early stage of the selection process.

I.7 THE BASIC APPROACH TO MEET THE OBJECTIVES

To meet the objectives set out the following steps were necessary to take. Based on the literature on the behavioral theory of decision-making related to the project selection process a set of research questions would be identified for exploration in an empirical study. This study would be the core of the whole research effort as field observations would be needed if objectives (1) and (2) were to be met.

The objective on normative contributions might eventually have been met without an empirical study. As embedded in that objective was a desire, that prescriptions would be applicable with a particular context in mind, it appeared as if an empirical study of that context would be the relevant basis on which normative contributions might be built.

I.8 THE CONTENT OF THE REPORT

The content of the report is very much organized along the lines initiated in the preceding section.

In chapter II the behavioral theory of decision-making, and in particular simplification as one of its main components is discussed, and this theory is then related to the project selection process. The focus on the theoretical framework is further narrowed down, and the chapter ends with some notational remarks.

In chapter III a set of characteristics of d-countries expected to affect those aspects of the project selection process focused at are identified, and the foreseen direction of influence indicated.

Chapter IV is devoted to specifying the research questions that were to be explored in the empirical study, and the decision points in the selection process are related to an organizational context.

The planning and the preparation of the field study in Kenya is presented in chapter V. The preparation embraced operationalization of the research questions, the design of interview forms and a choice of the approach to determine the project set to be studied.

The purpose of the complementary studies in Zambia and Tanzania eventually decided upon and a description of their design are presented in chapter VI.

At this stage the institutional framework for the project selection process in Kenya, Zambia and Tanzania is presented in chapter VII, and decision points at which the observations were to be made are identified.

The execution of the field study in Kenya is described in chapter VIII, where considerable space is devoted to explain how the project set was ultimately determined. Changes that were made in questionnaires are presented, and the information accessibility experienced is discussed. At the end of the chapter the way the interviews were

carried out is discussed in relation to literature on methodology, and the chapter is closed with a section on recording and protocols.

This brings the reader to chapter IX in which the major findings of the field studies are presented. The observations on the selection process are related to the normative literature on project appraisal and to the behavioral theory of decision-making. The field studies gave a very extensive empirical material, which is presented more in detail for each research question in appendix 1.

On the basis of the field studies some normative conclusions are drawn in chapter X. The findings in the field studies are the basis for chapter XI as well in which an attempt is made to develop an approach to make the choices at the early stage in the selection process.

CHAPTER II

THE BEHAVIORAL THEORY OF RATIONAL CHOICE AND THE PROJECT SELECTION PROCESS

II.1 INTRODUCTION

In a well-known article in the Journal of Business (1958) Cyert, Simon and Trow questioned:

> "... whether the only considerable body of decision-making theory that has been available in the past - that provided by economics - does in fact provide a realistic account of decision-making in large organizations operating in a complex world."
> (Cyert, Simon & Trow, Journal of Business 1958, p. 237-48)

Supported by an empirical study of the decision to install a computer in a company they suggested a number of characteristics of decision-making, which in significant respects differed from the 'classical' view embedded in the theory referred to. The authors pointed at the following attributes of rational choice in economic and statistical theory:

> "(1) An individual is confronted with a number of different, specified courses of action.
> (2) To each of these alternatives is attached a set of consequences that will ensue, if that alternative is chosen.
> (3) The indidivual has a system of preferences or "utilities" that permits him to rank all sets of consequences according to preference and to choose that alternative that has preferred consequences."
> (Cyert, Simon & Trow, Journal of Business 1958, p. 237)

This description is incomplete according to Cyert, Simon and Trow, who suggested changes in the model if it was to better describe

decision-making in the real world. Their first objection was, that alternatives are usually not given but must be looked for. A second observation was that information about consequences attached to the various alternatives is not given either, but has to be sought for as well. Thirdly, they suggested that comparisons among alternatives are usually not made in terms of a simple, single criterion like profit, and in addition the decision-maker is usually concerned with finding a satisfactory alternative and not the optimal alternative. Ultimately, they objected to the idea, that the problem itself is "given", but claimed, that the important task for the organization is to search for significant problems.

This article is mentioned neither because the ideas contained in it were entirely new when they were presented, nor that they were the exclusive property of these authors, but because the article summarized in a concise way, what was to become some of the basic hallmarks of the behavioral view on decision-making.

In the proceeding sections the basic characteristics of the behavioral view will be discussed.

II.2 THE THEORY OF RATIONAL CHOICE

The 'economic man' in economic theory both as a consumer and as an entrepreneur is a decision-maker who "makes optimal choices in a highly specified and clearly defined environment." (March, Simon & Guetzkov, 1959, p. 137) As already mentioned the 'economic man' gets a set of alternatives presented to him, the consequences of the alternatives are known under conditions of certainty, risk and uncertainty, he has a preference ordering which permits a complete ranking of all alternatives, and he chooses the alternative that maximizes the consequences preferred. The entrepreneur is in this model assumed to be a profit maximizer and the consumer a utility maximizer.

The lines of attack on this model have been many and extensive. As an example of the objections the argument about the assumption that the entrepreneur is a profit maximizer can be mentioned. It has been questioned basically on two counts. Firstly, doubts were raised about the assumption of profit as the single objective. Among the many writers

who objected to the single profit objective was Baumol[1] who suggested, that the firm rather attempted to maximize sales subject to a profit constraint. Paulson Frenckner[2] suggested a considerable number of other possible objectives than profit grouped into financial objectives, expansion objectives, objectives of stability, etc. White[3] argued that the firm has a heterogeneous collection of multiple objectives used in the place of profit maximization or in some weighted combination with it. Shubik[4] was of the opinion that the ultimate goal of the firm is economic survival.

Secondly, the assumption of maximization was questioned. As a transition can be seen the school that stressed the need to relate profit maximization to the time axis as it was shown to be unlikely that in all cases maximization in the short run was compatible with a profit objective over an extended period of time. But more important the maximization approach itself was to be challenged. Among the writers who suggested that it be replaced by a satisfying objective can be mentioned for examplification Marglois[5]; Cyert, Simon and Trow (1958, p. 237) as noted in section 1, McGuire[6];and Cyert and March (1963, p. 41)[7].

But as was noted in section (II.1) the objections to the theory of choice represented by the 'economic man' delivered by Cyert, Simon & Trow were not limited to the assumption of profit maximization alone. Their argument will be elaborated upon in the ensuing sections, but first one aspect of rationality in choice paid attention to particularly by March, Simon and Guetzkov will be noted.

1/ Baumol, W.J., Business Behavior, Value and Growth. New York 1959, p. 49.

2/ Frenckner, T. Paulson, Syfta företagen mot högsta möjliga vinst? FFI, Handelshögskolan i Stockholm, 1953, pp. 33-38.

3/ White, C.M., Multiple Goals in the Theory of the Firm, in Boulding, E.K. & Spivey, A.W. (eds.), Linear Programming and the Theory of the Firm. New York 1960, p. 181.

4/ Shubik, M., Strategy and Market Structure. New York 1959, pp. 219-222.

5/ Marglois, J., The Analysis of the Firm: Rationalism, Conventionalism and Behaviorisms. Journal of Business, Vol. 31, 1958, p. 190

6/ McGuire, J.W., Theories of Business Behavior, Englewood Cliffs 1964, p. 108.

7/ For a comprehensive presentation of the approach taken to the problem of objective formulation in managerial decision processes in the microeconomic literature see Johnsen, E., Studies in Multi-Objective Decision Models. Lund 1968.

Implied in the economic theory is an assumption of objectivity as a prerequisite to rational choice. March, Simon and Guetzkov claimed, that rationality is a relative concept, and that it has to be related to the frame of reference of the decision-maker, and this frame of reference will be determined by the limitations of the rational man's behavior. (March, Simon & Guetzkov, 1959, p. 137) Their point is that rationality in their view does not stand for omniscience and optimality, and that rationality in decision-making is not objective but subjective. Hence, they claimed that their theory of decision-making also is a theory of rational choice albeit different from the one implied in economic theory.

Braybrooke and Lindblom (1969, p. 40) noted the same tendency to regard what they call the 'synoptic' method of problem solving (the omniscient approach) rational and other approaches not rational and they as well object to this opinion.

II.3 THE PRINCIPLE OF BOUNDED RATIONALITY

One of the more severe objections to the theory of choice represented by the 'economic man' delivered by the behaviorists concerned its ignorance of the limited cognitive capacity of human mind, which caused them to refute omniscience as a characteristic of the problem-solving process. The 'economic man' would have to (1) determine the set of possible alternatives, (2) compute the pay-offs for every outcome of the alternatives, (3) formulate a utility function and (4) relate the pay-offs to this function and make a complete ordering of the alternatives. This was hardly a realistic description of the process by which man makes decisions in Simon's opinion. As an alternative he suggested a theory of rational choice based on the principle of bounded rationality, which says:

> "The capacity of human mind for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objectively rational behavior in the real world - or even for a reasonable approximation to such objective rationality."
> (Simon, 1957, p. 198)

The principle of bounded rationality is a call for the substitution

> "... for the complex reality a model of reality that is sufficiently simple to be handled by problem-solving processes."
> (March, Simon & Guetzkov, 1959, p. 139)

Brybrook & Lindblom were also explicit in this respect by stating:

> "The synoptic ideal is not adapted to the man's limited problem-solving capacities." 1/
> (Braybrooke & Lindblom, 1969, p. 48)

and:

> "The kinds of problems accounted in analyzing public policies stand high on the list of problems requiring simplification."
> (Braybrooke & Lindblom, 1969, p. 49)

The behavioral view on decision-making is not an unambiguous concept as will be discussed in section II.5. It seems, however, as if the idea of bounded rationality is a common denominator for those belonging to what might be called the behavioral school of decision-making.

The acceptance of this principle has been rapid and widespread, and writers in diverse fields of economics reveal their adoption of it rather by discussing or assuming the use of means to simplification than by arguing for the principle as such.

II.4 THE CORNERSTONES IN MARCH, SIMON AND GUETZKOV'S THEORY OF RATIONAL CHOICE

The reason for summarizing the basic characteristics of the theory of rational choice presented by March, Simon and Guetzkov is to demonstrate that stated in a general form they appear to be the common basis on which many of the behaviorists in the realm of theories of rational choice can agree.

1/ Attempts to reconcile the omniscient approach with the approach of disjointed incrementalism have been made by among others
(i) Dror, Y., Muddling Through - 'Science of Inertia'? Public Administration Review, Vol. 24 (1964), pp. 153-157.
(ii) Lassere, P., Planning Through Incrementalism. Socio-Economic Planning Science, Vol. 8(1974), pp. 129-134.

March, Simon and Guetzkov ascribed the theory they advocated two fundamental characteristics. The first was a consequence of the principle of bounded rationality implying that:

> "Choice is always exercised with respect to a limited, approximated, simplified 'model' of the real situation. We call the chooser's model his 'definition of the situation'."
> (March, Simon & Guetzkov, 1959, p. 139)

The second characteristic was that:

> "The elements of the definition of the situation are not 'given' - that is, we do not take these as data of our theory - but are themselves the outcome of psychological and sociological processes, including the chooser's own activities and the activities of others in his environment."
> (March, Simon & Guetzkov, 1959, p. 139)

At this level of generality the statements do not imply any particular way to achieve simplification or the properties of the processes that lead to the elements of the definition of the situation. They imply, however, a marked break with the theory of choice incorporated in the concept 'the economic man' in important respects as has been shown. Hence, when it is claimed here that these two characteristics of decision-making is the fundamental basis that eventually unite the behavioral view on rational choice, it has substantive meaning.

When this level of generality is abandoned, consensus on what the behavioral view on decision-making is becomes less clear, which will be discussed in the following section.

II.5 AMBIGUITY IN WHAT THE BEHAVIORAL VIEW IS AND THE FOCUS OF THIS STUDY

A theory of decision-making based on the assumptions of bounded rationality and psychological and sociological processes will have to concern itself with issues like objectives and objective formulation, conflict, learning, search, information, uncertainty and risk, etc., which may be viewed in the context of an organization or related to the individual. In developing a behavioral theory of decision-making incorporating such elements March, Simon,

Guetzkov, Trow, Lindblom, Braybrooke, Cyert and other contemporary writers, as well as their followers, extensively drew upon theories developed in the fields of psychology and sociology. The remarkable development of these disciplines and their partial integration over the last two decades has offered an unending stream of options for the application to a decision theory in the field of economics. As yet we have not seen a convergence into a general behavioral theory of rational choice, but the picture is rather fragmented and diverse.

That considerable differences were at hand already among the early proponents of the behavioral view can be exemplified by a comparison of the approach to describe objective formulation found with Simon, March and Guetzkov; Cyert and March; and Braybrooke and Lindblom.

March, Simon and Guetzkov emphasized the hierarchical structure of objectives in means-end relationships. Citing Haberstroh Simon said:

> "In elaboration of new programs, the principle technique of successive approximations is means-end analysis: (1) starting with the general goal to be achieved, (2) discovering a set of means, very generally specified, for accomplishing this goal, (3) taking each of these means, in turn, as a new subgoal and discovering a set of more detailed means for achieving it, etc."
> (Simon, 1957, p. 191)

That this means-end view is not applicable only to programs but also to the organization is clear from p. 194 (ibid.). Objective formulation is in other words a construction of means-end chains.

Cyert and March preferred to view objective formulation rather as the result of a bargaining and learning process, which would not necessarily result in consistent goals. (Cyert & March, 1963, pp. 28-29)

In discussing what he calls the 'branch method' Lindblom did not see the means-end approach as a relevant way to describe objective formulation (Lindblom, 1959, p. 82). In his opinion one chooses among values and among policies at the same time, when complex social problems with considerable disagreement on goals, non-reconciliable goals and goals that are non-stable at the margin are solved. Means and ends are then simultaneously chosen and a means-end analysis is inconceivable.

No attempt will be made here to cover even in a superficial way the literature on the behavioral view on decision-making with contributions from several disciplines. This would be a research endeavour in itself, and that is not the research problem formulated in this study. The interest will be narrowed down to certain aspects of the early literature represented by authors like Cyert, March, Simon, Trow, Guetzkov, Braybrooke and Lindblom as will be outlined in the following paragraph.

Recalling the characteristics of the project selection process as conceived during the author's employment in Kenya it appeared, as if the focus of interest was the consequences of the principle of bounded rationality. In fact, the characteristics observed were nothing but devices to achieve simplification which that principle calls for. It was noted above, that fundamental in the behavioral view on decision-making is the proposition that choice is always made with respect to a limited, approximate, simplified model of the real situation.

March, Simon, Trow, Guetzkov, Braybrooke and Lindblom discussed at some length how simplification needed might be realized, and they formulated a number of hypotheses, which partly but not exhaustively have been empirically tested. In chapter I it was explained that this is an empirical study which is a continuation of the empirical exploration of the behavioral view on decision-making. It may now be added that the focus of interest is particularaly the ways in which simplification in the decision-making process is achieved. Hence, the concentration on this aspect in the remaining discussion of the literature.

II.6 SIMPLIFICATION IN THE PROBLEM-SOLVING PROCESS

In addition to the principle of bounded rationality as a cause to simplification Braybrooke and Lindblom (1969, p. 113) added limited availability of information and costliness of analysis. Both March, Simon and Guetzkov; and Braybrooke and Lindblom indicated a number of ways in which simplification results, and it appears as if these may be grouped under two headings - (1) satisficing rather than

optimizing, and (2) factorization and sequential choices. These will be discussed in the following sections.

II.6.1 Satisficing Versus Optimizing[1/]

The substitution of optimizing for satisficing implies a drastic simplification of the process to solve complex problems. March, Simon and Guetzkov (1959, p. 141) compared the two approaches with the task to find the sharpest needle in a haystack or find a needle sharp enough to sew with.

The solution of complex problems normally involves a very large number of choices related to subproblems, as discussed under the headline factorization below. Each such choice is a problem-solving process in which an optimizing or satisfying approach could be taken. The power of the latter to achieve simplification then becomes even more apparent.

The satisfying approach is implied by Braybrooke and Lindblom in their consideration of increments only. They stated that:

> "If the analyst limits his attention to increments, it follows that he will also forswear the extraordinary difficulties of finding an utopia or the maximum of a function and will ask himself only for evidence of a step forward."
> (Braybrooke & Lindblom, 1969, p. 116)

Since the satisfier is not omniscient he will not explore all alternatives open to him but only a few until he has found one that corresponds to his standard of satisfaction.[2/] Neither will he be compelled to determine all consequences of the alternatives considered. Omission becomes as a consequence of the satisfying approach a major means to achieve simplification. It may be worthwhile to elaborate on this point with reference to project formulation, which is the problem-solving process focused at in this study.

1/ For a formal discussion of optimizing and satisficing see Odnoff, J., On the Techniques of Optimizing and Satisficing. The Swedish Journal of Economics, Vol. 67 (1965), pp. 24-39.

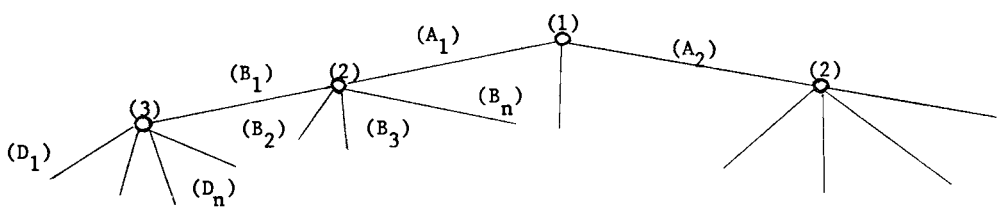
2/ The implied search behavior is questioned by Soelberg. See section (II.6.1.3.).

II.6.1.1 Omission in Project Formulation

As will be discussed more in detail in section (II.6.2.1) an investment project is a composite of choices at different levels of detail. Considering e.g. the location of an industrial project the sequence region, district, town, block, plot and location on the plot is conceivable and choices between alternatives are called for at each level. The example is simple, since the chain is quite short and the alternatives at least at the higher levels of detail finite and limited. Still it illustrates the hierarchical nature of problem-solving.

Omission may involve the following:

(i) At each level of detail only a limited number of alternatives will be explored in a sequential search for a satisfactory one. The figure below illustrates the mechanism at work.



If a project is formulated through a series of choices at different levels of detail (1,2,...,N), the consideration of (A_1) and (A_2) at level (1) in the figure excludes a host of alternatives at various levels of detail in branches $(A_3,\ldots,A_n)$. At level (2) further omissions are made as only a few alternatives of $(B_1,\ldots,B_n)$ are considered.

But omission is also made among those alternatives actually considered, say B_1, B_2 and B_3, in the sense that the choice among these is hardly made on the basis of an analysis of all possible alternatives at levels (3,...,N). It should be noted that the higher up in the structure omission takes place the more powerful as a means to simplification it is.

(ii) Omission can also result if a choice is made at one level of detail without preceding choices at lower levels of detail. If the decision point (3) is focused at in the figure above, and alternative (D_1) is chosen, this implies, that (B_1) is implicitly chosen in favor of ($B_2,\ldots,B_n$).

(iii) Omissions are made when the analyst determines how far he goes in specifying the project in detail, which using the notation in this paragraph is equivalent to the determination of the value of (N).

(iv) Omissions are extensive when considering consequences as well. For example consequences on income distribution of an agricultural project may be superficially observed, but what in turn the effects are on consumption patterns, nutritional standards, the educational level, multiplier effects on trade and industry, reduced urban migration, etc., is as a general rule omitted in the analysis.

II.6.1.2 Adjustment of Aspiration Levels

Simon suggested that if the decision-maker can not find a satisfactory alternative among those initially focused at search will be expanded to additional alternatives in the set of possible alternatives (Simon, 1957, p. 180). Another way to achieve a satisfactory solution proposed by Simon and by March, Simon and Guetzkov is an adjustment of the aspiration level as the criterion on satisfaction. They claimed that over time:

> "... The aspiration level tends to adjust to the level of achievement."
> (March, Simon & Guetzkov, 1959, p. 182)

This implies, that if alternatives can not be found to satisfy the decision-maker at a certain aspiration level this level may be reduced until one of the alternatives identified becomes acceptable. Such a process would guarantee that a solution is found, and it obviously limits the search required to find an acceptable alternative.

Braybrooke and Lindblom argued that conventionally problem-solving is seen as an adjustment of means to ends, i.e. objectives are set and

means to achieve these objectives are looked for. In their view, however, without refuting such an adjustment, in practice the reverse adjustment frequently takes place also. Ends that can not be achieved by means at hand are disregarded and ends are chosen and determined in the light of feasable means at disposal.

That the aspiration level should depend upon the past experience of success and failure is supported by a number of empirical studies. Zander and Medows[1/] found that high-school boys both in groups and as individuals tended to raise the aspiration level after surpassing a previously set level and lower it in cases of failure. Meyers and Fort[2/] found in a study of sequential gambling bets that choices on a particular bet was highly dependent upon the outcome in preceding bets.

The underlying assumption in these studies, that the adjustment of the aspiration level is merely dependent upon past events has been criticized. It is argued that anticipation is likely to play a role as well. Implicitly Braybrooke and Lindblom (1969, p. 93) subscribe to this latter view when they argue, that objectives are adjusted to the means at hand.

II.6.1.3 The Satisficing Approach and Search

As already implied satisficing means, that the search for alternatives can be drastically reduced, and in the preceding section it was indicated, that an adjustment of the aspiration level as well may reduce the search effort to ensure that a solution is found.

In the behavioral theory search is assumed to proceed until a satisfactory solution to the problem focused at is found, whereafter search would cease. Without questioning the fundamental proposition that search aims at a satisfactory solution and not at an optimal solution

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1/ Zander, A. & Medows, H., Individual and Group Level of Aspirations. Human Relations, Vol. 16 (1963), pp. 89-105.

2/ Meyers, J.L. & Fort, J.G., A Sequential Analysis of Gambling Behavior. Journal of General Psychology, Vol. 69 (1963), pp. 299-309.

Soelberg[1] observed, that search continues after that a satisfactory alternative is identified.[2]

An extensive literature, which will be mentioned in passing only, deals with search behavior and uncertainty, search cost and the complexity of the problem. Empirical studies of game situations indicate, that search increases with increased uncertainty and complexity[3], with the amount to be gained or lost as a result of the decision made[4] and if a taken decision is to be changed[5].

The satisficing approach makes it important in which sequence alternatives are discovered as was noted by Clarkson[6] in his study of portfolio selection made by a trust investment officer.

Another notable consequence to search behavior of the satisficing approach suggested by March, Simon and Guetzkov is that "preferred treatment will be given to alternatives that represent continuation of present programs over those that represent change." (1959, p. 173) Search will not be initiated unless the present course of action is considered to be unsatisfactory. In the context of this study it

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1/ Soelberg, P.O., Unprogrammed Decision Making. Industrial Management Review, Vol. 8 (1967), p. 27.

2/ A different search behavior is also proposed by Cohen, March and Olsen in solving complex problems when goals are unclear and participation by decision-makers in the decision process is fluent. In their model problems and solutions are seen as streams and in certain situations decision-making is evoked. Active search for alternatives plays a limited role in this model. Cohen, M.D., March, J.G., & Olsen, J.P., A Garbage Can Model of Organizational Choice. Administrative Science Quarterly, Vol. 17 (1972), pp. 1-25.

3/ Sieber, J.E. & Lanzetta, J.T., Conflict and Conceptual Structure as Determinants of Decision-Making Behavior. Journal of Personality, Vol. 32 (1967), pp. 622-641.

4/ Irwin, F.W. & Smith, W.A.S., Value and Cost of Decision on One Hand, and Amount of Information Demanded by Subject and His Confidence in His Decision. Journal of Experimental Psychology, Vol. 54 (1957), pp. 229-232.
Smith, W.A.S., Effects of Differential Instructions of Value and Costs as Determiners of Decisions. Perception & Motor Skills, Vol.18 (1964), pp. 321-324.

5/ Pruitt, D.G., Informational Requirements in Making Decisions. American Journal of Psychology, Vol. 74 (1961), pp. 433-439.

6/ Clarkson, P.E., Portfolio Selection: A Simulation of Trust Investment, Englewood Cliffs, 1962, p. 95.

means, that there would be a preference for second phases (n-th phases) of projects unless the preceding phase(s) was reported unsatisfactory. An inadequate feedback on performance might enhance that propensity.

II.6.2 Factorization and Sequential Choice

The idea that any complex problem has a hierarchical structure of subproblems, and that however complex the end product of problem-solving is the processes themselves are made up by a large number of elements, each element being very simple is fundamental to Simon. In his book 'The Science of the Artificial'[1/] Simon exemplifies this observation and the ease in problem-solving, when a hierarchy of subproblems can be solved in a sequence with two watchmakers, both producing exactly the same type of watch. Each watch was made up by 1,000 parts and the first watchmaker subassembled ten parts into units, and ten of these units into larger units and ultimately ten of these latter units into a watch, whereas the other watchmaker assembled all 1,000 parts into a watch without subassemblies.

Both watchmakers worked under the assumption, that any break in the work would cause the parts in the assembled unit to fall apart. To the first watchmaker this meant the component under subassembly, but to the second it meant the entire watch. By introducing interruptions in the work Simon demonstrates quantitatively the overwhelming problem solving capacity (assembled watches) of the approach with a set of intermediate solutions to subproblems (subassembled components) that can be sequentially attained.

The point is clear. By breaking down or factoring a complex problem with a hierarchical structure of subproblems in means-end relations, problem solving is greatly facilitated.

Two conditions should be met to permit a means-end analysis, which according to March, Simon and Guetzkov (1959, p. 151) is the principal way to factorization, however. First, it must be possible to

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1/ Simon, H.A., The Science of the Artificial, London 1969, pp. 90-92.

discover means at a lower level of detail, and second, each of the means at any stage must be relatively independent of all other means.

The first condition appears to be a necessary condition for a solution of a problem rather than a restriction on the possibility to factor a problem. A crude example may illustrate the point. If the problem was to construct a car and factorization involved the construction of a gearbox, an engine, etc., and an engine could not be constructed there would be no solution to the problem.

The independency condition is very demanding and March, Simon and Guetzkov (1959, p. 191) realized that frequently it is not met. A conclusion of their argument would then be, that means-end analysis could not be applied. This is not the inference they made, however, but they suggested that even if interdependencies are prevalent means-end analysis is the principle way to structure the decision-making process. In other words, the decision-maker is assumed to disregard interdependencies between the subproblems and treat them as independent. Not only factorization itself but combined with an assumption of independency leads to far-reaching simplifications of the problem-solving process.

March, Simon and Guetzkov admitted, that the theory of factorization was not too advanced, but suggested, that two factors are involved in determining what factorization that takes place. First, a problem has an "intrinsic causal net" serving as the basis for factorization. But factorization is also socially conditioned in that e.g. the organizational structure and departmental specialization will affect in which way a problem is broken down into subproblems.

That factorization on the presumption of far-reaching independency is an important way in which adjustment to the limited capacity of man, the availability of information and the costliness of analysis is achieved in the view of Braybrooke and Lindblom is clear from the following statement:

> "Since it is characteristic of the strategy that subdivision or factoring occurs in an unrestricted variety of ways, without regard to lines along which interdependency can be minimized, no such obligation (to choose a problem whose solution is independent of the solution of other problems or take the interdependencies into account) is undertaken by the practitioner of the strategy."
> (Braybrooke & Lindblom, 1969, p. 120)

This is much in line with what March, Simon and Guetzkov said about factorization. A difference is to be noted in the perception of how factorization is achieved. Brybrook and Lindblom, who concerned themselves with the choice of social policies in what Riggs[1/] calls a "prismatic society" with a myriad of specialized organizations and institutions, suggest that factorization is in large part the result of self-assignment. The same problem, be it e.g. health service, is tackled in its parts by a large number of individuals and groups. This factorization or fragmentation of analysis then tends to reduce the adverse effects of omissions of alternatives and consequences that are typical to the problem-solving process. Alternatives and consequences disregarded by one group may be taken into account by another group.

II.6.2.1 Factorization in This Study

In this study problem-solving through the formulation of investment projects is the focus of interest. The author's experience indicated, that factorization was a characteristic of the process, and that is was partly made along the lines indicated by the "intrinsic causal net" of the problems. A notable difference was, however, that without any means-end relationship a project was first broken down into a set of dimensions for which the following notations will be used:

(1) Output expectations
(2) Process characteristics
(3) Location and target group
(4) Size
(5) Administrative setup
(6) Financial arrangements

1/ Riggs, F.W., Administration in Developing Countries. Boston 1964, pp. 27-31.

The dimensions could be stated as a set of questions as well: (1) what, (2) how, (3) where and for whom, (4) how big, (5) by whom and (6) what money is needed and where to get it.

Obviously many other sets of dimensions are conceivable, but this set is proposed as a description of the fragmentation implicitly made in the Ministry of Agriculture in Kenya. Within each dimension a hierarchy of levels of detail with objectives at each level is conceivable.

Factorization into a set of dimensions without reference to the "causal net" has important implications. A precondition to a means-end analysis according to March, Simon and Guetzkov is independency between means at different stages. A means-end analysis carried out on the basis of an initial factorization into the above set of dimensions would be extraordinary difficult as a complex net of interdependencies between dimensions at different levels of detail can be expected. A means-end analysis would hardly lead to simplification, if these interdependencies were taken into account. To reduce the complexity caused by the initial factorization into a set of dimensions independency must be assumed to exist both between dimensions and within dimensions, or limited consideration of certain interdependencies in short chains is attempted.

The power of factorization as a means to achieve simplification stems from the sequential approach to choices that it implies. An example will demonstrate the significance.

Assume for the sake of argument, that a project has only two dimensions (A) and (B) and that at a certain level of detail each dimension has three alternatives (a_1, a_2, a_3 and b_1, b_2, b_3). The following nine combinations are then possible:

a_1b_1	a_1b_2	a_1b_3
a_2b_1	a_2b_2	a_2b_3
a_3b_1	a_3b_2	a_3b_3

If a sequential choice is made in two steps considering one dimension at time, only three alternatives at a time have to be compared.

An additional simplification is achieved as the consequences of a combined alternative ($a_1 b_1$) are likely to be more diverse and more difficult to reconsile if they can not be measured in the same unit than a non-combined alternative (a_1).

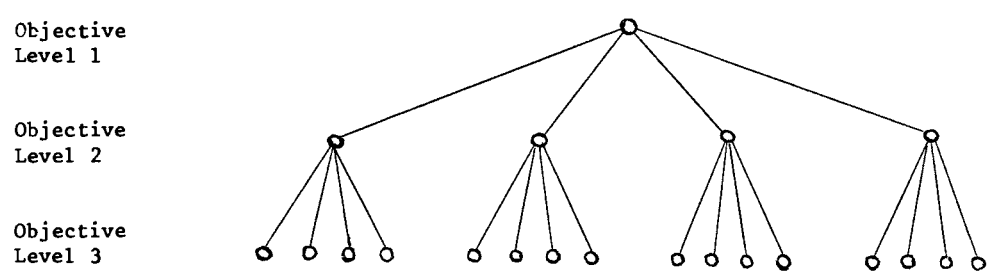
The approach is increasingly powerful, when the number of dimensions and/or the number of alternatives is increased. If in six project dimensions three alternatives were at hand, and all were combined with one another 729 combinations would result. If on the other hand each dimension was considered on its own, six choices between in each case three alternatives would be called for. Evidently the same mechanism is at work as was described by Simon's example with the watchmakers. (see p. 28).

II.6.3 Alternatives and Objective Levels

Objectives in a purposive organization are assumed to have a hierarchical structure with means-end relationships, which may be more or less clear and consistent.

In focusing at objectives Braybrooke and Lindblom (1969, p. 71) argue, that policy makers tend to direct attention to objectives which are concrete, rather than evaluating policies in the light of more nebolous objectives at a higher level. This is a simplification made by the decision-maker or, as Braybrooke and Lindblom prefer to call it, an adaptation. March and Simon (1959, p. 156) made the same observation.

The focusing of a lower objective level has other simplifying consequences as well. The same figure as the one used in section (II.6.1), shown below may demonstrate the point.



At objective level (2) there are four objectives, and contribution to any of these objectives will contribute to the single objective at level (1). If one of the objectives at level (2) is focused at, and problem identification is made with reference to that objective, four options are at hand at level (3) to pursue the objective at level (2) and hence the objective at level (1). If, however, problem identification was made with reference to objective level (1), all four options at level (2) and all 16 options at level (3) were conceivable. In other words, by focusing at a lower objective level the number of alternatives, that might be considered is considerably reduced.[1/] This point will be raised with explicit reference to the project selection process in chapter IX, section (IX.2.1).

II.7 SUMMARY OF THE ARGUMENT SO FAR

Up to this point chapter II is devoted to a discussion of the behavioral view on decision-making, and two basic characteristics of the process are claimed to be the common foundation on which behaviorists have elaborated. One of these characteristics is the need for simplification of the decision-making process due to the principle of bounded rationality, the limited availability of information and the costliness of analysis. The focus of interest in this study is predominantly this characteristic, and various ways to achieve simplification proposed by March, Simon and Guetzkov, and Braybrooke and Lindblom have been discussed. The presentation has referred to decision-making in a general way in the sense that it only to a limited extent has involved a particular context for decision-making. In the remainder of the chapter this general model of decision-making will be applied to the particular process under observation and a broad outline of the research questions will be made.

II.8 THE BEHAVIORAL THEORY OF RATIONAL CHOICE AND THE PROJECT SELECTION PROCESS

In the preceding seven sections of this chapter the basic characteristics of the theory of rational choice developed by the behavioral

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1/ The same phenomenon is discussed by Fisher, G.H. in Cost Considerations in Systems Analysis. New York 1971, pp. 45-46.

school have been discussed without much reference to what kind of problem that is attended and without reference to any particular organizational context.

In this section that discussion will be related to the context which is the focus of this study, namely the public investment project selection process in the agricultural sector in Kenya.

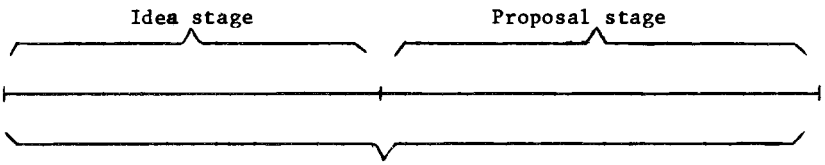
II.8.1 The Project Maturation Process and the Project Selection Process - Notations

Problem identification is assumed to result in a search process for remedial action. Such an action may be an investment project, as defined in section (II.10), and problem solution then involves the elaboration of a mere project idea into something more substantiated on which a decision on implementation can be made.

Seen in the organizational context of the public administration in Kenya it is possible to distinguish between two stages in that process. The first will be called the idea stage and the second the proposal stage.

The idea stage embraces the choice of problem to focus at and a series of choices to solve subproblems resulting from factorization, and it ends at the point, where no further search for information is attempted and the solution to the problem is described in writing in a project proposal. The proposal stage refers to the passing of the proposal through the organization for consideration and decision-making. In Kenya this stage involved two central ministries and a number of organizational units in both.

The proposal stage ends with the budget preparation, where it is considered whether a proposal will be allocated funds for implementation or not. The two stages together constitute the project selection process, as indicated in the figure below.



The project selection process

The part of the selection process called the idea stage will be called the project maturation process. In the maturation process a problem is broken down through factorization and one or several proposals on how to solve the problem focused at are built up through a series of decisions whereby subproblems are solved.

In section (II.6.2.1) it was suggested, that factorization as applied first breaks down a project into a set of dimensions before factorization on a means-end basis is attempted. Consequently a distinction will be made between horizontal maturation, by which additional dimensions are considered, and vertical maturation as the level of detail considered in each dimension is increased.

Horizontal maturation is limited to the six dimensions and is relatively easy to achieve at a low level of detail. Hence, one would expect horizontal maturation to be complete in most project proposals. Conceptually vertical maturation on the other hand involves an almost infinite number of levels of detail, and therefore complete vertical maturation is hardly expected.

Not only the maturation process, but also the proposal stage involves a series of choices. Several organizational units are involved to consider alternative project designs to solve a certain problem and also to consider projects aiming at the solution of different problems competing for financial resources.

In other words, both in the maturation process and at the proposal stage a number of decision points can be identified, each of which can be described in terms of the theory of rational choice elaborated upon in the opening seven sections of this chapter.[1/] In the proceeding section a set of such decision points as conceived in the organizational context in Kenya will be identified.

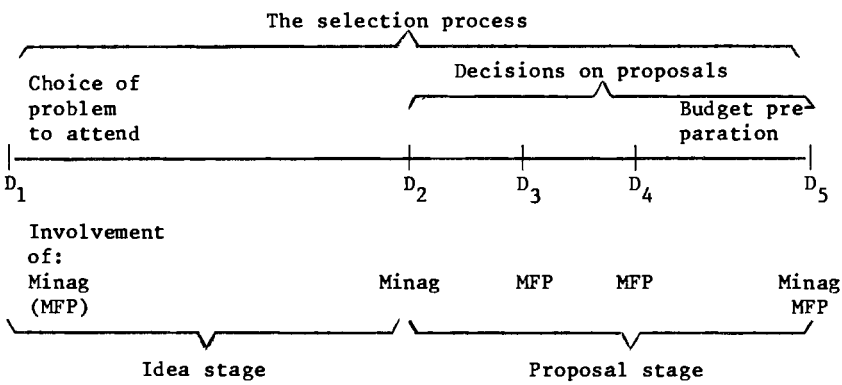
1/ It is at such decision points parts of the behavioral theory can be tested.

II.8.2 Decision Points in the Project Selection Process.[1/]

In the central Kenya Government administration principally two ministires, the Ministry of Agriculture (Minag) and the Ministry of Finance and Planning (MFP) were involved in the selection process for agricultural projects.

The project maturation process was largely the responsibility of the Minag. This means, that project proposals were normally prepared by the Minag and subsequently submitted to the MFP, where both the Planning Department and the Treasury Department were involved in considering them. If the project was to be partly financed by donors, which most projects were, the project proposal was attended upon arrival to the MFP, whereas if it was to be locally financed it was kept pending the budget preparation. In the latter case it may not have been submitted by Minag either. In the budget preparation both ministires were involved.

More specifically the following set of decision points were identified.



At D_1 a choice was made on what problem among many deserving attention that was to be focused at. Furthermore, the conception of a problem is assumed to initiate a simultaneous search for means to solve the problem. Accordingly, intertwined with the selection of a problem attempts were made to make choices at a low level of detail in at

1/ This description made prior to the field study is slightly erroneous, as will be noted in chapter VII, section (VII.1).

least some project dimensions. In other words, D_1 also embraced the specification at a low level of detail of some of the basic characteristics of a project idea.

At D_1 primarily organizational units in the Minag were involved, and at times representatives from the MFP may have participated in these discussions.

Between D_1 and D_2 a large number of decisions were taken until maturation was halted and the project idea turned into a proposal. Such a proposal was decided upon by senior officers in the Minag before it was submitted to the MFP, and that decision point is denoted D_2 in the figure above.

In the MFP a proposal was ex ante the field study thought to be passed to the Planning Department for consideration before it was forwarded to the Treasury Department. The decision point D_3 involved the Planning Department and D_4 referred to the decision point at which the Treasury Department considered a proposal. This procedural description covers the case, when the project was to be submitted to a donor and most of the projects were expected to follow this procedure.

At D_5 both ministries were involved in the preparation and the decision-making on which projects that should be included in the budget for a particular year.

In the literature referred to, when the behavior theory of rational choice was discussed above, the time axis is hardly introduced explicitly.[1/] It appears as if a characteristic of the project selection process in the public administration in Kenya was, that the maturation process is only a part of the selection process in addition to which there is a procedure whereby project proposals are sequentially considered and decided upon by different organizational units along a time axis.[2/]

1/ An exception is Soelberg (1967).

2/ An explicit treatment of the process whereby a proposal is passed through an organization is given by Bower, J.L. in Managing the Resource Allocation Process. Boston 1970.

II.9 A FURTHER SPECIFICATION OF THE ASPECTS OF THE THEORETICAL FRAMEWORK FOCUSED AT IN THIS STUDY

In section (II.4) it was stated, that of the two basic characteristics of the behavioral theory of rational choice - (1) that choice is always exercised with respect to a simplified model of the real situation and (2) that the elements of the situation are not given but the outcome of psychological and sociological processes - the interest in this study is premarily directed to the need for and the ways to achieve simplification.

In section (II.6) it was described how a satisfying approach results in limited search efforts and permits extensive omissions. This could also be expressed as that only a limited number of alternatives in a decision situation is considered, and the number of alternatives considered can be seen as a measure on how far simplification by these means is carried. Hence, in this study the number of alternatives considered at different decision points was to be explored.

In addition to the argument given in the preceding paragraph for focusing at the number of alternatives yet another argument appeared to be relevant. In a case where only one alternative in addition to H_o (= to do nothing) is considered and H_o is very poor, any alternative might look favorable. Yet another alternative might be required as a point of reference in addition to H_o.[1/] The argument is particularly relevant in the context of d-countries, where H_o in fact is often poor. One might say, that a poor H_o is what is meant with underdevelopment, and it appeared accordingly warranted to explore in the empirical study, if only one alternative in addition to H_o was considered.

As discussed in chapter I, section (I.3.2) the normative literature on project appraisal is primarily concerned with techniques like cost-benefit analysis to be applied in appraising project proposals. As a preliminary observation it was noted from the author's experience, that the techniques offered hardly were very helpful in solving the

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1/ This is stressed by Soelberg (1967, p. 23).

subproblems resulting from factorization, nor were they adjusted to the need for simplification due to the principle of bounded rationality, availability of information and the time pressure. Given the paramount interest in cost-benefit analysis it appeared relevant to explore the techniques used in the project selection process, and accordingly this was identified as the second major area of interest.

In addition to the number of alternatives considered and the techniques used attention, but less pronounced attention, was to be paid to factorization and sequential choices and to omission of alternatives, if objectives at a lower level were focused at.

II.10 SOME FURTHER NOTATIONAL REMARKS

Above the concept "public investment project" has been used with no attempt to a definition. From the literature it is evident, that most authors have experienced difficulties in defining this concept. The problem has in particular been to unambiguously state what a project is.

In this study 'public' will refer to investments which are funded over the central government development budget. This excluded some investments made by parastatal agencies raising funds other than through the central budget.

Only investment projects in the agricultural sector are considered implying that capital provisions are made through the budget of the Ministry of Agriculture.

An investment is thought of as a commitment of resources with the expectation of benefits accruing thereof over time. Gittinger (1972, p. 1) defines an investment activity as "an expenditure of capital resources to create a producing asset from which we expect to realize benefits over an extended period of time". In Volume I of the Manual of Industrial Project Analysis[1/] it is suggested that an investment

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1/ Manual of Industrial Project Analysis in Developing Countries, Vol. I, OECD, Paris 196 , p. 18.

"is said to amount to consumption in the near future of scarce or at least limited resouces in the hope of obtaining in return over a longer period some benefit". Solomon (1970, p. 493) defines an investment as "a cost incurred in the expectation of future benefits". Apparently the various definitions come close to one another.[1/]

What is then a project? Solomon (1970, p. 496) defines a project as "the smallest unit of activity that can be separately planned, analyzed and administered". Gittinger (1972, p. 2) says, that a project "... is an activity on which we will spend money in expectations of return which logically seems to lend itself to planning, financing and implementation as a unit". The attribute "financed as a unit" appears to be useful in identifying a project since an activity aiming at solving a particular problem specified in a project write-up for international financial support generally appears as a separate subhead in a development budget. In this study the following meaning will be given to a public investment project in the agricultural sector:

> An activity for which capital resources are allocated to the Ministry of Agriculture of the central Government development budget to be spent in the expectation of benefits over time, which logically seems to lend itself to planning, financing and implementation as a unit.

II.11 A DESCRIPTIVE OR A NORMATIVE THEORY

A question worth some consideration is whether the behavioral theory of decision-making should be understood as a descriptive or a normative theory. Limiting the discussion to the component of the theory focused at in this study, simplification, it appears to make a difference what the answer to that question is. If the theory is normative, it possibly implies, that it indicates what simplifications that should be made, and hence the act of simplification would have to be conscious. In a descriptive theory on the other hand simplifications might or might not be conscious.

1/ For a discussion of the concept 'investment' see e.g. Asztély, S., Investeringsplanering. Uddevalla 1968, pp. 2-5.

The behavioral theory of decision-making in the field of economics grew out of a realization, that the theory of decision-making embedded in economic and statistical theory was hard to reconcile with observed realities. In other words empirical observation of decision-making processes was the basis for the attempts to present a behavioral theory of choice, and the theory became a descriptive theory.[1/] Both a normative and a descriptive theory can be used for prediction.[2/] With a normative theory, given that it is consistently and logically constructed, it is possible to say, that given A, B and C we will get X, Y and Z in 'if - so' constellations. The descriptive theory provided it is a valid description can predict what will be the outcome of a process, the behavior of a consumer, etc. An important difference between the two is, however, that whereas the latter to be a good theory would claim to predict actual behavior, etc., a normative theory may be good without prediction even with a remote resemblence of actual behavior, etc.

A failure to make this distinction may result in a rejection of a theory simply because it can not be easily reconciled with observed realities for which purpose it eventually was not constructed.

In the extension of this argument there are reasons to bring out another point. Normative economic theories are often claimed to represent how things should be. Such a terminology is unfortunate as it gives a moralistic flavor to the claim, since it implicitly involves a comparison with something in use, which is found inferior. Much of the resent among practitioners to positively consider the prescriptions made by scientists is likely to originate from this in most cases unintended "besser-wisser-attitude" and the implicit downgrading of what the practitioner does.

1/ That contributions to the behavioral theory of decision-making can be seen as normative in character is reflected in Dror's criticism of Lindblom's model of muddling through. Lindblom's presentation is admittedly indecisive and can be seen either as a descriptive or a normative theory. Dror, Y., Muddling Through - 'Science of Inertia'? Public Administration Review, Vol. 24 (1964).

2/ The major topic of prediction and explanation in social research is only touched upon here. For further reference see e.g. Kaplan (1964), chapter IX.

The claim of normative economic theories, that they represent what should be maybe would benefit from a more selective use. If the preconditions for the application of a normative theory exist, and the theory is indisputable in its logics, the claim that it represents what should be can vigorously be made. If on the other hand such preconditions do not exist, no other claim should be made than that the theories represent what could be - under certain specified conditions.

The scientist who devotes his energy to the development of normative theory might make a service by paying particular attention to in which context he can make a claim of "should" and in which context he has to accept a "could".[1/] This argument appears to be pertinent for authors of manuals on project appraisal in development countries as well.

II.12 UNINTENDED AND INTENDED SIMPLIFICATION

In the preceding section it was noted, that the simplifications implied in the behavioral theory of decision-making may be intended or unintended. In the first case the decision-maker is aware of options to simplifications, and he makes a choice as to what simplifications to make. In the latter case simplification is more a result of what he does without any conscious consideration of what his options are.

Neither Simon nor the other authors referred to as pioneers in developing the behavioral theory of rational choice are very explicit on this point. The general impression gained in their writings, however, is that the simplifications basically belong to the latter group - they are unintended.[2/] Decision-makers simplify, without thinking of it.

1/ The argument may be seen as a simplification. Obviously there is a continuum of contexts changing over time, which makes it less clear where a 'should' is justified. Furthermore, the points raised ought not be taken as an argument against normative theorizing, that goes beyond the absorption capacity of practitioners. Yet it is hard to avoid the conclusion, that scientists often are poor marketing men obeying the simple rule to provide the right commodity at the right time on the right place. (The price we can forget.)

2/ Lindblom is unclear in this respect. On the one hand he describes his branch method as what decision-makers do, but on the other hand he offers the method as an alternative to be chosen in favor of the root method, which is represented by the economic man.

They ignore consequences, not because they have explicitly seen that this means a simplification. They just do it. On the same grounds are interdependencies disregarded, etc.

This understanding of how simplification is achieved in the behavioral theory of decision-making is adopted in this study, and it is implied, when simplification is discussed unless other is stated.

CHAPTER III

CHARACTERISTICS OF D-COUNTRIES AFFECTING THE ASPECTS OF THE PROJECT SELECTION PROCESS FOCUSED AT

III.1 INTRODUCTION

In this chapter an attempt is made to identify attributes typical to d-countries that may have relevance for the aspects of the selection process chosen for exploration in this study. This last restriction is important. There are certainly a large number of characteristics of d-countries, which are more striking than the ones discussed below. Even if the focus is narrowed to the selection process that statement holds. It is therefore worth emphasizing that only characteristics relevant to the set of specific aspects of the selection process focused at in this study will be discussed.

Several difficulties are involved in identifying such characteristics. Firstly, there is the problem of generalization, insofar as it is hard to prove the degree of significance for a particular d-country of a certain characteristic stated for d-countries in general. Secondly, it will always be possible to identify additional characteristics, which might be relevant. Thirdly, it may be argued that indirectly a host of other characteristics are more important and should be taken into account.

Completeness is not attempted, but the claim is made, that the attributes discussed are relevant, and that attributes in significant conflict with the hypotheses stated are not at hand. The issue of indirectness is not a major one, since there is no need here to clarify the complex economic, social, cultural and political struc-

tures and relationships which lead to the appearance of certain characteristics. For the purpose of this study, it will suffice to take note of the prevalence of certain attributes without any penetration into what leads to them.

The characteristics have been identified in two ways. Firstly, literature on various aspects of d-countries with emphasis on planning and public administration is one source used. Secondly, as a complement to the literature characteristics with more specific reference to Kenya based on the author's experience are added.

III.2 THE ROLE OF THE GOVERNMENT

The modernization ideal adopted by the d-countries is generally accompanied by an acceptance of far-reaching Government planning understood in a broad sense embracing identification, implementation and control.[1/] The degree of Government involvement in the development process by the size of its direct engagement and the comprehensiveness by which the private sector is regulated, constitutes a marked difference between most d-countries and the Western i-countries. This involvement is as implied not limited to investment activities but embraces influences on the supply/ /demand situation for commodities and services through manipulation of prices or quantitative regulations.

Kenya has chosen a path of what in the Development Plan is called "a mixed economy" in which the Government plays a significant role in initiating and monitoring development. That this role will be further enhanced is clear from the 1974-78 Development Plan, where it is stated:

> "Government will assume a much greater role in directing the economy than it has in the past."

and

> "The Government will increase its share by outright participation in key activities, by joint participation with the private sector or by the use of policy tools." (Kenya Development Plan 1974-78, p. 2)

1/ Myrdal, G., Asian Drama. Harmondsworth 1968, pp. 709-710.

Government control as well as Government investment is accordingly expected to increase.

This degree of direct and indirect involvement places a heavy burden on the political and administrative apparatus. The volume of business is one important dimension of this burden. New institutions and additional personnel are required to plan, execute and control the enlarged activities, at the same time as it can be noted that institutional adaptation is slow and the supply of skilled staff is short.

Another dimension is the complexity in decision-making due to such an involvement, a topic extensively dealt with by authors like Hayek[1/], who stresses the incommensurable difficulties resulting from a substitution of decentralized decision-making through the market for centralized decision-making. The centralization tends to be particularly pronounced in d-countries, where institutional weaknesses and the limited access to specialized institutions to which decision-making within the Government can be delegated brings decision-making to the centre.[2/]

That this was the case in Kenya is clear from a Government Commission report observing that:

> "At present there is an extraordinary concentration of functions in this omnibus office (of the Permanent Secretaries)."

and

> "... the Permanent Secretary who (...) must be brought into every important issue at every stage since he will be personally responsible for all of them."
> (Report of the Commission of Inquiry (Public Service Structure and Renumeration Commission), Republic of Kenya, Nairobi 1971, p. 17)

The volume of business and the analytical complexity in centralized decision-making resulting from extensive Government involvement in the development process puts a heavy strain on the public administration in d-countries. Far-reaching simplification in decision-making

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1/ Hayek, F.A., Socialist Calculation: the Competitive Solution. Economica, Vol. VII (1940), pp. 125-149.

2/ See Riggs (1964), pp. 253-55.

is necessary to cope with the complexity and to cope with the magnitude of work. Accordingly one could expect that the aspects of the selection process focused at in this study will be affected in the following way:

Fewer alternatives will be considered to increase throughput, and maturation will be carried less far for the same reason. The techniques used will be less complicated to reduce the need for resource-demanding and time-consuming information collection.

III.3 THE IMPATIENCE FOR DEVELOPMENT RESULTS

It is already mentioned that the Government in many d-countries, and among them Kenya, has resumed an important role in initiating development.[1/2/] Rapid and discrete changes in the cultural, social and economic dimensions are called for, if underdevelopment is not to be permanent, and the initiative to these changes to a considerable extent rests with the Government. This situation contrasts with the one in most Western i-countries, where Governments seek marginal adjustments in a process of response to political will expressed by the members of society.[3/]

The ambition in the d-countries is to turn these countries into modern states. The welfare in the developed countries is the reference point aimed at, and the gap between that level of welfare and the one in d-countries is seen as unjust and is an always present reminder of the materialistic shortcomings. In the Kenya Development Plan 1974-78 it is openly stated that

> "... the average standard of living is still low. A wide gap remains between present income levels and those of the prosperous and educated society to which all Kenyans aspire."
> (Kenya Development Plan 1974-78, p. 2)

1/ Kenya Development Plan 1974-78, pp. 2 and 6.

2/ The significance of this role, needless to say, varies from country to country and is e.g. considerably higher in Tanzania than in Kenya.

3/ This does not imply that the changes occurring are de facto rapid and descrete in d-countries and marginal in i-countries.

The factors now discussed may have different effects on the development process. One effect, which is of interest to the decision-making process is a likely appearance of impatience, a feeling that things have to get done, and done without delay. Time becomes a more precious commodity. In describing the situation in this respect in Tanzania Hydén[1/] noted that policy makers have adopted an attitude of "we must run while others walk". Hydén (1973, pp. 14-15) ascribed this style of policy-making four main features among which can be noted an urge to do everything at once, and a tendency that policy-makers often decide without first having obtained full and detailed knowledge of possible consequences of their decisions.

Before these observations are related to the project selection process, the time dimension of that process should be noted. If a project involves donor financing, a time period of several years may elapse from the early maturation stage until the time for implementation, even if there is no disruption in this extended selection process. After maturation and consideration within the Government a project proposal is forwarded to a donor, who will require time to consider the application, (normally) send out an appraisal mission, consider its report and make a decision, which eventually may lead to negotiations on an agreement with the recipient country. After that such an agreement is signed furhter time will pass for procurement and recruitment of staff (if needed), before physical evidence of the existence of the project occurs.

A general impatience for development achievements will affect the selection process in at least two ways. Firstly, a pressure will mount for an increased volume of development projects to be identified and passed through the process. In the case where difficulties are experienced to find sufficiently many projects, as has been a noticed problem in many d-countries, the pressure is likely to be high indeed.[2/]

1/ Hydén, G., Policy-Making for Development: Tanzania in Comparative Perspective. University of Dar es Salaam 1973, p. 13.

2/ With reference to Kenya a World Bank Mission states: "It was the clear impression of the Mission that within the whole project cycle, from recognition of a development opportunity to the operation of the project, the most glaring lack was at the first stage - project identification." Project identification is used to mean ".. the demonstration that a profitable investment opportunity exists and that it can be implemented within the general policy framework of the Ministry". The concept seems to correspond to the project maturation stage. IBRD. Report No. 201-KE. The Second Decade: A Basic Economic Report on Kenya. January 1974. Annex 5, p. 4.

Secondly, one would expect, that once a certain project idea has been identified, and a commitment made to develop that particular idea, considerable pressure will be exercised to reach its implementation stage. The cumbersome and time-consuming procedures enforced, when donor financing is involved, may cause the pressure to cut down the time used for maturation to further increase, as that is the time element over which the Government has control and in which it may be felt, that significant cuts can be made.

The arguments about the time pressure on the project selection process suggest, that the aspects singled out for particular consideration may be affected in the following way:

Fewer alternatives will be considered at various stages in the process in order to increase the number of project proposals passing through due to the time pressure put on the maturations process for a particular project caused by a desire to achieve an early implementation once the idea to that project has been identified.

Less advanced techniques will be applied since the use of more advanced techniques generally calls for more information and analysis in depth, which tends to extend the maturation phase along the time axis.

III.4 EDUCATION AND AVAILABILITY OF SKILLS

It is apparent, that the educational level and the resulting inadequate availability of skills is a serious constraint to rapid development in most d-countries. In the 1974-78 Development Plan for Kenya it is said that:

> "Trained manpower - administrators, managers, professionals, and technicians, as well as skilled clerical and manual workers - are a major bottleneck."
> (Kenya Development Plan 1974-78 (1974), p. 102)

The shortage has been enhanced by the rapid increase and diversification of Government activities after Independence, and the problem has been one of both volume and kind. The staffing and organization of the public administration during the colonial area reflected its main task to maintain law and order, and it

is documented, that the British bureaucracies in the colonies, to the extent indigenous staff was recruited, tended to train generalists rather than specialists.[1/] The new kinds of skill called for during the post-Independence period and the rapid increase in the number of staff with specialized skills required caused considerable difficulties, with unexperienced officers also at higher levels as one of the consequences. As a Permanent Secretary in the Ministry of Works in Kenya noted:

> "There are several obstacles which limits the performance of senior administrators. First, there is the shortage of suitable qualified staff. Inexperience in management presents the second obstacle, while the fairly frequent transfer of staff (unavoidable as they are) forms a third." (Report of the Interregional Seminar on the Development of Senior Administrators (1969), p. 23)

In Kenya, as in many other d-countries, there is a decisive trend to substitute non-citizens with citizens both in the private sector and in the public sector. This is a political necessity the justification of which hardly can be disputed, but its implementation may imply a drain of skill as is the case in Kenya.[2/]

The shortage of skill has been unevenly distributed with a far more severe situation in science than in arts, which reflects the preference given in the past for the latter subjects in the educational system.[3/]

The discussed shortage of skill in the public administration with both a quantitative and a qualitative aspect is likely to affect the project selection process in the following way:

Fewer alternatives will be considered as a result of a lower productivity and possibly also because of a less advanced analytical capability, which in turn is a result of inadequate training.

1/ See e.g. Report on the Interregional Seminar on the Development of Senior Administrators. UN, Geneva 1969. Vol. II:40; and Waterson, A., Development Planning. Lessons of Experience. Baltimore 1965, p. 255.

2/ See e.g. Ghai, D.P., and Ghai, P.G., Portrait of a Minority, Nairobi 1970; and
Aldington, T., The Economics of Kenyanization. East African Journal, Vol. 5, pp. 21-29.

3/ See Hultin, M., Utbildningssituationen i Östafrika. Stockholm 1967.

Less advanced techniques will be applied as an adjustment to the command possessed.

III.5 EXPATRIATE STAFF

An official recognition of the shortage of skilled personnel in many d-countries is the influx of expatriate staff. These experts are expected to provide the kind of skill that the d-country has in short supply and among the categories of staff provided considerable numbers are economists for planning tasks, i.e. officers who often become involved in the project selection process.[1/]

The effects of the presence of expatriates in the administrations in d-countries are expected to be opposite to those noted in the preceding section (III.4). The number of alternatives would tend to increase, and more advanced techniques could be expected to be applied.

III.6 INFORMATION AVAILABILITY

Most authors concerned with planning problems in d-countries over and over state, that the lack of well-structured stocks of information is a major obstacle to successful planning.[2/] Institutional inadequacies and the lack of comprehensive documentation systems makes it hard to locate information relevant to the problem focused at. Once located the information may not be structured in a useful way, classification methods are not described, time series are short and the reliability and the validity generally must be suspected to be low. These and similar shortcomings will call for considerable interpretation efforts. By the same token considerable efforts may be required just to clarify that relevant information is lacking.

1/ In Kenya there were 52 experts for economic, financial and manpower planning in the first quarter of 1973. Kenya Development Plan 1974-78 (1974), p. 107.

2/ See e.g. Waterson (1965), p. 170. With reference to Kenya see Report of Interregional Seminar on the Development of Senior Administrators in the Public Service of Development Countries (1969), p. 23.

In either case resources have to be committed to gather information, and the resource use has a time dimension. More resources during an extended period of time will be required to gather a certain amount of information in a situation as the one described above, than in a situation, where well-structured information is readily available. Information will in other words be more costly to come about. This cost is not only reflected by the opportunity cost of the resources committed and the postponement of the expected net benefits of the project for which the information is collected. In addition, the senior decision-maker may feel a 'political cost' for a delay.1/ The 'political cost' can here be seen as the reduction in appreciation the decision-maker expects from his environment due to a delay.

In Kenya, where senior civil servants are transferred frequently within the administration, the chances are reduced, that they will remain in their positions long enough to see the outcome of many of the projects on which they make decisions.2/ A consequence may then be a tendency to judge their performance in the light of what they get started rather than what ultimately comes out of it. (This argument certainly is incomplete in the sense that decision-makers obviously have a lot of other duties than deciding upon investment projects which they may perform well or not, and which also are essential when an opinion is formed about their performance.)

The discussion above leads to the conclusion, that the following effects on the aspects of the decision-making process focused at can be expected.

Fewer alternatives will be considered due to the costliness of information. The political cost for a delayed decision may be an important element in that cost.

Less advanced techniques will be applied as the simplification of techniques is an adaptation not only to the limited cognitive capacity of man, but also to scarcity of information.

1/ For a discussion of political cost see Demsetz, H. in Lamberton, D.M. (ed.), Economics of Information and Knowledge. Harmondsworth 1971, p. 170 et seq.

2/ See footnote 1/, p. 51.

III.7 EXTERNAL INFLUENCE

III.7.1 The Concept

External influence will refer to influences exerted by individuals or groups of individuals that are not part of an institutionalized or by practice determined and generally accepted process for problem solution. Influence through the political machinery as long as the political formula is respected obviously falls outside this demarcation of external influence.

Influence on decision-making will be said to have taken place, if the probability of a certain decision outcome before the influence is altered as a result of the influence. This is in essence Dahl's definition.[1/] Influence may be classified into two kinds, depending upon what means that are used to achieve the change in the probability aimed at:

(1) Influence through persuation
(2) Influence through rewards and penalties

External influence may be exerted by individuals or groups of individuals from within the country as well as from outside the country. The former case will be discussed only briefly, but more attention will be paid to influence by external financiers.

It is hard to be decisive about the effects on alternatives considered and techniques used from influence exerted by domestic influencers. If the influencer pursues the same alternative as already focused at by Government officials, the likelihood that additional alternatives will be considered would tend to decrease due to the influence. Was the influencer's alternative different, then the number of alternatives considered in addition to the one focused at may increase. The consequences depend upon at what stage the influencer appears, whether there is one or several influencers, the disparity between alternatives, the power possessed by different influencers, the kind of influence used, etc., and as noted it is hard to state anything general about the consequences on alternatives considered and the techniques used.

1/ Dahl, R., The Concept of Power. Behavioral Science. Vol. 2 (1957), pp. 201-215.

III.7.2 Influence Exerted by Donors

The influence from donors on d-countries is the topic of an extensive literature.[1/] In this section the discussion will be strictly limited to the possible influence on alternatives considered and on the techniques used.

Alternatives Considered

Most donors have openly made clear what their preferences are regarding the kinds of development activities they wish to support, and they have often made clear to what extent they are prepared to give support by setting financial frames, although generally for short periods of time. The d-countries depending heavily upon external financing like Kenya will then be restricted in what kind of development projects she can present to a particular donor. This means, that the financiers will exert influence on the project selection process already at its very early stage, when a choice is made as to what problem to attend, by reducing the number of alternatives considered. To the recipient country, needless to say, it appears useless to pursue project ideas if it is most unlikely that any donor is interested in financing them, if domestic resources are inadequate. This kind of influence is generally recognized and will not be elaborated upon.

Another kind of influence not so often recognized should be noted, however. Meetings are anually or semi-anually held between donors and Government representatives and new activities are discussed. At such occations projects at different stages of vertical maturation are presented to the donor in a marketing effort to raise his interest. Some basic characteristics as what the output of the project is, how this output is to be achieved, where the project will be located and an estimate of how big it will be, normally measured

in terms of financial requirements, are presented. Although the description is given at a low level of detail, it should be noted, that a very large number of alternatives are already excluded from furhter analysis at that stage (see chapter II, section II.6.6.1). The donor is presented with a set of basic characteristics to which he is expected to respond. If the project as conceived falls within his preference area, one would expect a positive reply with the proviso, that a formal commitment would depend upon the outcome of further studies of the project idea.

To the extent this description of events is correct it appears inevitable, that the likelihood that alternatives to the characteristics presented to a donor will be considered is drastically reduced, when the donor has indicated interest in a particular set. In other words, the presentation of a project to a donor at an early stage is likely to reduce the number of alternatives considered.

Techniques used

Seen over a period of time it is likely, that the standards for project presentation set out by financiers like the IBRD have increased the probability, that certain techniques are applied in the selection process. The direction of influence is towards more sophisticated techniques among which cost-benefit analysis at various levels of elaboration is the one predominantly advanced.[1/] The application of cost-benefit analysis in project appraisal by donors is a reflection of the considerable interest that is shown by theorists to develop this approach into a more refined and

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1/ The IBRD requirements are presented in Gittinger (1972), pp. 5-15. A cost-benefit approach to project appraisal is also taken e.g. by the US, the UK and the German development agencies. Cost-benefit analysis is also recommended by the United Nations Institute for Training and Research (UNITAR) in UNITAR Series No. 1, Criteria and Methods of Evaluation Problems and Approaches, New York 1969.

comprehensive tool for appraisal of public investment projects.[1/]

The influence on techniques used from various sources described here works in the opposite direction of several of the characteristics discussed both above and below. The fact that the IBRD and other donors set standards for techniques to be used in project appraisal documents to be submitted as loan applications makes it likely that the influence is strong. This expected move towards the use of more sohpisticated techniques is to a large extent exogenously imposed, and the many factors pointing to the use of simplified techniques suggest, that "forced" application of the former leads to a reduction in reliability and validity in project appraisal.

As a note of curiosity the consequences of the preference shown by the IBRD for the internal rate of return (IRR) as the measure of project profitability can be mentioned. Despite the wellknown criticisms of the IRR the IBRD justify their choice by arguing, that they do not compare projects but relate the IRR of a project to the marginal rate of return on capital invested elsewhere in the economy.[2/3/] For the IBRD this approach may be acceptable. Hardly

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1/ See e.g.
(i) Mishan, E.J., Cost-Benefit Analysis. London 1972.
(ii) Pearce, A.K. & Dasgupta, D.W., Cost-Benefit Analysis. London 1972.
(iii) Hinricks, H.H. & Taylor, C.H., Program Budgeting and Cost-Benefit Analysis. Pacific Palisades, California 1972.
(iv) Kendall, M.G., Cost-Benefit Analysis. London 1971.
(v) Benefit-Cost Analysis: An Aldine Annual on Forecasting, Decision-Making and Evaluation. Chicago 1971, 1972, 1973.
For often cited definitions of cost-benefit analysis see:
(i) Prest, A.R. & Turvey, R., Cost-Benefit Analysis: A Survey. Economic Journal, Vol. LXXV (1965).
(ii) Feldstein, M., Cost-Benefit Analysis and Investment in the Public Sector. Public Administration, Vol. 42 (1964).

2/ For a discussion of the pros and cons with the internal rate of return see e.g.
(i) Henderson, P.D., Investment Criteria for Public Enterprise. In Turvey, R. (ed.), Public Enterprise, Harmondsworth 1968, p. 88 et seq.
(ii) Turvey, R., Present Value Versus Internal Rate of Return - An Essay in the Theory of the Third Best. Economic Journal, Vol. LXXIII (1963), pp. 93-98.
(iii) McKean, R., Efficiency in Government Through Systems Analysis. New York 1958, pp. 88-89.

3/ Adler, H.A., Sector and Project Planning in Transportation. World Bank Staff Occasional Papers, No. 4 (1967), p. 60.

ever will the Bank receive more than one design for a specific project to consider, and furthermore one project is not compared with other projects as explicitly stated by Adler (see footnote 3/, p. 57). The decision is an accept/reject decision. However, the use of the IRR will certainly not relieve the Bank from the difficulty to determine the marginal productivity of capital, if this is the appropriate rate to compare with which can be disputed, and such shortcomings of the IRR as the possibility of no unique solution.1/

Contrary to the case for the Bank one would expect to find many occasions of incompatibility in the project selection process in a public administration. In such cases involving ranking the IRR often fails as a criterion, unless difference investments (with an increased likelihood for non-unique solutions) are studied.

III.8 UNCERTAINTY

Several authors claim, that a decision-maker in a public administration can take a different view on uncertainty (here used synonymously with risk) when considering investment options than can his colleague in a private firm.2/ The argument goes somewhat as follows.

A Government contrary to most private companies undertakes a large number of independent projects. Each project is small compared to the total Government activity, and the impact from a failure or a success tends to be limited. Furthermore failures and successes will tend to balance each other in the long run. As a result a Government can more or less ignore the variances and concentrate its interest

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1/ There is an extensive literature dealing with this issue. See e.g.
(i) Baumol, W.J., On the Social Rate of Discount. American Economic Review, Vol. LVIII (1968), pp. 788-802.
(ii) Henderson (1968), p. 103 et seq.
(iii) Pearce & Dasgupta (1972), p. 145 et seq.
(iv) Prest & Turvey (1965), pp. 697-700.

2/ See e.g.
(i) Pearce & Dasgupta (1972), p. 178.
(ii) Henderson (1968), p. 139.
(iii) Marglin, S.A., Public Investment Criteria. London 1967, p. 74.

to expected values of project outcome.[1/]

The same authors as propose this as a general rule normally offer one or two reservations. The first refers to the size of the project. If the impact of the project is not marginal but substantial, the decision-maker in the public administration or the politician is recommended to consider variances as well. More vaguely and less often the same reservation is given, if a certain region or group of the population is affected.

None of the above mentioned authors have explicitly argued, that decision-making and uncertainty has a political dimension in a Government, which is lacking in a private company. Demsetz[2/] argues, though, that to a politician considerations of project outcome including dispersions of expected values are often pertinent from a political point of view. Even if project impact is small from a national point of view, the outcry form those few hit by a failure may have considerable political significance. Therefore, it seems to be an oversimplification to suggest, that the decision-maker in the public administration of the policy can disregard the variances in project outcome. This argument is made with reference to developed democratic i-countries, and there may be conditions in a d-country like Kenya, which call for a modification. These will be discussed in the following paragraphs.

It was mentioned in section (III.4) above, that senior civil servants in Kenya are transferred quite frequently within the administration, and that they seldom remain at one post long enough to see much of the implementation of the projects on which they make decisions. The disengagement between the decision-maker and the project outcome is likely to reduce the uncertainty conceived by the decision-maker. The blame for a failure is less likely to be put on him.

1/ This is what used to be called pooling or risk. A more formal presentation would be, that if there are 'n' independent projects each assumed to yield an expected value 'x' with a variance 'v' and 1 shilling is invested in any of these projects, the expected return is 'x' with the variance 'v'. However, if 1/n shilling is invested in each of the projects, the expected yield is still 'x', but the variance is now 'v/n'. As 'n' increases the variance will diminish.

2/ Demsetz (1971), p. 169-70.
See also Turvey, R., in Kendall (1971), p. 6.

Ex post control of investments is a global problem.[1/] Effects are hard to identify and measure, and a separation of effects resulting from factors beyond the control of the decision-maker is often impossible. The administrative capacity at the executive level in public administrations in d-countries is often weak. Accounting and reporting systems are inadequate, and the resulting feedback is small, incomplete and at times useless.

The existence of an effective press, strong opposition parties, numerous organizations, free access to public documents for the general public and a widespread high level of education are efficient means to control Government activities, and they are to a lesser extent at hand in most d-countries than in democratic i-countries.[2/]

The reduced ex post control of public investments in d-countries, that one can expect from the above mentioned reasons, will further decrease the likelihood that either failures or successes will be ascribed to certain decision-makers, and this will reduce risk aversion.

To sum up it seems as if there are a number of reasons to believe, that the senior decision-maker in the public administration in a country like Kenya is less risk adverse than his colleague in a developed country. The implication of this hypothesis on the aspects of the selection process focused at may then be:

Fewer alternatives will be considered since the decision-maker will be less concerned with the possibility, that a better alternative is foregone. Furthermore vertical maturation will be carried less far than otherwise.

Simplified techniques will be used, when uncertainty is not taken into account. In the extreme case no provision for uncertainty is made in the process. An increased risk aversion leads to explicit consideration of uncertainty and the application of more advanced techniques.

1/ Honko, J., Planering och kontroll av investeringar. Falköping 1971, chapter 9.

2/ This statement is not intended to imply that d-countries generally are not democratic but is a distinction between totalitarian and democratic i-countries.

CHAPTER IV
THE RESEARCH QUESTIONS FURTHER SPECIFIED

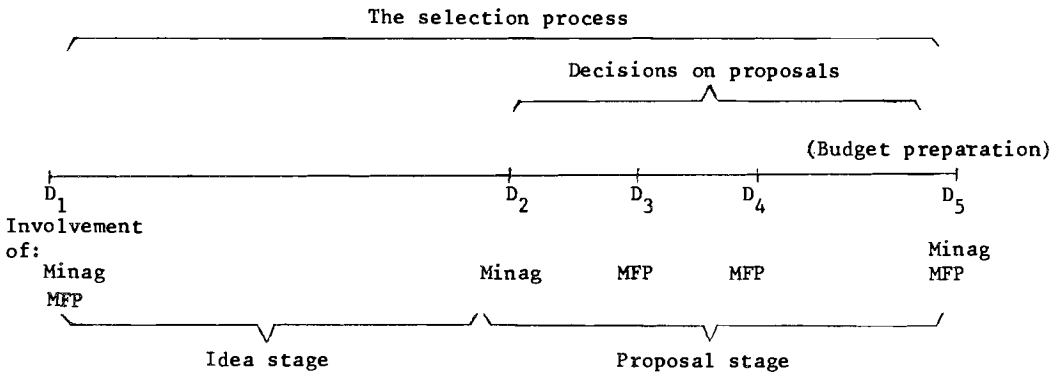
IV.1 INTRODUCTION

In section (II.9) in chapter II the scope of this study in relation to the objectives set out in the opening chapter was narrowed down to primarily two aspects of the project selection process:

(1) alternatives considered at different decision points
(2) techniques used in the selection process

The research questions (RQ-s) formulated in this section were chosen to provide the information needed to achieve the objectives of the study. In the presentation of the RQ-s in this chapter the reader may object to the limited explicit reference to the discussions in the preceding chapters. The large number of RQ-s made an extensive discussion of what role a particular RQ was expected to play to meet the objectives inconceivable. This information is hopefully provided in chapter IX, where the major findings are presented.

The study of the aspects of the selection process mentioned above could only be made with reference to a particular organizational context in which a finite number of specific decision points were identified as described in section (II.8). For recollection these decision points are shown once more in the figure below.



The presentation in the subsequent sections is organized so that first are 'alternatives considered' discussed starting with decision point D_1 going to D_5, and then 'techniques used' are covered in the same order.

IV.2 ALTERNATIVES CONSIDERED

IV.2.1 The Choice of Problem to be Attended

Projects are found at different levels of maturation at the idea stage. Only some of these are actively considered in the sense, that the maturation is carried forward in order to arrive at project proposals. The majority of the project ideas, however, are pending and some will never be attended.

To trace the conception of a solution to a problem in time and space is likely to be extremely hard, and this was not attempted. Easier though is to identify where and when an initiation of maturation as an ongoing process leading to or likely to lead to a proposal took place. In certain cases the two might be the same with no time elapsing with the idea pending.

At a certain objective level various problems can be identified, and investment projects are one way in which problem resolution may be achieved. A specific research question related to the choice

of problem to be answered was how many problems at a certain objective level to be solved in the form of investment projects competing for planning and financial resources that were considered for pursuance in a maturation process at the same time as a certain problem.

RQ-4

This question presupposes the identification of objective levels in the Kenyan context. A study of the 1974-78 Development Plan suggested the following levels of objectives relevant for the selection of agricultural projects:

(1) National objectives
(2) Objectives for the agricultural sector
(3) Commodity objectives

The distinction between (1) and (2) is not particularly clear, however. National objectives indicate aims for the society at large and they refer to growth, education, employment, health, income distribution, regional balance, etc. Such objectives are repeated and the contribution to them (not all) from the agricultural sector stated as sectoral objectives. In addition there are some sectoral objectives which are more specifically 'agricultural' like the integration of subsistence farmers into the market economy.

In the following no attempt will be made to maintain any distinction between national and sectoral objectives, but only one level, which will be called the national objective level, will be recognized. Apparently there will be means-end relationships between objectives on that level, and the level should rather be seen as a cluster of objectives on a means-end ladder.

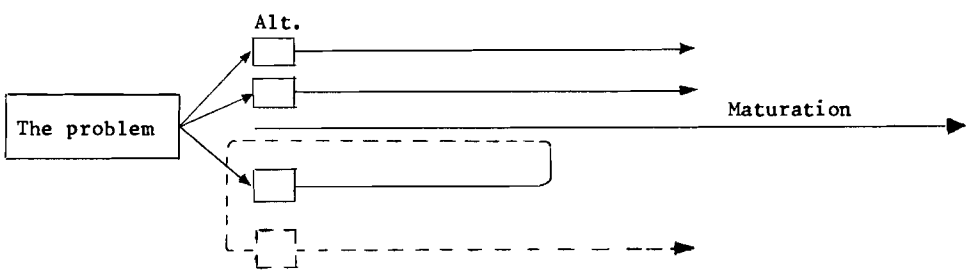
Commodity objectives refer to the numerous quantified targets for production of different agricultural commodities, but also to the volume of credit to be given, the number of extension officers for different purposes, the number of acres to be irrigated, the area of land to be ejudicated, the number of farmers to pass through training courses, the capacity of storage facilities, etc. Means-end relationships between objectives at this level are less prevalent, and in this sense is the level more homogeneous than the national objective level.

In addition to the need to establish the objective level focused at in problem identification in order to find the answer to RQ-4 it was noted in section (II.6.3) in chapter II, that a powerful means to simplification by restricting the number of alternatives is the direction of attention to lower levels of objectives. Hence, a RQ
RQ-2 was formulated to find out, which objective level that was focused at when problems were chosen among.

IV.2.2 The Initial Choices in Each Project Dimension

The initial choices in each project dimension give the project its basic characteristics, and this is further elaborated upon in section (IV.5). For each problem there are generally several ways in which solution can be attempted, and each 'way' is defined by a set of characteristics different from the sets defining other 'ways'. This is to say, that the decision-maker, at the stage, where the initial choices in the project dimensions are made, could specify and consider alternative sets, and that vertical maturation simultaneously could be initiated for two or more such incompatible sets aiming at resolution of one specific problem.

A research question was whether at the stage, where the initial choices in each project dimension were made, one or several alter-
RQ-5 natives to problem resolution were specified simultaneously, and another was whether such different alternatives were retained for
RQ-6 further maturation. If only one alternative was defined, simplification through omission was carried further than if several alternatives were retained. The single alternative might be reconsidered later on in the maturation process, resulting in a respecification or changes in the basic characteristics as shown in the figure
RQ-27 below, and this was considered yet another research question.



The early choices in the project dimensions can be made with more or less explicit reference to national objectives. For instance the target group can be chosen to fulfil specified income distribution objectives, and the technology to be applied can be chosen to reflect employment generation objectives. A research question
RQ-3 was then, whether such national objectives were explicitly referred to, when the project characteristics were determined.

IV.2.3 The Choice Between Proposals in the Minag (D_2)

The decision at (D_2) may involve two kinds of choices. Firstly, there is the choice between alternative designs of one and the same project. Secondly, there is the choice between different projects. The first of the two poses the research question, if alternative
RQ-7 designs of a project were considered at (D_2), when maturation is halted and the project turns from an idea to a proposal.

The second choice at (D_2) refers to the choice between different
RQ-8 projects, and a research question was whether different projects were simultaneously considered at (D_2) and a decision involving ranking made.

IV.2.4 The Choice Between Proposals in the Planning and the Treasury Departments in the MFP (D_3) and (D_4)

When a decision was made on a project in the Minag and assuming it was a positive decision the project was formally sent to the MFP, where it was considered by the Planning and the Treasury Departments.[1/]

Ex ante the field study it was assumed, that a project was first considered by the Planning Department (D_3), and a research question was formulated to explore, if that consideration was made on a case by
RQ-9 case basis, implying accept/reject decisions or not.

1/ This is the procedure for projects for which donor financing is sought, and these were known to be in majority. The discussion is in the following confined to these projects.

Eventually more than one design of each project might be submitted
RQ-10 to the MFP by the Minag, and this would be clarified by the field study.

Possibly the Planning Department could have been given the authority
RQ-11 to bring the selection process to a premature end at (D_3) by rejecting a project proposal, and this again was to be clarified.

Project proposals were expected to be submitted from the Minag to the MFP irregularly throughout the year, and the MFP was expected to forward them to donors after due consideration. A decision on the project proposals, therefore, had to be made prior to an annual budget exercise, and a research question was to clarify, if that
RQ-12 decision involved an explicit comparison with other projects, or if the decision was an accept/reject decision.

A difference in treatment between projects for which donors had indicated interest already during the maturation stage and those in which no donor interest had been indicated could eventually be expected. RQ-12 was formulated to cover the former case, and another
RQ-13 research question, RQ-13, was formulated to cover the latter.

IV.2.5 The Way Donors Were Approached and the Selection Process

In section (III.7.3) in chapter III, where the influence exerted by donors on the project selection process was discussed, it was mentioned, that recipient countries like Kenya in their contacts with donors often present projects, which are at a low level of matura-
RQ-1 tion. Since it was felt that this statement needed support from systematic observation it was rephrased to a research question.

Relying on previous experience two more research questions related to the way donors were approached were formulated.

Firstly, it may be asked if it was a conscious policy of the Minag
RQ-35 to approach donors at the maturation stage, attempting to rise their interest in financing certain projects. Secondly, it appeared

to be of considerable interest to clarify if those attempts were
RQ-14 successful, so that donor interest was indicated before the end of the maturation process.

IV.2.6 The Annual Budget Preparation (D_5)

The focus of interest is still the number of alternatives considered. In the previous section the question was raised, whether the decisions made before (D_5) were accept/reject decisions in which alternatives to the one focused at were ignored. Assuming that a Government has a budget constraint for a specified period, one would expect, that a comparison between activities is made to allow for other than random inclusion in the budget. Such comparisons can be made at several levels like e.g. allocation between different sectors of the economy and allocation between recurrent and development expenditure. It is already noted, that the interest in this study is confined to the allocation aspects in a certain sector, agriculture, and within that sector to that part of the agricultural budget that is called the development budget.

If there was a budget constraint, it appeared to go without discussion, that comparisons between projects were made at (D_5). It might have been the case, however, that projects for which external finance was
RQ-15 secured were given some kind of preference treatment, which may have gone that far, that such a project was not compared with other projects at (D_5). This possibility was to be explored.

In a number of cases projects may have been forwarded to donors, but no firm indication of donor commitment was at hand at the time for the preparation of a budget for a particular year. The Government may then have reacted by postponing a decision or by embarking on
RQ-16 the project using local funds in the expectation of forthcoming donor contribution, Which of these lines of action that was taken was to be explored by a specific research question.

IV.3 TECHNIQUES USED IN THE SELECTION PROCESS

In the discussion in chapter I-III the following main points were made on the issue of techniques used in the selection process.

(1) A number of characteristics of d-countries lead to the application of simplified techniques.

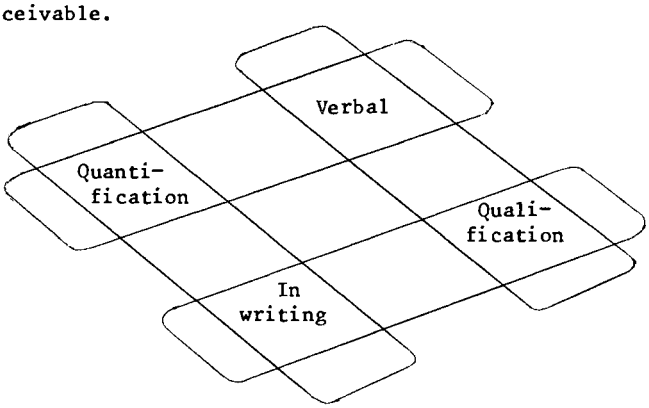
(2) Influence from donors like the IBRD demanding quite specific procedures for project appraisal calls for the application of more advanced techniques.

(3) In the normative project appraisal literature limited attention is paid to the issue of how to reduce the large number of potential alternatives to one or a few on which certain techniques can be applied.

A discussion of techniques used has to be referred to the different decision points in the selection process, and in this section the same points (D_1-D_5) are focused at as in the preceding section on alternatives. This discussion will be preceded by a distinction between four classes of techniques as presented in the next section.

IV.3.1 Classification of Techniques Used

It should be emphasized, that with techniques is in this study meant procedures repeatedly used to assess consequences of investment projects. In such an assessment consequences can either be quantified or they can be stated in qualitative terms, and the presentation can be either verbal or in writing. The following combinations are then conceivable.



These classes can be organized in order of sophistication, where one would expect to find the simplest techniques to assess project consequences in (1), verbal-qualification and the most sophisticated in class (4), in writing-quantification. Cost-benefit analysis, which is the technique generally proposed in the normative PAL, is obviously a technique in class (4).

IV.3.2 Techniques Applied Between (D_1) and (D_2) in the Maturation Process

One would expect, that techniques used in the maturation process for assessing project consequences differ at the early stage and at the late stage. At the early stage limited information is at hand and hence simpler and less data demanding techniques will be applied, whereas the increased maturation will permit the use of more data-demanding techniques. Obviously the information collection in the maturation process is likely to be decisively directed by the choice of technique to be used.

The exploration of techniques used between (D_1) and (D_2) would clarify what class of techniques that was predominantly applied,
RQ-17 when the choice of problem to focus at was made, and the choices of project characteristics were made. Previous experience indicated, that in the maturation process attempts were made to apply DCF methods, and the field study would reveal to what an extent that was the case.
RQ-20 The profitability criterium in use was also to be determined.

An important element in cost-benefit analysis is the use of shadow
RQ-34 prices, and a RQ was formulated to determine, if such prices were applied in the analyses.

In investment theory the consideration of uncertainty is given a prominent place and extensive efforts have been devoted to the development of means to take uncertainty into account in investment analysis. Uncertainty about the future state of the world and uncertainty in the estimates of parameters result in different payment
RQ-18 streams under different sets of assumptions, and one RQ was to clarify if multiple payment streams resulted from the analyses.

The application of project appraisal techniques may not require other than superficial knowledge to allow for a mechanical replication of a format presented to the analyst. The impression that this is all what is needed is often given the reader of cost-benefit literature aiming at the practitioner. He is relieved of all or at least most of the theoretical discussions either because such are omitted or by a suggestion to the reader, that he may by-pass the theoretical chapters and proceed to the discussion of implementation.[1/] Both approaches are questionable, and they imply an apparent risk, that techniques used without knowledge of the underlying theory and the assumptions that go along with it neither will result in a correct application nor a correct interpretation of the results of the analysis. One can for instance ask what income distribution considerations that are made in interpreting the result of a cost-benefit analysis (CBA) based on the potential Pareto-criterion, if it is not known, that that criterion is based on the assumption of a desirable income distribution before the investment.[2/] It is also difficult to foresee how a social rate of discount can be chosen without reference to the theories in that field.[3/] The exemplification could continue.

Similarly, it can be argued that familiarity with the treatment of uncertainty, definitions of profitability criteria and basic concepts in investment theory is a prerequisite to successful investment project appraisal. A research question aiming at a clari-
RQ-21 fication of the level of command in this respect among officers involved in the selection process seemed warranted.

Whether cost-benefit analysis (CBA) or some other approach to project appraisal is applied, it is essential that the same approach is chosen for different projects, if a meaningful

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1/ An example of the former is King (1967). The latter advise is given in e.g. Dasgupta, Sen & Marglin (1972), p. 5.

2/ See Pearce & Dasgupta (1972), p. 62.

3/ See e.g.
(i) Baumol (1959), pp. 788-802.
(ii) Henderson (1968), p. 103 et seq.
(iii) Pearce & Dasgupta (1972), p. 145 et seq.
(iv) Prest & Turvey (1965), pp. 697-700.

RQ-32 comparison will be possible.[1/] A research question was then, if there was such a technique prescribed to be used for project appraisal in the agricultural sector to ensure comparability.

For second phase projects the first phase is likely to be an important source of information. A RQ was designed to explore if
RQ-31 (ex post) evaluation of first phases were made, and if the results of such evaluations were used in the formulation of second phases.

IV.3.3 The Decision on Proposals at (D_2), (D_3) and (D_4) and Techniques Used

In section (IV.2.3) it was hypothesized, that the decision at (D_2) was an accept/reject decision. If this was the case, one would expect that there was some minimum level of the criterion preferred in the calculus of the economic desirability under which a proposal was not permitted to fall, i.e. a cutoff rate to be compared with an internal rate of return. Two related aspects were to be clarified.

Firstly, an attempt was to be made to determine if there existed
RQ-23 such a level and if so what it was. Secondly, it was to be deter-
RQ-22 mined what action that was taken with projects, that at the termination of the calculus proved to fall under the minimum. Was the project shelved, were major changes in its characteristics made, were estimated prices, volumes, scrap values, etc. reconsidered.

If the decision at (D_3) and (D_4) were accept/reject decisions as
RQ-23 well, an attempt would be made to clarify what minimum rates there were at these points for the criterion in use. Were the decisions ranking decisions, the same considerations as discussed in the next section would become relevant.

In determining the desirability of a particular project the decision-maker will consider other objectives than profitability. Attempts
RQ-24 were to be made to clarify what significance decision-makers attached to the profitability in their overall assessment of project desirability.

1/ This point is stressed in e.g. Little & Mirrlees (1968), pp. 98-99.

IV.3.4 The Budget Preparation and Techniques used (D_5)

One would generally assume, that projects are compared and somehow ranked during a budget preparation, if there is a budget constraint. In the capital budgeting literature situations of incompatibility is a major issue, particularly when the choice of criterion is discussed.

The intention was to explore to what an extent ranking of projects
RQ-25 was made on the basis of criteria to which the determination of payment streams is a prerequisite. Other techniques than those involving the determination of payment streams such as scoring systems
RQ-26 and check lists could be used at (D_5), and this possibility was to be clarified as well.

In addition, one RQ was formulated to get a general description of
RQ-30 the last annual budget preparation work, one which intended to
RQ-29 clarify in broad terms how the project list in the 1974-78 Development Plan was arrived at, and one which aimed at the treatment in
RQ-33 the budget process of projects for which donors had not made a firm commitment.

CHAPTER V
PLANNING AND PREPARATION OF THE FIELD STUDY IN KENYA

V.1 INTRODUCTION

The planning of the field study in Kenya was considerably facilitated by the experience and knowledge gained during the author's prior employment in the Minag in Kenya. Not only was the organizational structure known, but so were with some exceptions the position holders and their scope of responsibility. A plan of operation for the field study could therefore be worked out in considerable detail in advance, with a high degree of confidence that it would hold, and this by and large turned out to be the case.

The desk work preparations were followed by a short visit to Kenya in May, which made it possible to further refine the plan.[1/] Complementary information was collected about (1) the institutional setup with relevance for the project selection process, (2) the time table for the ongoing preparation of the 1974/75 development budget, (3) the conceived significance of the influence from different factors like size and source of finance on the selection process (see section V.3), (4) the project population from which the set was to be drawn, and not least important (5) about changes in staff, that would affect information accessibility.

Despite the considerable beforehand knowledge, it was considered advisable to develop contingency plans for the execution of the field study, which could be adopted if conditions proved to be different from what was assumed. These are discussed below in section (V.6).

1/ The time available for preparations of the coming study was limited, however, as the visit was a part of a consultancy for the Swedish International Development Authority, SIDA.

V.2 THE BASIC APPROACH TO INFORMATION COLLECTION

Swedner[1/] distinguishes between two principle methods for information collection. The first refers to contemporary observation or direct observation. The second approach is to relate observation to historical events, to find out what has happened. In the latter case information can either be documented or memorized.

Given the desire to follow specified projects throughout the entire selection process direct observation was out of question given the length of the process.[2/] The beforehand knowledge of the selection process and the context in which it took place indicated, that it would be necessary to rely primarily on officers rather than documents as the source of information. Hence, interviewing would be the principle technique used.

V.3 OPERATIONALIZATIONS

Ackoff[3/] distinguishes between 'conceptual' definitions and 'operational' definitions and explains the difference as follows:

> "In a sense, then, conceptual definitions tell the scientist what to think about in relation to a concept, and operational definitions tell him what to do about answering the questions involving the concepts." (Ackoff (1953), p. 142)

An elaboration of conceptual definitions to operational definitions meant in this study a transformation of the RQ-s into interview questions, to permit observation and measurement.

Such a transformation is a difficult one in most research endeavours, and it is always an important one. It is difficult not only because of the inherent difficulties in all attempts to make definitions, but also because it will face the researcher with the problems of

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1/ Swedner, H., Sociologisk metod. Lund 1969, p. 110.

2/ Albeit not disciplined by a scientific structure the author functioned as a participant observer during the two years of employment.

3/ Ackoff, R.L., Scientific Method. London 1953, p. 142.

validity, reliability and precision in measurement.[1/2/] The process of making operationalizations is important as a failure will limit the possibilities to relate the observations to the conceptual level of analysis, or worse, if one is not aware of a failure, make that analysis fruitless or false.

The operationalizations of the RQ-s and the problems of validity, reliability and precision are not further discussed here, but they are presented in appendix (2). The reader may not find an explicit discussion for all RQ-s. Since the problems varied considerably between RQ-s, only those for which they were particularly pronounced are discussed.

V.4 IDENTIFICATION OF RESPONDENTS

The generation of the RQ-s was made on the assumption of a set of identifiable decision points (D_1 to D_5), which would appear in an organizational context, where individuals involved in decision-making could be identified. Since the organizational structure and the position-holders were largely known, it was possible to tentatively suggest ex ante, which officers in the two ministries (Ministry of Agriculture and Ministry of Finance and Planning), that should be interviewed on the various RQ-s.

As a general rule it was attempted to identify at least two respondents for each question asked to increase the validity of the observations. In some cases it was justified to ask the same question to several respondents due to their involvement in the process, and for some RQ-s, again, it was impossible to ask more than one single person for the same reason. As described below in section (VIII.5) in chapter VIII, the ambitions of the general rule had to be relaxed in some cases, and the consequences thereof will be noted.

1/ For an elaborate discussion of problems of definitions see Kaplan, A., The Conduct of Enquiry. Scranton 1964, pp. and Ackoff (1953), pp. 55-64.

2/ With precision in measurement is meant the capacity of a measure to discriminate between different levels of the property of the object studied. See Canell, F.C. & Kahn, R.L., in Lindzey, G. & Aronson, E. (eds.), The Handbook of Social Psychology. London 1968, pp. 532-33.

V.5 INDIVIDUAL PLANS OF INTERVIEWS

The beforehand knowledge of the process and the organizational structure made it possible to design individual plans of interviews in advance. For each respondent the RQ-s to be asked were listed and grouped on the basis of the following considerations[1/]:

(1) The questions should follow in a way that seemed logical for the respondent, where one topic covered in a natural way would lead over to the next topic. In order to achieve this, the questions were ordered from D_1 to D_5 where possible so that the maturation process would provide the logical sequence.

(2) Questions were grouped according to topic. E.g. questions on alternatives and techniques at D_2 were taken together.

(3) Precedence conditions were at hand for a few questions, and this was taken into account.

(4) Where applicable open questions preceded closed questions.

(5) RQ-21 was ego-threatening and was therefore listed as the last question in the interviews where it appeared.

V.6 A PROJECT OR A NON-PROJECT SPECIFIC APPROACH

The focus of attention in this study is the project selection process, and there seemed to be two ways in which it could be observed. Firstly, the RQ-s could be explored by carrying out interviews in a general way in the sense, that the questions asked were not referring to specific projects. The advantages with such an approach were obvious as were the disadvantages. The risk that concerned persons involved in the selection process for certain projects would not be available would be eliminated. Furthermore the time savings would be substantial, which could appear tempting, if time and other resources were limited.

The most notable disadvantages were, that information would be lost, and that the validity of the observations might be reduced. As is

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1/ As proposed by Canell & Kahn (1968), pp. 570-71.

discussed below in section (V.8) one could eventually expect differences in the selection process depending upon differences in project characteristics. The possibility to make observations on such differences would have been lost. More serious was the expected reduction in validity in the observations, as the respondents might have described how things should be rather than the way they were, and an interviewer is generally in an unfavorable position to ask probe questions, that indicate the validity of the replies given. In this study the risk in that respect was less pronounced due to the author's familiarity with the respondents and the process under observation. Yet it seemed indisputable that the specific rather than the general approach was preferable, and it was eventually decided, that a set of projects should be identified, and that the observations should be made with reference to this set.

Even if the project specific approach was deemed preferable, it was clear that not all RQ-s would call for that approach, and that the disadvantages with a non-project specific approach varied considerably between RQ-s.

In the next sections the approach chosen to determine the project set is described.

V.7 ON-GOING PROJECTS EXCLUDED

The reason to exclude on-going projects was, that at D_5, in the annual budget exercise, these projects could be expected to be treated different from activities to be started.[1/] The decision to undertake a new activity implies generally a budget commitment over several years. Once an activity is started, the annual budget exercise becomes merely a confirmation of a decision already taken, unless poor performance calls for a reconsideration of that decision. As the interest in this study is the commitment of resources rather than the confirmation of such a commitment made in the past, it was decided to exclude ongoing projects from those that could be included in the set.

1/ This statement is supported by observations made by Wildawsky in his study of Government Budgeting in the US. Wildawsky, A., The Politics of the Budgeting Process. Boston 1964, p. 13.

V.8 DIFFERENCES IN TREATMENT OF PROJECTS IN THE PROCESS DUE TO DIFFERENCES IN PROJECT CHARACTERISTICS

The underlying hypothesis for most of the RQ-s was that there were common characteristics in the project selection process for all kinds of projects. Although this hypothesis seemed better founded than its counterhypothesis, the possibility could not be excluded, that the empirical study would reveal differences in the processes for individual projects - differences that eventually could depend upon differences in project characteristics.

It was fairly easy to suggest a number of factors that might have affected the aspects of the selection process focused at. The following list could no doubt have been extended, particularly if numerous odd cases with unusual deviations from the 'normal' had been taken into account:

(1) The size of the project
(2) The degree of uncertainty involved
(3) The way the project is financed (domestic or donor financing)
(4) If the project is a second phase project or a new project
(5) Who supported the project
(6) External influence
(7) Political appeal

Based on experience three factors - size, domestic or donor financing, and whether the project is new or second phase - were selected as those which, given their frequency, would be more interesting to explore than the others. Admittedly other factors, like external influence and the firm hand of an outstanding politician may in a more radical way affect the selection process for a project, but the frequency was considered too low to justify the choice of these factors as long as the intention was to describe something which was claimed to be 'normal' or 'general'.

The above list of factors was presented to senior officers in the Ministry of Agriculture, and the Ministry of Finance and Planning during the above mentioned visit to Kenya prior to the field study.

These interviews supported the idea to choose the three factors mentioned, although it was clear that also other factors might be important from case to case.

The way in which these factors possibly could affect the aspects of the selection process focused at in this study will now be discussed.

V.8.1 Size

A large project means by definition the commitment of more resources than for a small project. For the risk-adverse decision-maker the significance of a success or perhaps more important of a failure is higher for a large project. One would therefore expect, that the maturation for such projects was marked by a higher degree of thoroughness than the process for a small project. With reference to the aspects of the process focused at the following hypotheses were formulated:

(1) The number of alternatives considered at different stages in the maturation process is higher for large projects than for small projects.

(2) More advanced techniques are used in the maturation process for large projects than for small projects.

V.8.2 Domestic or Donor Financing

Donor influence on the project selection process is discussed more in detail in chapter III and chapter IX. Two points will be made here. The donor does not look for a set of alternatives to choose between, but he is satisfied with one. The donors favor the use of rather advanced techniques for project appraisal. One would then expect, that fewer alternatives were considered for donor financed projects, and that more advanced techniques were applied than for domestically financed projects.[1/]

1/ It should perhaps be made explicit, that the concept 'donor financed' does not mean, that the project is 100% financed by a donor. In the normal case it is a matter of joint financing with the d-country.

V.8.3 Second Phase Projects or New Projects

With a second phase project is understood an extension or repetition of a project, where output expectations remain the same. A financial commitment for an extended period of time, rather than a budget year, is involved. A second phase project differs from a first phase project in the way, that a substantial amount of information is at hand from the previous phase(s). Furthermore, there is an institutional and an organizational frame within which the first phase was implemented. These differences may affect the maturation process so that fewer alternatives are considered, since a number of factors are taken as given.

Whether the techniques used will be less advanced is more disputable, however. For donor financed projects this is probably not the case, since donors have not indicated that any other form of analysis should be applied to a second phase project.

The hypotheses about the effects on the selection process from the fact that a project is a first phase or a second phase project were formulated as follows:

(1) The number of alternatives considered at different stages in the maturation process is less for second phase projects than for first phase projects.

(2) There is no difference in the techniques used in the maturation process for first and second phase projects if they are donor financed.

It can be noted already, that the difficulties to draw conclusions with reference to these hypotheses are considerable. First of all there are several variables left out, the influence of which is not controlled for. In addition, influence from the three variables singled out for exploration could appear in different combinations, and a considerable number of projects, grouped according to variables with a low intragroup variance and a high intergroup variance, would be required to establish (causal) relationships.

V.8.4 The Significance of the Hypotheses for the Project Set

It should be noted, that the ambition with the field study was to describe certain aspects of the project selection process as they appeared in a certain d-country.[1/] The selection of projects for observation would be taken as a sample from a defined project population to achieve a description of the 'typical process'. Such a sample was expected to contain large, small, new projects, etc., and note should be taken of these characteristics to explore the hypotheses generated under sections (V.8.1-V.8.3).

V.9 THE NUMBER OF PROJECTS IN THE SET

It was felt, that the number of projects in the set had to exceed a minimum level to permit any conclusion about the process. The sample size had to be related to the population of projects, which at the time was unknown, and it had to be manageable in size not to exceed certain constraints. The willingness of respondents to spend the time needed for interviews could be expected to be equally important as other more ego-related constraints.

On the assumption that the number of projects studied would cover about half of the projects submitted by Minag to MFP during a year, and based on an estimation of the time required for information collection, it was decided that some fifteen projects should be included in the set. Admittedly, this was a somewhat arbitrary figure, which however seemed more reasonable when the size of the project population later was determined. (See section VIII.2 in chapter VIII.)

V.10 THE TIME SPAN FOR INFORMATION RECOLLECTION

The maturation process from D_1 to D_5 for an individual project may take anything from 1-3 years. To increase the accessibility to information it seemed advisable to choose projects for the set among

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1/ At that stage a study in only one country was foreseen, although the desirability of comparative studies in other countires was appreciated. Arrangements for the studies that eventually were made in Zambia and Tanzania were settled later.

those that passed through the most recent budget exercise. This turned out to be the one for 1974/75, which at the time the field study was to be made, was in an advanced stage.

It was accordingly decided, that the project set was to be selected from the projects involved in the 1974/75 development budget preparation. More specifically they were to be chosen from the draft estimates prepared by the Minag, Eligible for inclusion in the set would also be projects that had been excluded by the Minag from the draft.

In case the number of projects would not reach nearby fifteen by this approach, projects were to be selected from the corresponding population for 1973/74.

V.11 CONTINGENCY PLANS

Although the risk for surprises, which could jeopardize the study, was considered rather low, attempts were made at the planning stage to identify in which aspects the study was most vulnerable and to determine in which areas least was known and where surprises might appear. As a result, a set of alternative lines of action was predetermined on the assumption of different states of the world.

V.11.1 Information Accessibility

Since most information was to be obtained through interviews, information accessibility in this study meant nothing but accessibility to relevant officers. The turnover of staff, not least among expatriates, had been considerable during the past few years, and accordingly some persons of interest could have left.

Information about D_1 goes as far back as 1-3 years, and accordingly it seemed unavoidable, that some officers involved at D_1 with certain projects would not be available. One alternative, which became the one eventually chosen, seemed to be to select the project set according to the plan described above, and if this would result in non-accessibility to information, the set would be changed to secure that officers with the information required would be available.

Another alternative considered was to use more than one project set and select projects to cover D_1 among projects under preparation at the time of the study. This alternative was rejected, since the number of projects identified this way was expected to become unacceptably low.

V.11.2 The Time Constraint

The approach with a set of projects to which the observations were to be tied was expected to be demanding on the time the respondents would have to offer the interviewer. This would particularly be the case with the more senior officers like the Permanent Secretary, the Director of Agriculture, and the Deputy Secretary/Development, who could be expected to have been involved with all projects whichever chosen. Therefore it seemed advisable, that ways to reduce the time required for interviews with these officers were looked for. The following options to achieve this reduction were explored:

(1) A reduced number of RQ-s
(2) A reduced number of respondents per RQ
(3) A change to more non-project specific questions
(4) A reduced number of projects in the set

To assess the consequences of (1-3) above, the RQ-s were listed with information about (a) who the identified respondents were, (b) the estimated time required to gather the information, and (c) an indication on which RQ-s that eventually could be restated in a non-project specific way according to a three scored scale.

From the resulting table it was clear, that the questions covering D_1 to D_2 were the most demanding in terms of resources required for information collection. At the same time these questions were hard to delete, given the significance that was attached to the early phase of the maturation process in chapters I, II and III. Only a small reduction in time would have been gained by deleting any of the other RQ-s, which concerned the senior officers.

In a number of cases it was possible to indicate, that the information eventually could be obtained from less senior officers, which would allow a reduction in the number of RQ-s to be presented to the officers of the highest rank. In addition, it was decided to attempt to make the interviews with officers of lower rank first, to see to what an extent the information looked for could be obtained at that level. This did not prove to be a very powerful approach, since the questions to be asked to the senior officers with difficulty could be shifted to other officers.

A reduction in the number of projects in the set would have had to be very substantial to permit a project by project approach with the most senior officers. This seemed to be an unacceptable sacrifice, and the alternative was deleted.

The formulation of non-project specific questions seemed to be the remaining alternative. The following compromise was preferred, however. The RQ-s to be presented to the most senior officers, that were not non-project specific already, were reformulated. When the question was to be asked a list of the projects in the set would be presented and the respondents requested to indicate, if the replies given were valid also for the projects on the list, or if any modification was warranted for any of the projects. Although this was an attempt to maintain the project specific approach, it is doubtful if this was achieved later on.

V.12 RECORDING AND PROTOCOLS

The idea at the planning stage was to use a tape recorder during the interviews, and to prepare two kinds of protocols. The first would merely be a typed version of the tapes in extenso, and the second would be a summarized version for which protocol forms were prepared.[1/]

1/ Different recording techniques are discussed by e.g. Swedner (1969), pp. 214-216.

CHAPTER VI
THE COMPLEMENTARY STUDIES IN ZAMBIA AND TANZANIA

VI.1 THE PURPOSE

A study of the selection process in Kenya alone would have left the pertinent question of a possibly more general validity of the findings unanswered. Numerous differences between Kenya and other countries could be identified to suggest, that the process might look quite different in those countries. Hence, it was felt that the significance of the study would be increased considerably if comparative studies were added to the main study in Kenya. These studies could eventually be made in August 1974.

VI.2 THE CHOICE OF COUNTRIES

The choice of countries for the comparative studies was largely determined by the conceived interest of the would-be financier, the Swedish International Development Authority, SIDA. Of the major recipient countries for Swedish assistance Zambia and Tanzania were chosen as proposed targets for the studies. It seemed desirable to include Tanzania as this country differed from Kenya in its economic and political structure, which possibly could have affected the process under observation. Zambia appeared to be of interest, given its limited dependence upon donor financing.

The restriction to two countries was an adjustment to the foreseen resource constraint for the studies.

VI.3 THE CHOICE OF RQ-S

By necessity the studies in Zambia and Tanzania had to be less comprehensive than the one in Kenya. In section (V.7) in chapter V different ways to limit the (Kenyan) study were discussed, and among those mentioned two were applied to the complementary studies. Firstly, the number of RQ-s was reduced by nine, as will be discussed in this section. Secondly, a limited number of projects was identified for observation in a way that is described in section (VI.4) below.

As the aim of the studies was to verify (or falsify) the hypothesis, that the project selection process in Zambia and Tanzania, despite institutional and other differences, yet had the same basic characteristics as the one in Kenya, it was necessary to include such RQ-s, and sufficiently many of them, to be able to describe the process. It was also necessary to take into account, that some RQ-s were far more time consuming to explore than others, and that several were not very demanding in this respect.

Of the RQ-s covering D_1-D_2 three were omitted, namely RQ-6, RQ-17, and RQ-27. These RQ-s required a project specific approach, and they were among the most time consuming ones. The omission of RQ-6 and RQ-27 was a sacrifice made to reduce the workload. RQ-17 was less of a sacrifice, as the information this RQ gave in Kenya about the process in retrospect was not considered too enlightening. This is further discussed in the analysis of that RQ.

In the plan for the comparative studies RQ-13 was also to be deleted, provided that it was confirmed, that for most donor financed projects a donor was already lined up prior to D_2, as was the case in Kenya. RQ-13, which concerned the case when no donor was identified prior to D_4, would then be of limited interest.

RQ-23 and RQ-24 were deleted, as the basic characteristics of the selection process could be described without that information.

RQ-21 had caused some difficulties in Kenya due to its ego-threatening nature. These difficulties could be expected to in-

crease in Zambia and Tanzania, where no personal relations would exist prior to the interviews to provide a basis for confidence, which would make the respondents willing to answer. To avoid the risk of a reduced willingness to cooperate among the respondents the RQ was omitted.

RQ-31 was considered to be of limited interest, as the intention was to describe the basic characteristics of the process, and it was accordingly omitted.

That so many RQ-s still were retained is explained by the fact, that the gain in reduced workload was not sufficient to justify a cut-out, even of the less significant RQ-s.

VI.4 IDENTIFICATION OF PROJECTS

It was obvious from the onset, that no project set like the one in Kenya could be used, as this approach would have been too demanding. An attempt to maintain a project specific approach was still made, although the projects for observation were drastically reduced in number. The intention was to identify two projects, which involved donor financing, in each country. The intentions could only be followed partly. In Zambia three projects were explored, out of which two were identified by the respondents, and only one was donor financed. In Tanzania the limited access to planning officers resulted in only one project being observed, which was identified by the author. That project was donor financed.

The selection of projects by the respondents in Zambia could have introduced a bias. They might have chosen projects which had been very little controversial, the maturation of which had been

connected with some reward or other pleasant experience to the respondent, etc. The spontaneously reported reason for the choice made was in both cases a high degree of access to information. The eventuality of a bias, therefore, did not appear to be too serious.

The characteristics of the projects are given in appendix (3).

VI.5 PROJECT SPECIFIC AND GENERAL FORMULATIONS OF INTERVIEW QUESTIONS

The RQ-s that were explored with reference to the specific projects identified all belonged to the idea stage of the process (D_1-D_2), whereas (D_3-D_5) were covered by general formulations of the RQ-s.

For a number of RQ-s at (D_1-D_2) the general formulation was asked as well, either to the respondents who first got the specific question, or to other respondents who had experience from project formulation. This method was also used in Kenya, but it became more important in Zambia and in Tanzania, as the number of specific projects observed was so low, and it was also used more frequently.

VI.6 INDIVIDUAL PLANS OF INTERVIEWS

Individual plans of interviews were worked out as the institutional framework for the selection process was clarified, and the scope of responsibility of the position-holders involved was determined. In both countries this clarification was sought by interviews with officers who, given their position and the duration of their experience, were thought to possess the relevant information.[1/]

Occasionally, changes in the individual plans had to be made during interviews, when the involvement of a certain officer in the selection process was more precisely defined.

1/ In Zambia explorative interviews were held with the Undersecretary/Planning in the Ministry for Rural Development and the UN Team Leader in the Development Planning Division in the Ministry of Planning and Finance. In Tanzania an advisor to the Treasury was interviewed for the same purpose.

VI.7 RECORDING AND PROTOCOLS

The same technique with note-taking was used in Zambia and Tanzania as in Kenya. Protocols were written out with some delay, compared with what was the case in Kenya, where office accomodation in the Minag made an immediate typescript possible.

CHAPTER VII

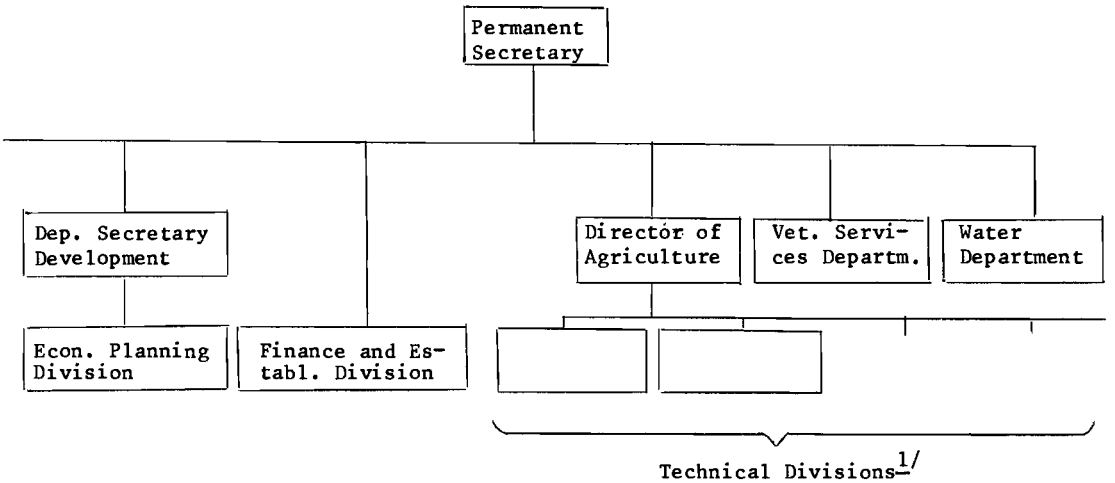
THE INSTITUTIONAL FRAMEWORK FOR THE PROJECT SELECTION PROCESS AND THE DECISION POINTS (D_1- D_5)

VII.1 KENYA

In chapter II a set of decision points (D_1-D_5) were identified on the basis of a preconceived idea of the institutional context and the procedures followed in the selection process. One of the first steps in the field study, as discussed in chapter VIII, was to verify this precedural aspect of the selection process, and to clarify which organizational units that were involved at the different stages. In this chapter a brief description of the organizational structure of the planning machinery in the three countries is given together with an identification of the decision points.

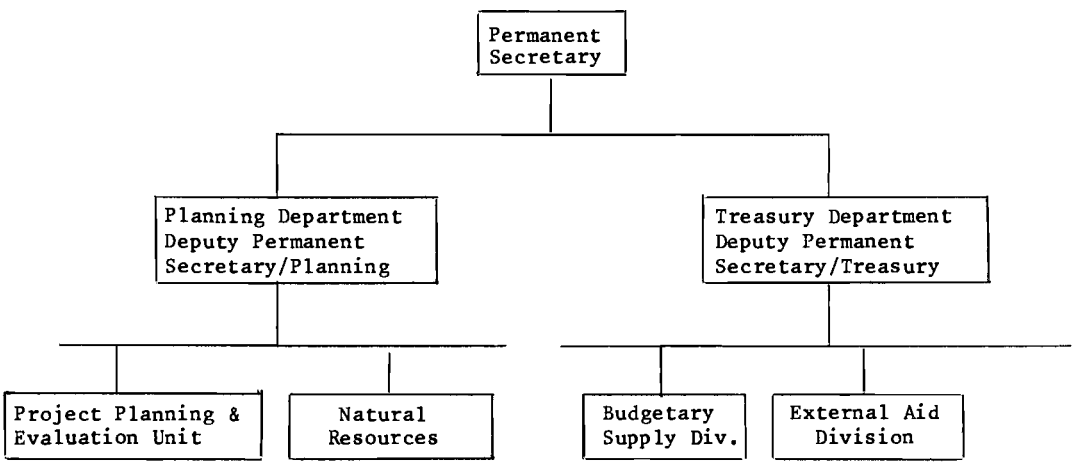
VII.1.1 The Organizational Units Involved in the Selection Process

The presentation of the organizations of the Minag and the MFP is limited to what is relevant for the study of the selection process. In the Minag the following organizational units were involved.



It could be argued, that occasionally other units were involved, but the frequency did not seem to warrant any extension of the above chart.

The relevant units in the MFP are shown on the chart below.



1/ The technical divisions under the Director of Agriculture were: Research, Crop Production, Land and Farm Management, Training, Animal Production, Range Management and Livestock Marketing.

This chart is a reconstruction, since no such chart could be traced, and the following reservation should be made.

The level at which the units specified in the Planning Department are placed relative each other and relative the units in the Treasury Department is questionable. Different nomenclatures for senior positions, save the heads of the departments, were used, which made a comparison difficult. The levels are not important in this study, however.

In the section for 'Natural Resources' in the Planning Department planning officers concerned with agriculture were found. The Budgetary Supply Division was divided into sections, among which one was in charge of the Ministry of Agriculture, the Ministry of Lands and Settlement, and the Ministry of Cooperatives.

VII.1.2 Procedures and the Decision Points

From the onset it can be noted, that apart from what was laid down for the annual budget exercise, there were no formal procedures for the selection process, which were followed.

With few exceptions the responsibility for the maturation process was given to the Minag, although officers from the Planning Department of the MFP at times, and to a verying degree, participated in that process.

In the Minag project maturation was largely the responsibility of the Economic Planning Division (EPD) in cooperation with technical divisions and parastatal agencies like the Kenya Tea Development Authority (KTDA), the Agricultural Development Corporation (ADC), and the Maize and Produce Board (MPB). It can be noted, that the maturation of water projects to a very limited extent involved the EPD, as the Water Department had its own planning capacity.

The normal case was, as reflected in the maturation of the projects in the set, that the EPD in cooperation with one or several other

organizational units pursued the maturation of a project. A project, which reached the proposal stage, was considered by senior officers in the Minag before it was submitted to the MFP. In other words, D_2 was confirmed, and at D_2 the Permanent Secretary, the Director of Agriculture, and the Deputy Secretary were involved, although not in any formalized way.

There was no laid down procedure that was followed in the MFP for how projects submitted from the Minag were to be handled. Prior to the field study it was suggested, that the Planning Department considered the projects before they were sent to the Treasury Department, and that decision point was called D_3. In the discussion of the findings on RQ-11 in chapter X, it is noted that not all projects passed the Planning Department, which means that D_3 did not exist in those cases. Furthermore, the significance of D_3 as a decision point is questioned. To the extent the Planning Department was involved and there was a decision point at D_3, the Project Planning and Evaluation Unit and the planning officers in the section for natural resources dealing with agriculture were involved.

Prior to the field study D_4 was conceived as the decision point, at which the Treasury Department was first confronted with a project. For donor financed projects to be submitted to a donor decisions of an accept/reject nature and decisions on to which donor the projects would be submitted were expected. This also turned out to be the case. The official contacts with the donors were taken by the External Aid Division, to which D_4 could be tied. It was clarified, that no other division like e.g. the Budgetary Supply Division of the Treasury Department was involved at D_4, and that the involvement of the Planning Department was confined to what is described above about D_3.

A distinction could eventually be made at D_5 between the exercise carried out in the Minag, ending with the Draft Estimates and the budget exercise in the MFP. The involvement in the budget preparation in the Minag embraced the Vetenary and Water Departments, the technical divisions, the Finance and Establishment Division, and the Economic Planning Division.

MFP involvement at D_5, in connection with the preparation of the agricultural budget, embraced the Budgetary Supply Division, the external Aid Division (both in the Treasury Department) and the section for Natural Resources in the Planning Department. The involvement of the different organizational units at the different decision points is summarized below.

Involvement of the Ministry of Agriculture 1/		Involvement of the MFP
The Permanent Secretary The Director of Agriculture The Deputy Secretary/ Development Technical Divisions Water Department Vetenary Department Economic Planning Division	Project maturation up to D_2	(Planning officers from the Planning Department) 2/
The Permanent Secretary The Director of Agriculture The Deputy Secretary/ Development	Project proposals - decisions at D_2	
	Submission of proposals to MFP. Decisions at D_3 and D_4	External Aid Division Project Evaluation Unit Natural Resource Section
Finance Division Technical Divisions Water Department Vetenary Department Economic Planning Division	Annual budget preparation - decisions at D_5	The Budgetary Supply Division The External Aid Division Natural Resources Section The Permanent Secretary The Deputy Permanent Secretary/Treasury

It can be noted, that the preconceived organizational framework for the selection process and the resulting set of five decision points with minor modifications was confirmed by the study.

1/ For water and vetenary projects the directors for these departments should be added to those involved at D_2. The summary above should be seen as presentation of the involvement in 'normal cases'. Occasionally for a project other combinations occurred.

2/ The brackets are to indicate, that the involvement was not regular and that it varied considerably from case to case.

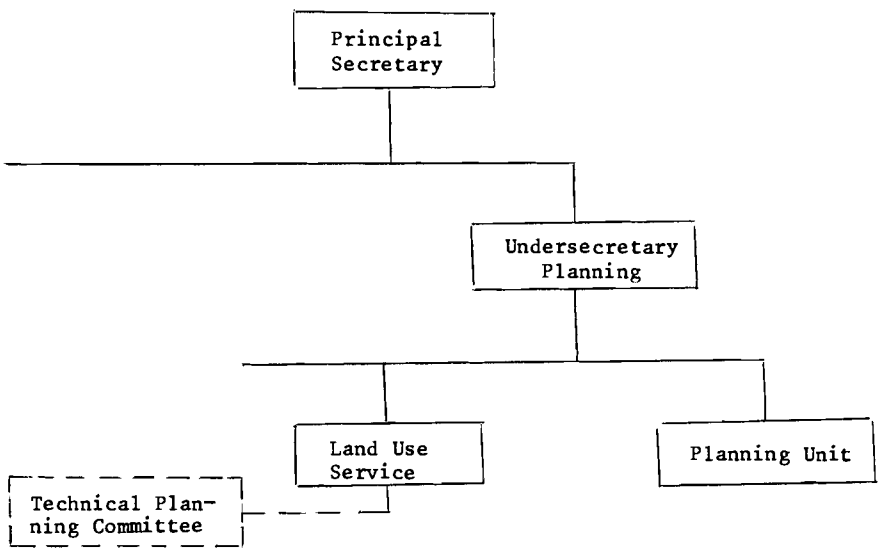
VII.2 ZAMBIA

VII.2.1 Organizational Units Involved in the Selection Process

Also in Zambia the interest was limited to two ministries - Ministry of Rural Development (MRD) and the Ministry of Planning and Economic Affairs (MPEA). In January 1974 the latter was formed through a merger of the Ministry of Development Planning and National Guidance and the Treasury.

In the MRD the planning function was headed by an Undersecretary, and planning was performed by two organizational units - the Planning Unit and the Land Use Service. The former was reported to have more of policy planning tasks, and yet another difference was, that the Land Use Service was primarily in charge of the maturation of (smaller) regionally based projects, whereas the Planning Unit formulated larger projects with a wider coverage, by the respondents called national projects. The Land Use Service was furthermore the headquarter unit of a planning organization at regional level. The Planning Unit had no such corresponding regional setup.

The organizational structure in the MRD appears in this simple chart.[1/]



1/ The Ministry was in the process of reorganization at the time for the study. The above structure was the one officially in existence, however.

In addition, the various departments in the MRD and the parastatals in the agricultural sector were involved in the selection process.

A notable role in the selection process as described below was played by the Technical Planning Committee under the chairmanship of the Head of Land Use Serivce. Members in the committee were Heads of Departments and representatives from the Planning Unit. The committee could call in other officers to its meetings.

VII.2.2 Procedures and Decision Points

The study was confined to the process in the central planning machinery, which means that no attempt was made to explore the selection process, as it appeared neither in the significant parastatal sector, nor at regional level.

In addition to D_1 and D_2, as observed in Kenya, a decision point prior to D_2 was noted in Zambia. Almost all projects according to the respondents were presented to the above mentioned Technical Planning Committee. This committee scrutinized project proposals from a technical point of view, as that concept is usually thought of to distinguish between technical and economic considerations. Hardly any economic analysis of projects was made by the committe, which primarily appeared to depend upon the specialities represented by its members. The decision point tied to the committee was denoted (D_{2A}).

The Technical Planning Committee advised the Principal Secretary on the project proposals, and he then decided upon them (D_{2B}).

It should be noted, that Zambia was distinctly different from Kenya and Tanzania in that only a minority of the projects in the budget involved donor financing.[1/] Most projects were therefore not forwarded to the MPEA after that a decision was taken at D_{2B}, but were

1/ In the 1974 development budget external financing contributed with some 15% of the total amount. (Figures given by the planning officer in charge of budget preparation in the Planning Unit, Ministry of Rural Development.)

kept pending the next budgeting opportunity. The chain of decision points for these projects was[1/]:

$$D_1 \longrightarrow D_{2A} \longrightarrow D_{2B} \longrightarrow D_5$$

Projects which involved donor financing were submitted to the Development Planning Division (DPD) in the MPEA and subsequently forwarded to donors. In these cases the distinction between a D_3 and D_4 seemed even more artificial than in Kenya, and the chain of decision points for donor financed projects was concluded to be:

$$D_1 \longrightarrow D_{2A} \longrightarrow D_{2B} \longrightarrow D_4 \longrightarrow D_5$$

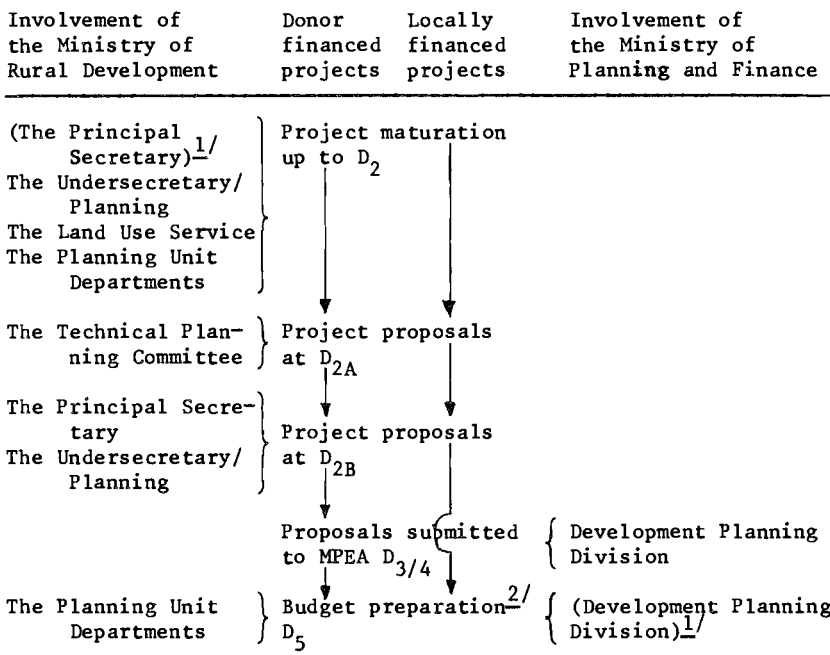
For reasons given in the discussion of RQ-1, RQ-14, RQ-35 and RQ-12 it may be argued, that the significance of D_4 was often substantially reduced. It was clear, that the DPD only to a limited extent appraised the project proposals at D_4, and that a donor in most cases already was lined up.

It was mentioned above, that the responsibility for the preparation of the Government's development budget was given to the Development Planning Division (DPD). That implied that the DPD made the allocation between ministries, which were requested to prepare their individual budgets. The DPD then got involved when drafts were submitted by the operating ministries.

In the MRD the development budget was prepared by the Planning Unit. In this respect a difference could be noted between Zambia and Kenya, where the preparation was the responsibility of the Finance Division.

The presentation of the involvement of different organizational units in the process can now be summarized in the following way.

1/ A similar distinction between domestically and donor financed projects could have been made in Kenya as well, with the same reduced number of decision points for the former projects. Due to their insignificance domestic projects were excluded from the study, however.



If the above summary is compared with the one for Kenya the following points are worth noting:

(1) For donor financed projects there were similar decision points D_1, D_2, D_4 and D_5 as in Kenya, with the difference that an additional point at D_2 was identified.

(2) A distinction between D_3 and D_4 was questioned in Kenya and it could not be justified in Zamiba.

(3) The involvement of the planning/finance ministry was less in Zambia than in Kenya.

(4) The preparation of the budget proposal for the agricultural ministry was in Kenya the responsibility of the Finance Division, but in Zambia this task was given to the Planning Unit.

1/ The brackets indicate that a limited role only was reported to have been played by respective unit.

2/ 'Budget preparation' does not include the preparation of regional budgets.

VII.3 TANZANIA

VII.3.1 Organizational Units Involved in the Selection Process

Once more it should be emphasized, that this study is confined to the project planning activities in the central ministries in the three countries, and that whatever decentralized planning at regional/provincial and district levels there was by and large it was by-passed. This reservation is particularly justified when Tanzania is discussed, as the omission of a description of the elaborated regional and district planning machinery otherwise could be criticized.

The interest in Tanzania was directed to three ministries - the Ministry of Agriculture, the Ministry of Economic Affairs and Development Planning (DEVPLAN) and the Ministry of Finance.

In the Minag the planning responsibility was primarily vested with the Administration, Personnel and Planning Division, headed by a Director who reported to the Principal Secretary. This Division included what in Kenya was called the Finance and Establishment Division, and it was the organizational unit in the Minag that prepared the ministerial budget proposal.

The DEVPLAN was organized on a sectoral basis, which meant that there was an Agricultural Sector Section. From the interviews it appeared, however, that DEVPLAN, and accordingly the sectoral sections, were primarily occupied with sector and subsector planning and not so much involved at the project level. No machinery in the DEVPLAN was said to exist for project appraisal.

DEVPLAN was charged with the responsibility to direct and coordinate the preparation of the development budget.

In the Ministry of Finance, particularly the Budget Division headed by the Director of Budget and the External Finance and Technical Cooperation Division, were the organizational units involved in the selection process.

The Economic Committee of the Cabinet (ECC)

The ECC was a cabinet committee chaired by the President to which projects which involved donor financing had to be referred for clearance before they could be submitted to donors. The ECC entered the selection process after D_2, when a project had reached the proposal stage, and contrary to the case in Kenya and Zambia D_3 could clearly be identified as a decision point and tied to the ECC.

VII.3.2 Procedures and Decision Points

Project maturation was the responsibility of the Minag and DEVPLAN was rarely involved at that stage. Maturation could take place in any of the divisions, although the Administration, Personnel and Planning Division had a special responsibility as the ministry's central planning unit.

The interest was concentrated to donor financed projects in Tanzania as in Kenya due to the dominance of external financing.[1/]

When such a donor financed project had reached the proposal stage, it had to be cleared with the Principal Secretary and the Minister before it was submitted to the DEVPLAN in its capacity as the secretariate to the ECC and to the External Finance and Technical Cooperation Division in the Ministry of Finance. D_2 was accordingly identified and tied to position-holders.

In the preceding section it was noted, that a project had to be cleared with the ECC before it could be submitted to a donor. There were two ways in which this could be done. Either was a project passed to the ECC for discussion at one of the regular meetings throughout the year, or the project was included in the (annual) budget proposal submitted to the ECC for approval. An approval of the entire budget implied an approval of the projects in the budget.

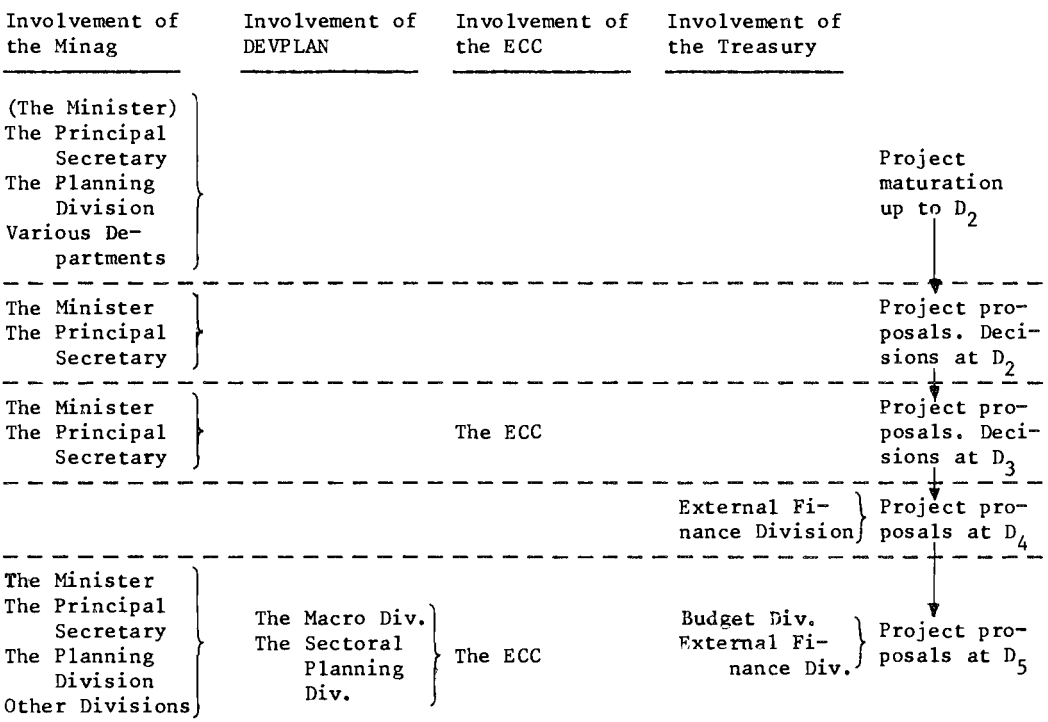
1/ In the 1974/75 development budget donor financing contributed with 85% of the total amount allocated to the Minag.

The External Finance and Technical Cooperation Division in the Treasury checked, that a project submitted to it by the Minag had been approved by the ECC, before any action was taken.[1/] D_4 was tied to this Division, although the significance of that decision point was rather low as the Cabinet had already given the project its blessing and as donors were lined up in most cases. No other organizational unit was involved at D_4.

The involvement at D_5 of the different organizational units varied from sector to sector. In the case of agriculture the significant parts of the work, including the cutting exercise for the 1974/75 budget to bring the proposal down to the ceiling indicated, was performed by the Minag itself. DEVPLAN and the Treasury with the approval of the ECC determined the ceilings for recurrent and development expenditure in total for the Government. The Minag was given a ceiling for the development budget and a budget proposal was then prepared by the Administration, Personnel and Planning Division, which asked the various Departments in the Ministry and the parastatals concerned to submit their proposals. These were put together into a consolidated ministry proposal that was eventually presented to DEVPLAN in a meeting at which The External Finance Division and the Budget Division of the Tresury were represented. The Minag proposal considerably exceeded the ceiling given, and it was therefore remitted to the Minag for revision. In other words, the Minag was asked to do the cutting itself. After the completion of the different ministerial budgets a consolidated Government budget was prepared and presented to the ECC.

1/ There were exceptions to this rule. If the project was small and the Minister of Finance decided in favor of it and took the risk that the ECC would object to it, the project could be forwarded prior to ECC approval.

The above may now be summarized in the following way.



A comparison between the three countries indicated particularly one significant difference. In Tanzania, contrary to the case in Kenya and Zambia, politicians at the highest level, the Cabinet, were brought into the selection process for many projects already at D_3, where individual project proposals were discussed.

VII.4 SIMILARITIES AND DISSIMILARITIES

The above brief description of the institutional framework for the project selection process in the three countries has shown that considerable similarities existed. The decision points D_1-D_5, save D_3 in Zambia, could be identified. The agricultural ministries were largely responsible for project maturation, and the decision points D_1 and D_2 could be identified in these ministries. In all three

countries the agricultural ministries could not officially approach donors, but donor financed projects had to pass through a Planning/ /Treasury ministry in Kenya and Zambia and a Planning ministry and a Treasury in Tanzania.

Dissimilarities were also noted, and these referred particularly to whom or to which organizational unit a certain decision point was tied. In this respect the involvement of the ECC in Tanzania was the most striking difference.

CHAPTER VIII
THE EXECUTION OF THE FIELD STUDY IN KENYA

VIII.1 GENERAL DESCRIPTION

The field study was timed to coincide with the final stage of the preparation of the 1974/75 central government budget, which traditionally is presented to the Parliament at the beginning of June. In 1974 the date was June 12th, which meant that in early June concerned officers could be interviewed about the forthcoming budget. May and June accordingly appeared to be the most suitable time of the year to carry out the study, and the visit to Kenya lasted from mid-May to mid-June.

Probably it would have been impossible to carry out the study within such a short period of time without the beforehand knowledge of the Kenyan administration and the persons to be seen. The pre-colleaguial contacts proved to be particularly valuable as they greatly facilitated the arrangement of interviews.

The investigations carried out in Kenya can be divided into six parts, which are briefly described below.

VIII.1.1 Pre-Interview Preparations

The main task in part one was to determine the project set, which is discussed in some detail in section VIII.2 below. When the set was decided upon, efforts were made to trace write-ups for the projects, which succeeded in all cases except one. In these write-ups the basic

project characteristics and the commodity objectives were identified and recorded. The reading of the write-ups also gave a necessary familiarity with the projects in the set.[1/] The organizational set-up in the Ministry of Agriculture (Minag) and the Ministry of Finance and Planning (MFP) was confirmed and the position holders identified through interviews with the Head of the Project Evaluation Unit in the MFP. This resulted in some changes in the individual plans of interviews.

During this first introductory part arrangements were made for a considerable number of interviews.

VIII.1.2 Interviews in the Minag Covering D_1-D_2

The first round of interviews was held with planning officers in the Minag, and they covered mainly D_1 up to D_2.

VIII.1.3 Interviews in the Planning Department, MFP, Covering D_3 and D_4

The first round of interviews in the Minag was followed by interviews in the Planning Department of the MFP. The head of the department, the Deputy Permanent Secretary/Planning, was not interviewed until later for practical reasons. The interviews covered D_3 and D_4, and the limited involvement of the Planning Department at D_5 was clarified.

VIII.1.4 Interviews With Finance and Planning Officers in the Minag Covering D_5

These interviews were held with finance officers and planning officers in the Minag, who had been involved in the preparation of the 1974/75 development budget.

1/ Most of the projects in the set turned out to be known to the author, as the early stages of their maturation processes coincided with the period of employment in the Ministry of Agriculture.

VIII.1.5 Interviews With Senior Officers in the Minag Covering D_2 and D_5

Since the most senior officers in the Minag presumably could make themselves available a limited time, the interviews with them covered both D_2 and D_5 at the same occasion. Apart from some complementary interviews these were the last ones made in the Minag.

VIII.1.6 Interviews in the Budgetary Supply Division and the External Aid Division in the MFP Covering D_4 and D_5

These interviews covered D_4 and D_5. Again to avoid duplication of appointments D_4 and D_5 were covered in one interview, when one officer had been involved at both points, which was the normal case.

VIII.1.7 Complementary Interviews and Exploration of Relevant Research at the University and the Institute of Development Studies, Nairobi

It was necessary to complement some of the interviews, and this was done as the need was discovered and opportunities arose. The contacts with the University and the IDS were taken irregularly as it fitted in with the schedule of interviews.

VIII.2 THE DETERMINATION OF THE PROJECT SET

In this section the way the project set used for observation was determined will be presented, and the deviations from the plan to determine the set and the consequences thereof discussed.

VIII.2.1 The Central Government Budget in Kenya

Like many other d-countries Kenya use what is called a development budget and a recurrent budget. The terminology is misleading as it gives the false impression, that expenditure under the recurrent budget would not be for development purposes. Furthermore, the

notation recurrent budget leads one to believe, that the development budget would be a capital budget exclusively, which is not the case. In the development budget a substantial amount of expenditure is included, which is of a recurrent nature. The division line between the two budgets is unclear.[1/]

According to practice, however, new activities and projects which with the definition used in this study can be classified as investment projects were included in the development budget. The focus of interest was therefore directed to this budget.

VIII.2.2 Exclusion of On-Going Projects

For reasons explained in the plan for the study, on-going projects were to be excluded from the project population. In the draft estimates for 1974/75 prepared by the Minag these projects were identified by interviewing the Head of the Project Evaluation Unit, MFP. Use was also made of a project registry set up by the Unit in which information about the status of all on-going and most projects in the preparation stage was stored. No distinction was made between investment projects and other projects in the interview. This exercise left no more than sixteen projects.

VIII.2.3 Exclusion of Non-Investment Projects

It is already noted, that also recurrent expenditure entered the development budget. In addition, not all entries (sub-heads) in the budget corresponded to the project concept used in this study. Accordingly, the number of projects for the set had to be reduced by four out of which two were of a non-investment nature, and the remaining two were deleted because they did not comply with the project concept.

The number of projects for the set this way had been reduced considerably below the fifteen, that was chosen as a desirable number in the plan.

1/ The point is discussed at some length by Myrdal (1968), pp. 2013-17.

VIII.2.4 Projects Not Included in the Minag Budget Proposal

The population from which the projects in the set were to be chosen according to the plan included projects, which were considered in connection with the preparation of the Minag budget proposal, but which were not accepted in that proposal. To determine the population it was therefore necessary to trace these projects. Interviews were hence carried out with either heads of divisions, officers who had been responsible for the preparation of the divisional budget submissions or planning officers. The interview questions clarified if there were any projects the implementation of which could have started in 1974/75, that were not included in the divisional budget proposals. This was hardly to be expected, since the divisions were not given any ceilings for their budget proposals. The answers were all negative.

The Finance Division in the Minag was then approached and asked, which projects in the divisional proposals that were excluded in the Minag proposal submitted to the Treasury. Five projects were identified this way, and these were added to the population from which the set was to be taken.

VIII.2.5 Information Accessibility

Crucial for the possibility to carry out the planned interviews was, if for the projects identified persons who had been involved in their preparation were still available. A high turnover of expatriate and local personnel had been foreseen to be partly steering for the choice of projects. This also turned out to be the case. Out of the twelve projects identified in the 1974/75 draft estimates five had to be deleted, since information about them could not be obtained. The planning officer in charge of the preparation of the project could not be reached and other officers had not been sufficiently involved to be useful sources of information.

VIII.2.6 Projects From the 1973/74 Budget and Token Provisions in the 1974/75 Draft

The choice of projects in addition to the seven already identified to reach some fifteen had to take the availability of potential respondents into account. A second consideration was to choose projects, which if possible were similar in characteristics as size, second phase or first phase and the financial arrangements as the ones deleted.

In the plan to determine the project set the option to complement with projects from the 1973/74 estimates was suggested, but the possibility to choose projects, which in the 1974/75 budget were put in as token provisions had not been considered.

A token provision was made, if a project during the coming fiscal year was likely to materialize in expenditure, but which might not get started before the following year. Projects for which external finance was not secured by a signed agreement or an exchange of letters but for which negotiations with financiers were under way were, as discussed elsewhere, treated this way. (See Appendix 1, section (A1.2.4).) Since these projects had passed through the maturation process and were considered at D_5, it seemed justified to consider also such projects for the set.

With the considerations mentioned in the first paragraph in this section in mind two projects with token provisions in the 1974/75 budget proposal and six projects from the 1973/74 draft eastimates were chosen for the project set.

VIII.2.7 Differences Between Deleted and Added Projects

Many different comparisons between the projects that were deleted and those added could be made. However, it seems justified to restrict a comparison to the project characteristics, which in section (V.8) were suggested could systematically affect the aspects of the selection process to be observed. The following table summarizes the relevant information.

Deleted projects	Size in Kf	New/second phase	Donor/local financing
(1) Vetenary investigation laboratory	135,000	(S)	(D)
(2) Vetenary clinical centres	101,000	(S)	(D)
(3) Milk recording	50,000	(N)	(D)
(4) Irrigated crops	14,400	(S)	(L)
(5) District development centre	107,000	(S)	(D)
Added projects			
(1) NEP grazing scheme	243,000	(S)	(D)
(2) Dry land farming research	125,000	(N)	(D)
(3) Isiolo grazing scheme	93,000	(S)	(D)
(4) KFW small scale farm credit	400,000	(S)	(D)
(5) Grain storage	470,000	(S)	(D)
(6) Livestock buying centres	978,000	(N)	(D)
(7) IDA 105 small scale farm credit	2,660,000	(S)	(D)

Note: Size here refers to estimated total capital requirements.

The comparison indicates that the projects deleted were smaller than the projects added, and that the set of fourteen projects including the added projects accordingly contained more large projects.

VIII.2.8 The Consequences of the Shift Towards Larger Projects in the Set

It has been noted, that the project set was determined in a way, that the distribution on size of the projects was changed compared with what would have been the case had the set been taken from the 1974/75 draft estimates alone. No attempt has been made to clarify how the resulting structure compares with the structure for 1973/74 or other previous years. An analysis of the 1974-78 Development Plan, Part II, which is a project list, indicates that the size structure is skewed towards an over-representation of large projects.

In section (V.5.3) in chapter V it was hypothesized, that large projects possibly were treated differently in the selection process than small projects. The analysis of the findings in the empirical studies with

respect to the influence of the size variable should indicate if any modification is warranted in the conclusions to be drawn.

VIII.2.9 Local and Donor Financing

An analysis of the project list in the Development Plan for 1974-78, regarding the frequency of projects to be financed entirely by domestic means and projects in which donor financing was involved, indicated that the former cathegory was of limited interest. Only 20 out of 180 projects were suggested to be financed locally, and in terms of value these projects only amounted to some 2% of the total amount to be invested. These figures are likely to be crude for various reasons. The definitions in the Plan were not clear, and the classification made here suffers accordingly. Also, expenditure referable to the projects may have been entered as recurrent expenditure outside the project list. Furthermore, the figures are likely to underestimate the frequency of locally financed projects, since the Plan may be based on too optimistic assumptions about the availability of donor finance. Some of the projects for which donors will not come forward may be implemented with local funds. Yet it seems as if the statement made above on the significance of purely locally financed projects is justified due to the very low percentage recorded.

The way the project set was chosen resulted in that no projects financed entirely by domestic funds were included, and this study does not claim to cover the selection process for locally financed projects.

VIII.2.10 The Project Set

The project set, which is presented in some detail in appendix 3, contained five livestock projects, four credit projects (partly for livestock), one irrigation project, one agricultural processing project, which also had a component of crop production, one grain storage project, one research project and one training project. The many livestock projects reflect the emphasis that was given this subsector in the 1974-78 Development Plan as well as in the previous Development Plan.

Fourteen projects for observation may seem to be rather few, but it should be noted, that they corresponded to ony year's output from the planning machinery, and seen this way the number appeared high enough to permit inferences about the process.

VIII.3 CHANGES IN THE QUESTIONNAIRE

A number of changes were made in the questionnaire to conform with the findings in the pre-investment preparations and to secure information that appeared to be of interest but was not covered in the original questionnaire. These changes are presented in this section.

VIII.3.1 Deleted RQ-s

Out of the RQ-s specified in the plan for the study two were later on deleted and never pursued in the interviews. These were RQ-3 and RQ-29.

The intention with RQ-3 was to clarify, if national objectives were explicitly referred to, when project characteristics were determined. Reservations had been made already in the plan about the validity problems involved with this RQ. The first interviews revealed, that the interview questions formulated for this RQ were unclear. Respondents had considerable difficulties to answer them at all, and the answers were so disparate, vague and incomplete, that it seemed useless to pursue the RQ in the proceeding interviews.

In the plan RQ-29 was indicated as optional. Several interviews would have been required to provide sufficient information to permit other than unacceptably general statements. To avoid a too heavy demand on a number of key respondents it was decided, that this RQ should be deleted.

VIII.3.2 Added RQ-s

It appeared at an early stage, as if donors were brought into the maturation process on the initiative of the Minag often before D_2. In addition to a clarification of at what stage donors entered the process it seemed interesting to ask for the conceived advantages and disadvantages with this arrangement. Accordingly the following RQ was formulated:

> Is it an accepted policy, that Minag informally approaches donors during the maturation process for a project in order to raise donor interest in the project and if so, what advantages and disadvantages are conceived with such a policy?

The RQ which is numbered 35 is presented with the same format as the other RQ-s in appendix 2.

To the set of questions in the individual plan of interview for the Deputy Permanent Secretary in charge of the Planning Department in the MFP, an opening question on the involvement of the Department in the selection process was added. The question was phrased as follows:

> Can you describe the involvement of the Planning Department in the identification, formulation and decision-making on agricultural development projects?

Probe questions were to clarify the involvement at different stages.

VIII.3.3 Reformulated RQ-s and Interview Questions

To the set of non-project specific formulations of the RQ-s and interview questions prepared during the planning stage of the study such a formulation was added for RQ-4.

In RQ-15 and RQ-16 the concept 'offer of credit' was suggested in the original versions. Pre-interview discussions revealed, that a more significant variable seemed to be 'agreement signed or not'. Hence, it was decided, that RQ-15 and RQ-16 should be reformulated to take this into account. The new phrasing of the

RQ-s and the interview questions are given in appendix 2.

The most notable change in the questionnaire was, that a considerable number of probe questions were pre-determined and added.

To RQ-30, in which the respondent in a general way was asked to describe the preparation of the 1974/75 budget proposal, a number of probe questions, which are presented in appendix 2, were formulated prior to the interviews. These questions covered what instructions that were given to Minag for the budget preparation, how sub-sector allocations within the agricultural sector were made, if the divisional budget submissions added together exceeded the ceiling given to the Minag by the Treasury and various aspects of the exercise to cut down the budget.

Probe questions were also added to the interview questions to be asked to officers in the Budgetary Supply Division and the External Aid Division in the MFP. The probe questions intended to further clarify the involvement of the two functions in the selection process at D_4 and D_5. The questions are presented in appendix 2.

VIII.4 CHANGES IN INDIVIDUAL PLANS OF INTERVIEWS

A number of changes were made in the individual plans of interviews as a part of the pre-interview preparations. Changes were also undertaken as interviews were made and it appeared justified to add or to delete questions in forthcoming interviews.

The most notable change, however, was a shift from project specific formulations of questions covering D_2 to non-projet specific formulations. These questions were to be asked to the most senior officers in the Minag, and it appeared clear, when they were approached for the interviews, that the time needed to cover the questions project by project would hardly be offered. This change was a sacrifice for reasons discussed in section (V.11.2) in chapter V. To maintain something of the project specific approach a list with the project set was presented to the respondents, and they were asked if their statements were valid for the projects on the list, or if they wanted to

modify them in relation to some of the projects on the list.

VIII.5 INFORMATION ACCESSIBILITY

The information looked for was almost entirely to be gathered through interviews, which made the study very much dependent upon the access to persons with that information. In section (VIII.2.5) in this chapter it was described, how the access to certain persons affected the choice of projects to be included in the set for observation.

In the plan for the study it was noted, that at least two persons should be interviewed on each question. This turned out to be very hard to achieve, particularly for the questions referring to D_1 up to D_2 (but not for D_2). It would have been possible for each project to identify more than one person who had been somehow involved in the maturation process at that early stage, but their involvement had been so superficial, that it was not justified to approach them for interviews. The validity of such observations would have been low indeed. It therefore was preferable to restrict the number of persons interviewed, but to make interviews on such projects, where the respondents had been extensively involved in the maturation process.

On three out of fourteen projects the RQ-s covering D_1-D_2 were explored through interviews with two officers. It should be noted, however, that still this means, that most questions were asked to two or more respondents, as can be seen in appendix 1.

The author's knowledge of most of the respondents and a knowledge of the duration and scope of their experience could be related to the various questions and made it possible to judge the quality of the different sources of information. This facilitated the assessment of the need for additional information on different subjects.

VIII.6 THE INTERVIEWS

Canell and Kahn[1/] suggest, that there are three basic conditions, which must be met in order to achieve successful measurement by

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1/ Canell & Kahn (1968), pp. 535-536.

interviewing and these are (1) motivation, (2) cognition and (3) accessibility. The first condition is met when the respondent is willing to fulfill his role as a respondent. The second condition is met when the respondent understands the content of the specific questions being asked and his role task. The third condition is met when the respondent is able to recall or reconstruct the information required. The three conditions are here mentioned in order of relevance to the interviewing technique according to the above mentioned authors. An attempt is made below to assess to what an extent these conditions were met in this study.

Motivation

It is beyond doubt, that this condition was met. The motivation among the respondents was notably high, and primarily two reasons seem to explain this fact. Firstly, and most important, the interviewer was known by the respondents and he could enter the interviews with a past working relationship with most of them. There was a common frame of reference, there were personal relationships, and the respondents knew that the interviewer had a detailed knowledge of the field to be covered. Secondly, the subject of the study was relevant to the daily work of all respondents.

Cognition

The advanced knowledge of the persons to be interviewed and the concepts and the terminology used by them reduced the risk, that the questions were formulated in a way, that made them hard to understand. The frequency with which respondents appeared puzzled or declared, that they were not sure of the meaning of a question was low. In these cases the question was repeated, and if this was not sufficient the question was elaborated upon until clarification was reached.

The introduction made in each interview not only served the purpose to stimulate the motivation, but also to indicate what role the respondent was expected to play. Since the theme of the study was familiar to the respondent, and he was chosen due to his involvement in the process under observation, it never appeared to be difficult to get him to realize and accept his role.

In retrospect it seems as if the second condition for a successful interview was met as well.

Accessibility

It is considerably more difficult to assess, to what an extent the third condition was met. This is particularly the case for the information referring to D_1 up to D_2, as the respondents to provide that information had to recall events that took place 1-3 years earlier. It can not be excluded that relevant information might have been forgotten, or that information during the passage of time had become distorted.

Task Involvement and Social Involvement

Hyman[1/] divides the involvement of the respondent in an interview into two major components, which he calls task involvement and social involvement. The former is the involvement with the questions and the answers, and the latter refers to the interviewer as a personality. Hyman appreciates that social involvement is a prerequisite for a successful interview, but he suggests that validity will increase with an increase in task involvement.

Eventually one could raise the question, if the desired balance between the two kinds of involvement presented by Hyman was achieved in this study, given the personal relations between many of the respondents and the interviewer. A highly subjective assessment of the interviews from this aspect suggests, that it did not become a problem, and that validity did not decrease due to too high a social involvement.

One cause to a reluctance to provide information that was encountered a limited number of times can be noted. Rather than answering the question posed, the respondents replied something like: "You know the answer to that question". These situations were met with a brief statement on the nature of scientific observation as a basis for inferences, and this in all cases without difficulties reinstated the role task, which this way had been questioned by the respondent.

1/ Hyman, H.H., Interviewing in Social Research. London 1954, p. 138.

VIII.7 RECORDING TECHNIQUE AND PROTOCOLS

The intention as reported in the plan for the study was to use a tape recorder during the interviews. This was also attempted, but had to be abandoned at an early stage, as it was clear that the interview situation was notably affected by the ad verbatim recording. The bias this could introduce suggested, that the traditional note-taking approach was preferable despite its well-known deficiencies.[1/] Accordingly notes were taken during the interviews, and these were in most cases written out to protocols within an hour after the interviews were completed. This was possible as the Minag had generously offered the author office space.

1/ For a discussion of recording techniques see Swedner (1969), pp. 214-16.

CHAPTER IX
MAJOR FINDINGS

> Asked as a round-off question about the capability of the central planning machinery in Tanzania to identify and formulate projects professor Green, adviser to the Treasury, after some contemplation answered: "It is a great deal better than Concorde."

IX.1 INTRODUCTION

In this chapter the major findings in the field studies will be reported and related to the normative project appraisal literature (PAL) and to the behavioral theory of rational choice. The chapter is divided into three main parts:

(i) Alternatives considered
(ii) The significance of the different stages in the selection process
(iii) Techniques used

In the first main part the observations on alternatives considered at the different decision points are presented, and these observations are then related to the normative PAL and to the behavioral theory of rational choice.

Several findings in the field studies indicate that different stages in the selection process were of different signifiance, and these findings are presented in the second main part. The implied high significance attached to the end of the maturation process in the PAL is questioned in view of the observations made, and the section ends with a suggestion that the emphasis should be redirected to the early phase of the process.

The third main part is devoted to a presentation of observations on techniques used in the selection process, and as in the first main part the findings are related to the normative PAL and to the behavioral theory of rational choice.

Since not all research questions were explored in all three countries, there is a need to guide the reader on what coverage a reported finding has. Hence, abbreviations (K, Z and T) in brackets in each headline will indicate in which country/ies the issue to be discussed was investigated.

To avoid a cumbersome presentation the RQ-s are not repeated in this chapter, but it is noted in brackets in each headline on which RQ-s the ensuing discussion is based.

The chapter is not an exhaustive presentation of the findings which are presented more in detail for each RQ in appendix 1.

IX.2 ALTERNATIVES CONSIDERED

IX.2.1 Alternatives Considered When the Choice of Problem Was Made (K,Z,T)(RQ-4, RQ-2)

With no difference between the three countries dimplification through omission of alternatives was found to be carried extraordinarily far when the choices of problems to attend were made. In no case were alternative problems to the ones focused at reported to have been discussed in the way that an explicit choice involving ranking was made.[1/] If the problem focused at was e.g. a short-fall in expected beef production, insufficient wheat production or too slow an increase in export earnings from e.g. tea production was not considered and compared with the beef problem.

Eventually comparisons with a limited set of problems referable to the same sub-sector as a particular problem could have been expected. The shortfall in beef might have been compared with

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1/ Appendix 1, section (A1.2.1), p. 204.

a shortfall in pig and poultry production, etc., but no such comparisons were made.

Several respondents offered explanations to the lack of comparison, and most frequently was the inadequate planning capacity mentioned.

Problem identification was made with almost no exception at the commodity objective level.[1/] That the commodity level rather than the national level was focused at meant that the number of potential alternatives was considerably reduced. It also meant that the likelyhood, that incompatible alternatives at the commodity level were identified and compared was reduced.[2/] An example may clarify the point. The tea project in Kenya was ascribed the prime objective of increased tea production. If savings/earnings in foreign exchange had been the objective focused at, increased production and export of beef, or import substitution of edible oils or wheat might have been identified as alternatives. It is accordingly not evident, that an increased project identification and formulation capacity would result in an increased number of alternative problems considered.

In summary, then, the important finding was, that a problem focused at at the early stage in the maturation process was not explicitly compared with other problems.

IX.2.2 The Early Choices in Project Dimensions (K) (RQ-6)

Only some of the project dimensions were considered at the early stage in the maturation process, and this supports the proposition, that simplification through sequential choices was applied.[3/] Least discussed was the administrative setup and most frequently discussed was the size of a project.

A difference was noted between new projects and second phase projects. For the latter dimensions (1) and (2), output expectations and process

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1/ Appendix 1, section (A1.2.1), p. 219.

2/ This point is discussed in section (II.6.3) in chapter II.

3/ Appendix 1, section (A1.2.1), pp. 210-12.

characteristics tended to be taken for granted.

The search for alternatives in the project dimensions that were discussed at the early stage was limited. In more than half of the cases (27 out of 46), where discussion of dimensions was reported for the fourteen projects in Kenya, no alternative to the one focused at was explicitly considered. In (12) of the remaining (19) cases, where alternatives were considered, the respondents failed to indicate what alternatives that had been discussed, but described the search as one in which different ways were mentioned, albeit never formulated into concrete alternatives. Only in (7) cases were specific alternatives reported.[1/]

Even with allowance for a considerable error margin for a possible under-reporting, it appeared as if the number of alternatives considered when the early choices in the project dimensions were made was low indeed, implying that simplification was extensive.

To summarize, search for alternatives in the different project dimensions was found to be very limited. Search was more extensive for new projects and large projects than for second phase and small projects.

IX.2.3 Alternative Designs Pursued in the Maturation Process (K,Z,T)(RQ-5)

With few exceptions there is normally more than one way to achieve a certain objective, which means that a project could be given alternative (incompatible) designs.[2/] The specification of such alternative designs could be made either at the very early stage in the maturation process, if different means to solve the problem focused at were conceived, or alternative designs could be specified later on in the process, as incoming information revealed options. The pursuance of alternative designs would have increased

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1/ Appendix 1, section (A1.2.1), p. 213.

2/ For a discussion of the concept 'alternative design' see Appendix 2, Operationalizations, p. 273.

the information requirements and possibly also the analytical burden.

In Kenya, where it was explored if at any stage in the maturation process alternative designs of the projects in the set were pursued parallel, it was reported with one exception that this was not the case.[1/] All through the process only one alternative design was pursued.[2/] If options in basic characteristics were at hand, that could have led to alternative designs, all options but one were deleted to maintain the single alternative, which means, that also in this respect simplification was carried far. One notable consequence was, that at the decision points following upon the maturation process, D_2-D_5, the decision-makers were normally not offered a set of project designs to choose between, but only one design that had to be accepted or rejected.

To summarize, only one design of each project was formulated and pursued throughout the maturation process.

IX.2.4 Changes in Project Characteristics During the Maturation Process (K)(RQ-27)

An attempt was made to clarify if the calculation of the profitability of a project resulted in changes in the basic characteristics. This happened with one project, whereas in the remaining twelve projects no change took place.[3/] (One project could not be analyzed in this respect.) The change undertaken in the one project was made to improve the profitability, which was considered too low. If the profitability of the single design explored was found to be acceptable, no need was felt to determine the profitability of any alternative.

When the entire maturation process was explored, changes in basic project characteristics were reported.[4/] Even if a considerable error margin for under-reporting is allowed for, the frequency of changes was low or as low as 1.2 change per project, with most of the changes occurring in dimensions (2) and (4), process characteristics and size. In no case was the output expectation reflecting

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1/ The exception was an irrigation project, which was formulated by an international consulting firm.
2/ Appendix 1, section (A1.2.1), p. 208.
3/ Appendix 1, section (A1.2.1), p. 215.
4/ Appendix 1, section (A1.2.1), p. 216.

which problem that was focused at changed. Differences were noted between new projects and second phase projects with a considerably higher frequency of changes in the former.

The ratio between the number of changes and the number of projects was 2.2 for new projects and 0.7 for second phase projects. Changes were more frequent also in large projects than in small projects. The ratio for large projects was 1.6 and for small projects 0.8.

These findings support the hypotheses in section (V.5.3) in chapter V, implying that fewer alternatives are considered for small projects and for second phase projects.

To summarize, the impression gained was that changes in basic characteristics in projects during the maturation process were strikingly few. The project as it was conceived initially in the various project dimensions was by and large maintained unaltered.

IX.2.5 Alternatives Considered After the Maturation Process (Excluding the Budget Preparation) (K,Z,T) (RQ-7, RQ-8, RQ-9, RQ-10, RQ-12, RQ-13)[1/]

In Kenya and Tanzania the majority of the projects in the development budgets involved a component of donor financing. In Zambia this was the case for only about 15% of the projects. Such donor financed projects made a loop outside the Government machinery for appraisal and decision-making with the donor as described in section (III.3) in chapter III.

One significant consequence of this donor involvement was that once the maturation process was completed for a donor financed project it was passed through the Government machinery to be submitted to the donor. Projects were accordingly not considered in batches, but passed the various decision points one by one irregularly throughout the year. This meant that when a project reached D_2, D_3 and D_4 (in Kenya senior decision-makers in the Minag and

1/ Note that RQ-8 was not explored in Tanzania and RQ-9 and RQ-13 were only investigated in Kenya.

the Planning and Treasury Departments in the MFP) there was hardly ever another project on which to make a decision at that point in time. This was a significant characteristic of the selection process. Projects that had passed were already accepted or rejected for submission to donors. In no country was it reported either, that projects were compared and ranked at these decision points, but the decisions were of an accept/reject nature.[1/]

In section (IX.2.3) above it was pointed out, that only one project design for each project resulted from the maturation process, and accordingly decision-makers at D_2-D_5 made accept/reject decisions in that respect as well.

To summarize, projects passed the decision points after maturation one by one, and they were considered on their own merits without comparison involving ranking with other projects.

IX.2.6 Alternatives Considered in the Budget Preparation (D_5) (K,Z,T)(RQ-15, RQ-16)

As already noted, comparisons between designs in connection with the budget preparation were with few exceptions out of question as only one design of each project was presented. Eventually one could have expected that projects were compared in the budget preparation to establish the order of preference under conditions of a budget constraint. Considerable cuts in the ministerial budget requests were made in Zambia and Tanzania, whereas the budget constraint in Kenya was more apparent than real.[2/]

In all three countries it was reported, however, that projects were basically considered on their own merits for inclusion in the budget,

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1/ Appendix 1, section (A1.2.2), p. 231.

2/ For details on the budget constraints see appendix 1, section (A1.4.2.1). Kenya's budget constraint was not real in the sense, that although budget requests delivered by the various ministerial divisions added together gave a total surpassing the limit set for the agricultural development budget by the Treasury, once immature projects, which could not come off the ground during the coming fiscal year were deleted, the grand total was close to the limit.

and that no explicit comparison involving ranking was attempted.[1/] Similarly, when cuts had to be made, these were not made on the basis of a ranking of projects. Rather rules of thumb indicating priorities were used, giving highest priority to on-going activities and higher priority to projects involving donor-financing than to those which did not.[2/3/] Another rule of thumb was to question construction and vehicle expenditure.

In all three countries preference treatment of donor financed projects was reported as already indicated. In Kenya projects for which donor financing was secured were claimed to be accepted into the budget more or less automatically.

Budgets were prepared under extraordinary time pressure. Divisions and parastatals in the agricultural ministries submitted budget proposals prepared without any ceilings given to them very late, and the information supporting the requests was often fragmentary. This placed the budget coordination units in the agricultural ministries in the akward position to work under hard time pressure and with inadequate information. These circumstances reduced the likelihood of extensive project scrutiny and comparisons. Waterston's[4/] description of these difficulties are strikingly appropriate.

> "Even where budget staffs have the necessary competence and standing, the short time usually allowed for a budget to be prepared does not permit adequate review and analysis."

IX.2.7 The Way in Which Donors Were Brought Into the Project Selection Process (K,Z,T)(RQ-14, RQ-35, RQ-1)

In all three countries attempts were made by the agricultural ministries to approach donors informally already during the maturation

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1/ Appendix 1, section (A1.2.4), p. 232-34.

2/ A pronounced preference treatment of ongoing activities was also noted by Wildawsky in his study of the federal budget Process in the US. Wildawsky (1964), p. 17.

3/ Appendix 1, section (A1.4.2.2), p. 260 et seq.

4/ Waterston (1965), p. 213.

process to raise their interest in particular projects. No formal commitment on the part of the donors was expected, but they were hoped to indicate a willingness to consider financing of different projects on the basis of further documentation. For the specific projects observed in the three countries indication of donor interest had been obtained before the end of the maturation process.

Different ways to approach donors with project ideas were used. Informal contacts at working level was one. Presentations to missions from donor countries was mentioned as another, and important were the semi-annual or annual meetings with donor representatives at which occasions a review was made of ongoing projects and new projects were discussed. New projects presented to donors at these meetings were often at a very early stage of the maturation process with a low degree of vertical maturation. The crucial choices of which problem to attend and a set of early choices in several but not necessarily all project dimensions were made, however, to give the project idea a substance needed for presentation.

It may be argued that the presentation of project ideas to donors at the early stage of the maturation process was unfortunate in the following sense. A project idea with hardly any vertical maturation still implies a drastically reduced number of potential alternatives. The donor is presented with a particular set of project characteristics to which he responds, and if his response is positive, it must be interpreted as if he is agreeable to that particular set. It is hardly surprising then, if the recipient country is reluctant to make substantial changes in the set, when financial assistance badly needed appears to be within reach for a particular set. The choice of problem was made without consideration of alternatives, and project characteristics were chosen with strikingly little search. The limited search for alternative problems and project characteristics was enhanced by the fact, that shopping lists often were prepared under considerable time pressure and without any stock of project ideas at hand. Donor interest as a respons to the presentation of a particular set may have permanented the focus of interest to that set and reduced the likelihood of a reconsideration of alternatives during the maturation process. The presentation became an unconscious, or maybe conscious, commitment to the project

idea and similarly was an indicated interest such a commitment on the part of the donor. This reinforced the recipient's commitment to the project. The formal discretion was omniscient, but hardly the informal any longer.

Yet another consequence of the fact that a donor as a rule had indicated interest in each project during the maturation process should be noted. With a reservation for Tanzania, where the Economic Committee of the Cabinet performed a substantive scrutiny at the proposal stage, it was reported in the Planning/ /Treausry ministries from which the projects were formally submitted to donors, that it was not very much left to be done when the projects reached them. The projects were written up and a donor was awaiting an application. Accordingly, no serious attempts to project appraisal were made, but the applications were forwarded to the donor. The consequences of the commitment were apparent at this stage in the process.

Donor involvement at the maturation stage was often more extensive in that donor representatives participated in the actual preparation of the project proposals. In particular the IBRD have pursued such a policy through its field offices. The reason behind this policy is expressed by Bower[1/], Associate Director in the IBRD.

> "Experience has demonstrated that we (the IBRD) do not get enough good projects to appraise unless we are involved intimately in their identification and preparation."
> (Bower, 1970, p. 6)

Such an involvement was likely to increase the commitment on the part of the donor, which again reduced the significance of the post-maturation decision points.

To summarize, donors were found to be brought into the selection process at an early stage through informal contacts between the agricultural ministries and donors, and this is likely to have implied a commitment on both parts to project ideas presented.

1/ Bower, W.C., The Project Cycle. IBRD/IDA, Finance and Development, Vol. 7 (1970).

IX.2.8 Summary of Findings on Alternatives Considered

The most important findings on alternatives considered in the selection process can now be summarized.

(i) It is evident that the search for alternatives was very limited. Particularly noteworthy is the observation that when a problem was focused at in the very early phase of the maturation process, no alternatives were explored and explicitly compared with the one focused at.

(ii) A project underwent very few changes during the maturation process. What was conceived as basic project characteristics at the early stage tended to remain unaltered.

(iii) Only one design of each project was pursued in the selection process.

(iv) Each project was considered on its own merits at the different decision points without explicit comparison with other projects. This observation was valid also for the budget preparation.

(v) Donors were normally brought into the selection process at an early stage in an informal way.

IX.2.9 Differences Between Countries and Between Projects

Striking similarities in the aspects of the selection process discussed so far in this chapter were noted in the three countries. As was described in the preceding section search for alternatives was limited in all three countries, and the single design of a project pursued throughout the selection process was considered on its own merits without explicit comparison with other projects. The one-by-one approach was apparent also when there was a pronounced budget constraint as in Zambia and Tanzania. Furthermore, donors were normally brought into the selection process at an early stage through informal contacts between the agricultural ministry and the donors without difference in the three countries.

Attempts were made in the field studies to take note of eventual differences between large and small projects and between new and second phase projects in the aspects of the selection process

studied. Certain differences were also noted. Search for alternatives was more limited for small projects and for second phase projects, and fewer changes in project characteristics during the maturation process were reported for these projects than for large and for new projects.[1/] The prospect of a possible significant loss if a large project failed appears to have caused the risk-adverse decision-maker to extend search for an acceptable alternative. In second phase projects several project characteristics were taken for granted and considered as given from the first phase, and this reduced search.

IX.2.10 Alternatives Considered in the Maturation Process and the Normative PAL

In chapter I quotations were made from the PAL to show, that consideration of alternatives in the maturation process was expected to be considerable, and that discounting of cash flows should be used in the search for a desirable design of a project. As was reported in section (IX.2.8) a strikingly low number of alternatives was considered at the various stages, and only one design was pursued throughout the process. Without pre-emptying the discussion of techniques used, it can be mentioned that not only was the number of alternatives considered low, but furthermore, no estimatation and discounting of cash flows was made to establish the preference order between them.

The evidence of actual behavior indicated in other words a deviation from the prescriptions in the PAL.

IX.2.11 Alternatives Considered and Simplification as Suggested in the Behavioral Theory of Rational Choice

As was outlined in chapter I the author had noted considerable simplifications in decision-making in project selection during the employment in Kenya. Such simplifications have been discussed in

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1/ Appendix 1, section (A1.2.1), p. 212 and p. 218.

this study in the framework of the behavioral theory of rational choice in chapter II. In chapter III a set of characteristics of d-countries, which might affect the aspects of the selection process focused at was identified. The direction of influence was with two exceptions expected to be towards a high degree of simplification, with few alternatives considered and simplifications in techniques used.

It is apparent from the observations, that simplification through far-reaching omission of alternatives was made, and in this respect the findings support the behavioral theory and the hypotheses in chapter III. At all decision points (D_1-D_5) the number of alternatives considered was strikingly low. The search for alternatives during the maturation process was restricted, and at the proposal stage attempts to compare and rank projects were rare or non-existent.

Limited search for alternatives is noted in several other studies on investment decision-making as well. Cyert, Dill and March[1/] noted in their study of two particular decisions in two companies - (1) an accelerated renovation of old equipment and (2) the location of a company department - that rather few alternatives were explored. They report:

> "In each case considered here this early scanning generated only a few suitable possibilities, which were considered in greater detail."
> (Cyert, Dill & March, 1970, p. 107)

The comment refers to the choice of "project" design, and the authors do not mention if alternative problems were considered and chosen between.

In a study of 30 Swedish companies Renck[2/] found that generally only one alternative was presented to the financial department for consideration. He concludes that the real choice is made prior to the presentation of an investment proposal. Although the study is not entirely clear in quantifying the observation in this respect, Renck claims that the interviews he made indicated that search for alternatives was limited, and that the reduction to the one or a few alternatives that were considered in more detail was made primarily "on technical grounds".

1/ Cyert, R.M., Dill, W.R. & March, J.G., The Role of Expectations in Business Decision Making. In Welch, L.A. & Cyert, R.M. (eds.), Decision Making. Harmondsworth 1970, pp. 86-110.

2/ Renck, O., Investeringsbedömning i några svenska företag. Stockholm 1967, pp. 124-26.

A striking similarity between Renck's findings and the findings in this study is that at the end of the maturation process, when the project turns into a proposal, only one alternative remains. Subsequent decisions then become accept/reject decisions. A study of 29 companies made by Holt[1/] indicated similarly that only in a minority of cases was more than one alterative given in the investment proposals.

Limited search was also observed by Williams and Scott[2/] in a study of investment decision-making in thirteen private companies. The number of seriously considered alternatives was small, and there was a pronounced absence of competition between projects.

Factorization was also observed to be a means to simplification in the maturation process. However, the hypothesis that factorization is achieved through a break-down of a problem into means-end chains, as proposed by March, Simon and Guetzkov (1958, p. 193), was partly questioned. Based on the observations made during the field studies and based on previous experience, it appeared that factorization did not only imply an attempt to identify sub-problems in means-end relations, which here will be called functional factorization, but rather that the foreseen solution to the problem, the project, had a preconceived set of components or dimensions without means-end relationships into which it was broken down. This will be called structural factorization. Structural factorization considerably complicates means-end analyses, since numerous inter- and intra-dependencies can be expected in the resulting dimensions. Problem solution - here the maturation of a project idea - based on a structural factorization onto which a functional factorization was superimposed, presupposes that most interdependencies were disregarded when choices were made.

Factorization which was observed presupposes sequential choices. A distinction should be made between sequential choices in the maturation process that followed from factorization, and the sequential nature of decision-making on project proposals as these passed various organizational units.

1/ Holt, K., Noen sider ved den administrative behandling av tekniske investeringer. Meddelelse nr. 10, 1962, från Institutt for industriell økonomi og organisasjon. Norges Tekniske Høgskole, Trondheim.

To summarize, it can be concluded that the field studies have shown that simplification as hypothesized in the behavioral theory of rational choice through omission was extensive, and it was indicated that factorization, and hence sequential choice in the maturation process, also were means whereby simplification was achieved.

IX.3 THE SIGNIFICANCE OF DIFFERENT STAGES IN THE SELECTION PROCESS

IX.3.1 Reasons to Question the Emphasis in the Normative PAL

The PAL does not present the selection process as a sequence of choices in an organizational context along a time axis. The interest is primarily confined to the fraction of the axis embracing the end of the maturation process, when a host of preceding choices have substantiated the idea to the extent that project consequences can be described as payment streams. The approach predominantly advanced for appraisal of these project consequences in the PAL is different versions of cost-benefit analysis (in the following CBA).

This restriction along the time axis in the selection process in the PAL reflects a strong emphasis on a particular stage in the process, which can be questioned on the following grounds, revealed by the field studies.

(1) The donor-recipient relation for most donor financed projects with a mutual implicit commitment to specified project characteristics already at an early stage in the maturation process reduced the significance of the decision points after the end of the maturation process.

(2) Projects hardly ever turned out to have too low a profitability level.

(3) The significance of the budget preparation as a decision point for donor financed projects was reduced basically to a matter of time-phasing.

(4) The decisions on project after the end of the maturation process and before the project was submitted to a donor were accept/reject decisions with only one project and one single design of each project.

(5) The significance of the early phase in the maturation process appeared to be very high, involving the most crucial choices in the entire selection process.

These points will be discussed in the proceeding sections to demonstrate what is claimed to be a major outcome of the study.

IX.3.1.1 The Donor-Recipient Relationship (K,Z,T)(RQ-14, RQ-35, RQ-1)

In section IX.2.7 above it was reported that project ideas were often presented to donors at a very early stage in the maturation process, and that generally donors had indicated interest in the projects before the end of the maturation process. It is suggested above that this implied a commitment, and both the field studies and previous experience indicated that the objective of the maturation process very much became to produce a project document that would satisfy the donor in mind and make him release the funds looked for. The significance of the maturation process as an assessment of the project desirability in the eyes of the recipient country was played down due to this donor orientation.

Once the agricultural ministry in the three countries had accepted a project for which a donor was lined up, the significance of the subsequent reconsiderations in the Planning/Treasury ministries was reported to be quite low. An exception in this respect was Tanzania, where the Economic Committee of the Cabinet made a substantive scrutiny of the project proposals. In Zambia and Kenya limited and non-systematic attempts to appraise the proposals submitted by the agricultural ministries were made before they were forwarded to donors.

IX.3.1.2 Profitability Almost Always Acceptable (K)(RQ-22, RQ-23)

In only one case in Kenya, where the question was explored, did the calculation of the profitability result in a level of the measure used that was considered too low.[1/] The project was not rejected, but the geographical area in the project (a grazing scheme) was

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1/ Appendix 1, section (A1.3.2), p. 240-41.

increased, which augmented the benefits more than the costs. Asked for the frequency more in general a limited number of officers with long experience from project planning in the agricultural sector and the author's own experience indicate, that the profitability of projects seldom turned out to be too low. This last information was more interesting as also projects that never passed through the entire selection process were covered by the question.

The outcome is that it was unlikely that a project idea, which had survived up to the end of the maturation process would die because the profitability was inadequate.

There may be several explanations to the low frequency of projects with unacceptable profitability. One revealed in the field studies is that it was unclear what the minimum level of the profitability criterion was.[1/] A wish to get the project implemented, since scarce planning resources had been spent on its preparation, the shortage of projects for implementation and the possibility to secure finance might have led to a downward adjustment of the aspiration level for the profitability criterion and a stronger emphasis on other project consquences like foreign exchange savings/earnings, employment generation, etc., if needed, to support a moderate level of profitability.

The possibility of a bias in the analysis that could have been conscious or subconscious, in favor of the project can not be disregarded. In fact a widespread documentation indicates that benefits are often exaggerated and costs grossly underestimated in project preparation in d-countries. This may reflect the combined effect of an inability to make reasonable forecasts and a systematic bias in favor of the projects.[2/]

Soelberg's (1967, p. 27) findings, that the confirmation phase of decision-making, when the favorite candidate (alternative) implicitly chosen early in the process is to be officially declared the choice through a confirmation decision, is, to quote Soelberg "an exercise in prejudice of making sure

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1/ Appendix 1, section (A1.3.2), p. 241-42.
2/ See e.g. Hirschman, A.O., Development Projects Observed. Washington 1967, p. 30.

that one's favorite candidate will indeed be the 'right' choice" appears to be relevant.[1/] A positive outcome of the profitability calculation could in other words have been seen as a confirmation of the rightness in the choices made earlier in the maturation process.

IX.3.1.3 The Significance of the Budget Preparation (K,Z,T) (RQ-15, RQ-16)

For those donor financed projects, where there was an agreement between donors and recipients, the significance of the budget preparation was considerably reduced. (See section IX.2.6 above.) If donor finance was secured, the project was given preference treatment. Hence, it was hardly a question of accepting or rejecting such a project in the budget, but rather a question of what rate of implementation that could be accomodated in the budget of a particular year. This description also holds for donor financed projects in Zambia.

IX.3.1.4 The Accept/Reject Nature of Choices

As discussed in section (IX.2.3) above only one design of each project was presented as a result of the maturation process, and project proposals were considered one by one before they were submitted to donors. The decisions involved no ranking of projects and project designs, but were reduced to accept/reject decisions. Apparently the significance of choices made were decreased compared with a situation in which a choice between projects and project designs had had to be made.

The outcome of the arguments in the preceding sections (IX.3.1.1-IX.3.1.4) is that the significance of the decisions made at the end of the maturation process in an agricultural ministry, and even more so the significance of the subsequent decisions before a project was submitted to a donor was very much reduced as (1) neither projects nor designs were compared, (2) as the minimum level of the profitability criterion was unclear, (3) as there

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1/ Soelberg (1967), p. 27.

was a considerable commitment to the projects already as donors had indicated interest in them and scarce planning resources had been spent in the maturation process, and (4) as it was hardly expected that a project would turn out to have too low a level of the profitability criterion used.

IX.3.1.5 The Significance of the Early Phase in the Maturation Process

The emphasis in the PAL placed on the end of the maturation process and the subsequent decision on the resulting proposal was questioned on a number of counts in the preceding sections. In this section the significance of the early phase of the maturation process will be advanced as the key argument against the emphasis in the PAL. First it may be warranted to demonstrate that the PAL had little to say about the early phase of the maturation process.

The PAL and the early phase

No reference to the field studies is needed to prove that the approach to project appraisal suggested in the PAL has little to do with the choice of problem to focus at. The interest in the PAL is as noted concentrated on the transformation of a resource flow, somehow determined to a money flow through the application of CBA. It is hence inconceivable that CBA could be used as a means to choose which problem that should be pursued in a maturation process. That would require that all project ideas as solutions to problems had to pass through the maturation process before a choice on which idea to enter the process could be made. No claim is made in the PAL that the CBA covers this type of choices either.

The PAL was quoted in chapter I to indicate that CBA was expected to play a role in determining which design a certain project should be given. This prescription was not followed in the process studied. The CBA was only applied to one single design at the stage when a project proposal was ready, save the expression of project consequences in the terms of payment streams rather than resource streams. Accordingly, the CBA was not used as a guidance to the choice of project design.

The limited search for alternatives in the maturation process, both regarding the number of alternatives considered and the depth in which they were considered that was observed, has been described as a simplification needed to correspond to the limited availability of planning capacity and of information. In this light it seems most unlikely that in the foreseeable future an increase in the planning capacity would permit any more extensive use of CBA in choosing project designs. In any case the decision-maker would not be freed from the task to reduce the number of potential alternative project designs by other means than the application of CBA to a set of very few, the discrimination among which may be achieved through the use of CBA.

To summarize the discussion above it is clear that the CBA to a notably limited extent had anything to do with the choices made in the early phase of the maturation process.

The Significance of the Early Phase of the Maturation Process

The significance of the early phase in the maturation process is partly explained by the reduced significance of the decision points after the end of that process revealed by the field studies. A number of additional arguments will be advanced to support the claim of significance.

Regardless of the findings indicating the reduced significance of the post-maturation decision points the early phase is crucial, since it is at this stage a large number of potential alternatives is reduced to a few to be explored. By choosing one problem to focus at one chooses not to focus at other problems, and when certain characteristics of the conceived project are chosen others are omitted. This reduction in itself and the implied choices not to consider alternatives makes the early phase important.[1/]

Yet another argument can be made on the basis of the observation that projects underwent strikingly few changes in the basic characteristics during the maturation process. The fact that a project

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1/ For a discussion of reductions in alternatives see section (II.6.1) and (II.6.3) in chapter II.

by and large maintained its characteristics as conceived early in the process without changes meant that the early choices increased in importance. The limited search for alternatives causing changes, as an adjustment to limited planning capacity and a high time pressure, helps to explain the low frequency.

Soelberg's (1967) hypothesis that the decision-maker implicitly chooses a favorite candidate already at an early stage in the decision process can also be advanced to support the claim of a high significance. An elaboration on his argument will even increase its strength. Soelberg sees a commitment to an alternative as a two-stage process. In the first the decision-maker implicitly chooses a favorite candiate, although he is not prepared at that stage to admit that this will eventually become his choice. The confirmation process leads up to a confirmation decision, whereby the decision-maker is prepared to reveal his prior implicit choice. Soelberg studied decision-making where only one decision-maker was involved. If several decision-makers are involved, which is typical to the process studied, the following reasoning is suggested.

To ensure that his favorite alternative is considered at all when the choice of problem to focus at, and the choices of project characteristics are made, each decision-maker will have to make his favorite alternative known. The confirmation process may then be very short, and the decision-maker reaches what Soelberg calls the confirmation decision, very soon.

The group of officers involved then agree upon a favorite candidate with different degrees of consensus, and they will be heavily commited as a confirmation decision is already made.

Not only Soelberg has found the early phase to be important. In the study by Renck already quoted, he notes:

> "In reality the choice between alternatives often seems to be made prior to the presentation of a formal investment proposal."
> (Renck (1967, p. 126)

In their in-depth study of decision-making in thirteen British firms Scott and Williams[1/] conclude:

1/ Scott, W.P. & Williams, W.F., Investment Proposals and Decisions. London 1965.

> "Thus, preliminary judgements, before full evaluation, go a long way towards committing final judgements." (Scott & Williams, 1965, p. 96)

and

> "We believe that these preliminary judgements go so far towards commitment to a final decision, that some firms might consider introducing more rigorous procedures before (ital.) a full evaluation." (Scott & Williams, 1965, p. 99)

In other words, similar observations on the significance of the early phases, as made in this study, have been made in other studies as well.

A conclusion of the discussion in the preceding sections (IX.1.10.1 - IX.1.10.5) is that the justification for the emphasis given to the end of the maturation process and the CBA in the PAL must be questioned. The concentration on the development of CBA appears to reflect more a donor-centred interest to have an advanced tool to appraise a particular project proposal submitted for financing, than the need for techniques to improve the project selection process in the d-countries, taking the characteristics of the process into account. This emphasis has most likely increased the relative ignorance of the early phase among officers in the d-countries.

This is not to say, that CBA would not have a role to play in the selection process for the decision-maker in d-countries. The role was far less significant, however, than suggested in the PAL. Furthermore, it is not to say, that the CBA is not "good". A theory or a technique certainly may be "good", although it is not used or corresponds to actual behavior, as was discussed at some length in section (II.11) in chapter II.

IX.3.2 The Time Dimension in the Behavioral Theory of Rational Choice

Authors like Simon, Cyert, March, Braybrooke and Lindblom are not very explicit in discussing the time dimension in decision-making. It is true, that sequential choices mean that there is a temporal dimension, but the theory of rational choice as it was early developed did not place any further emphasis on this aspect.

Among the more recent contributors to this theory, who have explicitly concerned themselves with incorporating the time dimension in the process of decision-making, are Soelberg (1967) and Bower (1970). Soelberg's proposition that the decision-maker implicitly chooses a favorite candiate among alternatives conceived already at an early stage of the decision process, the choice of which he confirms not until the end of the process has been mentioned in the preceding section (IX.3.1.5). On this basis Soelberg (1967, p. 27) stresses the significance of the early phase.

Based on a study of four large companies Bower (1970, p. 66) suggests that the investment process consists of two sub-processes, the definition process and the impetus process. The definition process corresponds to what in this study is called the maturation process, and impetus stands for the process whereby a project gains support and moves upward in the organization. Bower found the two sub-processes to be partly parallel. Plotted on a time axis for the decisions investigated, Bower observed that impetus started during the latter half of the definition process, but differences were noted between the various decisions. In all cases, however, had the definition process proceeded a considerable length of time before impetus was observed. Still, when the definition process was ended and resulted in a proposal, ground was cleared for the subsequent decision-making on that proposal by the impetus process.

One conclusion of Bower's reasoning is that the significance of the pre-proposal phase increases. Bower expresses this in the following way:

> "Finally, those engaged in studying capital budgeting in the field have tended to regard the submission of a proposal by a division president as a point near the beginning of the investment process, rather than one near the end."
> (Bower, 1970, p. 23)

IX.3.3 Conclusions

In section (II.6.1 and II.6.3) in chapter II it was shown that the choice of problem to be focused at and the choices of project characteristics at the early stage in the maturation process drasti-

cally reduced the number of potential alternatives, out of which only a limited number would be further considered. Such a reduction implies a high significance of these early choices in any selection process where a large number of potential alternatives is reduced.

The field studies revealed a series of characteristics of the selection process, which enhanced the significance of the early phase. Among these was the early involvement of donors, which considerably reduced the significance of the post-maturation decision points. Other characteristics increasing the significance of the early phase were the low frequency of changes in project characteristics during the maturation process, the accept/reject nature of post-maturation decisions, and the unlikelihood that project profitability would turn out to be too low.

In addition, Soelberg's suggestion that decision-makers implicitly choose a favorite candidate early was elaborated upon in the preceding section. This was to indicate that a commitment and a firmer commitment than the implicit choice of a favorite candidate to one preferred alternative when several decision-makers are involved is likely to be made very early in the process.

With reference to the selection process observed in this study it is possible to conclude that the early phase of the process was the most significanct. This was not reflected by the efforts devoted to this phase by decision-makers involved, however. In the normative PAL the emphasis is implicitly placed on the late phase of the maturation process rather than on the early phase.

The need for a redirection of emphasis in favor of the early phase is suggested to be one of the most significant conclusions in this study.

IX.4 TECHNIQUES USED

IX.4.1 Introduction

In chapter II it was noted that the normative PAL basically concerns itself with the application of the CBA as an approach to project appraisal. More or less elaborate points of view are given on the theoretical foundation for the CBA, and attempts are generally made to adjust the prescriptions to conceived constraints in the context where they are to be applied. This results in varying degrees of simplified variants of the CBA. As noted and questioned one simplification often made in the presentation of the approach is to suggest the theory chapters, if such are included, as optional reading.

The various forms of CBA proposed in the PAL involve an analysis from the point of view of the society and a discounting of cash flows. An analysis from an entrepreneurial point of view may be a complementary or an intervening step in the CBA. Several donors, and in particular the IBRD, have shown keen interest in CBA as an approach to project appraisal. The IBRD has effectively promoted the use of CBA in d-countries in two ways.[1/] Firstly, and most important, the IBRD requires that an application for financial support to a project contains an economic analysis, which in its format is an application of CBA. As will be seen, only parts of the format seem to have been accepted.

Secondly, the IBRD has promoted the use of CBA through extensive courses and research and publishing activites.[2/]

1/ The IBRD makes a distinction between a financial analysis concerned with the return to equity at market prices of the executing agency, and an economic analysis, which is what here is called CBA. A positive outcome of the latter should always be a necessary condition according to the Bank, and at times it may be sufficient for project implementation. A positive outcome of a financial analysis is not a sufficient condition, but it should normally be a necessary condition. See Gittinger (1972), pp. 408.

2/ Among works published are:
(i) King (1967) and Gittinger (1972)
(ii) World Bank Staff Occasional Papers:
No. 4: Adler, H.A., Sector and Project Planning in Transportation. Baltimore 1967.
No. 12: Zaidan, G.C., The Costs and Benefits of Family Planning Programs. Baltimore 1971.
No. 14: Thias, H.H. & Carnoy, M., Cost-Benefit Analysis in Education: A Case Study of Kenya. Baltimore 1972.

It was also noted in chapter II that at present efforts are made to refine and extend the CBA as a response to criticism delivered against the approach. This is done e.g. by introducing more than one objective dimension with a consideration of trade-offs. This, however, tends to increase its complexity and to reduce its appeal to the practitioner.[1/]

The call for simplification in the behavioral theory of rational choice can be applied to the use of techniques in the project selection process. The techniques themselves, and the way they are applied, can accordingly be expected to be adjusted to the limited analytical capacity of the decision-maker, the limited availability of information, and the costliness of information. In chapter III a set of characteristics of d-countries was identified, some of which were expected to enhance simplification in techniques used. However, the influence of donors and the presence of expatriate experts in d-countries were expected to affect the selection process towards the use of more complex techniques.

The following sections will clarify what simplifications, if any, in the techniques used that characterized the selection process.

IX.4.2 Observations on Techniques Used

IX.4.2.1 Techniques Used in the Early Phase

In section (IV.3.1) in chapter IV a distinction was made between four classes of techniques: (1) verbal-qualification, (2) verbal-quantification, (3) in writing-qualification, and (4) in writing-quantification. An attempt was made to clarify which of these classes that best described the techniques used at the early stage of the maturation process.

1/ Little (1970) has noted that practitioners facing operation research models, which they are reluctant to use due to the conceived complexity, point to considerations not covered by the model, in order to postpone its introduction. The operation researcher then attempts to elaborate the model to take care of the criticism, and the model becomes even more complex and less attractive to the practitioner. Little's arument is equally pertinent to the implementation difficulties with CBA. Little, J.D., Models and Managers: The Concept of Decision Calculus. Management Science, Vol. 16 (1970), pp. 466-85.

With reference to the choice of problem the respondents indicated in 10 out of 14 cases (70%) that qualification dominated, and in 9 out of 14 cases (65%) presentation was verbal. The stage was described as one during which discussions of project consequences were in rather general terms, with the kind of consequences rather than their magnitudes focused at.

With reference to the choices of project characteristics the pattern was much the same. Qualification dominated in nearly 70% of the cases (13 of 19). One difference, however, was that verbal was reported in only 35% of the cases (7 of 19).

In other words, the techniques used at the early stage were characterized by qualitative assessment. When the problem to be focused at was chosen the techniques were predominantly verbal, whereas the consideration of project design more often than not was made on the basis of something in writing, still qualitative in nature though.

IX.4.2.2 Discounting of Cash Flows (K,Z,T)(RQ-20)

Out of the fourteen projects studied in Kenya cash flows were discounted in eleven cases. Cost estimates without discounting were made in two cases, where the benefits could not be quantified in money terms, and for one project discounting was not applied, although the information required was available. For two out of the three projects looked into in Zambia cash flows were discounted. It was reported that discounting was more prevalent in projects involving donor financing than in locally financed projects. This seems to support the argument of donor influence on the techniques used. Again in Tanzania discounting was reported to be the normal approach, when both costs and benefits could be determined.

The widespread use of discounting may be argued to be a level of sophistication in techniques used, exceeding what is generally found even in large private enterprises in i-countries, where the determination of payback periods, average rates of return, and

other approaches not presupposing discounting are in common use.[1/]

IX.4.2.3 At What Stage in the Maturation Process was CBA Applied (K,Z,T)(RQ-18)

In the normative PAL it is presupposed that CBA will be used in the maturation process to discriminate between incompatible alternative project designs. This can be understood to mean that a set of alternative designs reach the end of the maturation process, and that each alternative is appraised with CBA. But it is evident that the CBA is also foreseen to be applied in making choices at a lower level of detail related to sub-problems resulting from factorization.

The observations made revealed that payment streams were not determined for more than one design for each project.[2/] Furthermore,

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1/ (i) Miller reported in a study of 200 US companies that 30% applied some form of discounting, and almost 60% used the pay-off method. Miller, J.H., A Glimpse at Calculating and Using Return on Investment. NAA Bulletin, Vol. XLI (1960), pp. 65-76.

(ii) Out of 120 British firms studied by Lawson, no less than 115 were reported not to use discounting methods. Lawson, G.H., Criteria to be Observed in Judging a Capital Project. The Accountant Journal, May-June, 1964.

(iii) Renck's study of 30 Swedish firms demonstrated that the pay-back period was the criterion most frequently used in investment calculus. Renck (1967), pp. 14-15.

(iv) Klammer reported in a study of 369 manufacturing firms in the US that 57% used discounting methods in project evaluation. Klammer, T., Empirical Evidence of the Adaption of Sophisticated Capital Budgeting Techniques. The Journal of Business, Vol. 45 (1972), p. 393.

(v) In a study of the use of quantitative methods in evaluation and selection of R&D projects in Swedish firms Hanson et al found that less than half of the replying firms used such methods and less than a third computed present values. Hanson, A., Kraepelin, U., and Person, B., Om formella metoder för värdering och val av forsknings- och utvecklingsprojekt i svenska industriföretag - en enkätundersökning. (Stencil) University of Stockholm, September 1971.

2/ Appendix 1, section (A1.3.2), p. 236.

and here reliance is predominantly placed upon the author's experience and not upon the field studies, the transformation of project consequences into payment streams was the last analytical effort made when all the input/output relations had been established on the basis of a choice of process characteristics, location, size, target group, etc. This application at the end of the maturation process is important in that it considerably reduces the significance of the economic analysis. CBA was not used in making the choices necessary to build up a proposal, and since only one design was pursued the analysis was restricted to a contribution to the decision whether to accept or reject a particular proposal.[1/]

IX.4.2.4 The Choice of Profitability Criterion (K,Z,T) (RQ-20)

Quite a number of profitability criteria, taking differences in intertemporal preferences into account, are conceivable. Also crude criteria like the pay-back period can be modified to incorporate an interest element. The most frequently discussed criteria, however, are the net present value (NPV) and the internal rate of return (IRR), both of which take the time element into account.[2/]

The field study showed that in those cases where the profitability was determined, the (IRR) was without exception the criterion used. This preference for the (IRR) was pronounced in all three countries.

The choice of the (IRR) is interesting, bearing in mind that the general conclusion, when the (NPV) and the (IRR) are compared, is that the former is preferable.[4/] It is difficult to explain the

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1/ The following quotation points to the same observation. "... only too often the only decision posed to an economist is whether or not to build a dam that has already been sited and designed." Jay, J.L., What an Economist Wants to do About Dams. In Warren, W.H. & Rubi, N. (eds.), Dams in Africa. London 1968.

2/ An extensive literature is devoted to a comparison between the two criteria. See e.g. (i) Henderson, P.D., Investment Criteria for Public Enterprises. In Turvey, R., Public Enterprise. Harmondsworth 1968, pp. 92-96; (ii) Turvey, R., Present Value Versus Internal Rate of Return. Economic Journal, Vol. LXXIII (1963), pp. 93-98.

3/ For a review of the disadvantages with the internal rate of return see also Dasgupta & Pearce (1972), pp. 164-67.

widespread use of the (IRR) other than as a result of the influence exerted by donors like the IBRD. As was described in section (III.7.2) in chapter III the IBRD have accepted the (IRR), arguing that their decision on a project is an accept/reject decision, which would eliminate one of the more severe objections to the (IRR), namely that it may fail as a criterion when incompatible alternatives are ranked. This argument is only partly correct, since an analysis of difference investments permits the use of the (IRR) also in cases of incompatibility.[1/]

The selection process was observed to contain no attempts to rank projects, but the decisions were rather accept/reject decisions. Hence, it may be argued that in the sense discussed above no harm was caused by the extensive use of the (IRR). For reasons given below, this was more luck than a conscious appreciation of the characteristics of the (IRR) and other criteria like e.g. the (NPV), however.

IX.4.2.5 The Determination of a Reference Rate (K) (RQ-23)

The use of the (IRR) in accept/reject decisions still leaves the decision-maker with the pain to determine with which reference rate the (IRR) for a particular investment opportunity should be compared. There must be a cut-off rate or a minimum rate under which the (IRR) is not allowed to fall. In section (IV.3.2) in chapter IV reference was made to an extensive literature, dealing with the difficulties to establish such a rate for Government investments.[2/]

In Kenya, where the question was explored, it was noted that no such social rate of discount was determined and agreed upon.[3/] Reference was made to what was thought to be an IBRD minimum level by some respondents, and figures ranging from 10-15% were suggested. The difficulty to indicate only one such minimum rate was also reported. It was argued that the minimum acceptance level of the (IRR) was

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1/ Mishan has proposed a normalization procedure by which ranking with the internal rate of return gives the same order of preference as ranking with the net present worth. Mishan (1972), chapters 34, 35 and 36.

2/ See e.g. Baumol (1968), pp. 788-802, Henderson (1968), p. 103 et seq., Dasgupta & Pearce (1972), p. 145 et seq, and Prest & Turvey (1965), pp. 697-700.

3/ Appendix 1, section (A1.3.2), p. 242.

dependent upon the nature of the project; its employment generation effects, foreign exchange consequences, etc.

The findings may be summarized as that there was no consensus on a reference rate with which to compare an (IRR).

A possible consequence of this indecisiveness on the reference rate was in section (IX.3.1.2) above suggested to be, that it was hard in any given situation to say if a project had too low a profitability or not, or differently interpreted, that projects easier could pass the scrutiny at the end of the maturation process if the decision-maker had a bias in favor of it.

IX.4.2.6 The Command in Project Appraisal Techniques (K) (RQ-21)

The normative PAL presupposes that the staff involved in the project selection process, and particularly those taking part in the maturation process, are familiar with basic concepts in capital budgeting theory and welfare economics. Admittedly, some of the authors pay considerable attention to outlining the theoretical foundation for the approach to project appraisal proposed, but as already noted, the readers are generally given these chapters as optional reading.

A research question was formulated to clarify the familiarity with such basic concepts as the choice of profitability criterion when ranking incompatible projects, the definition of the (IRR) and its limitations, treatment of uncertainty and risk in project analysis and the meaning of concepts like shadow prices and externalities. These questions were raised with expatriate advisers in Kenya, who as a group performed in an unacceptable way.[1/] There were more unacceptable answers than satisfactory answers, and the questions related to criteria, including those on the (IRR), showed a very poor result. This last observation is interesting, bearing in mind that the (IRR) was the criterion used. Some conclusions can be drawn from these observations, and others should not be drawn.

1/ Appendix 1, section (A1.3.2), p. 239.

The low command reflected in the replies given to a set of rather elementary questions related to CBA suggests that it was hardly expected that the more advanced forms of CBA, proposed in the PAL, would be applied in the maturation process. The attempted application had to be adjusted not only to the limited cognitive capacity and the costliness of information, but also to the command in the techniques.

Yet, attempts were persistently made to apply CBA in project appraisal. Donor information requirements were such that an expected adjustment in techniques used was not permissible. No attempts have been made in this study to measure the consequences on the validity and the reliability in the analyses made on the basis of a low command in CBA, but it appears inevitable that it had a notable reducing effect.

One conclusion that should not be drawn on the basis of the replies given by the respondents, however, is that these advisers were no good advisers. First of all they had many other tasks, the performance of which was never measured. Secondly, they may have contributed in a most decisive and competent way to the formulation of the projects, prior to the CBA ending the maturation process.

To summarize, the command in project appraisal techniques was found to be low.

IX.4.2.7 Other Observations on the CBA as Applied (K,Z,T) (RQ-34, RQ-18)

In any presentation of CBA as an approach to project appraisal in d-countries a major issue is the claimed need to introduce shadow prices to better reflect scarcities than the market prices do. Even the more pragmatic normative writings as those of Solomon and Gittinger, recommend a partial introduction of shadow prices as an essential element in their approaches.

The field studies revealed that shadow prices were only exceptionally used, and when done so more to satisfy donor requirements than to conform with an approach to project appraisal that was accepted by the Government.[1/] In Kenya, where the reasons behind the limited

1/ Appendix 1, section(A1.3.2), p. 246.

use was sought more in detail, there was a pronounced scepticism towards the justification of using shadow prices in the analyses. It was argued that they were hard to determine and often just tended to express subjective views, and that if projects were profitable at market prices they would become even more so at shadow prices.[1/] Then there was no use to apply shadow prices. An important objection also was that in the end the financial consequences was of an overriding significance, as the Government would have to face market prices.[2/]

Most of the objections were of a 'practical' nature, rhather than of a 'theoretical' nature.[3/] Whatever the motives a consequence was,

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1/ McKean stresses the role of personal judgement and the cost in estimating shadow prices and warns against the implications thereof. McKean, R., Shadow Prices. In Chase, S.B. (ed.), Problems in Public Expenditure Analysis. Washington 1968, pp. 33-64.

2/ The fact that the financial implications of an analysis and decision-making based on shadow prices may result in a goal-conflict, is hardly recognized in the CBA literature. The point will be clarified with a simplified presentation of a case with forged figures which the author has experienced as a consultant. A road improvement project could be implemented with either a labor intensive method (LIM) or a capital intensive method (CIM). (Only the initial investment will be considered here.) The benefits were the same regardless of method. Using shadow prices costs with (LIM) amounted to 80 and with (CIM) to 125. The (LIM) was preferable. At market prices, however, the (LIM) amounted to 120 and (CIM) to 90. In this case (CIM) was more attractive. What would the Government choose? The answer is not obvious as the situation involves a goal conflict. The Government could e.g. increase external borrowing, but this could affect goals related to the balance of payments, goals related to price stability, etc. Trade-offs between various goals affected are evidently hard to determine, and in the absence of quantifications decision-makers tend to emphasize the financial aspect and make the choice on the basis of the outcome of the analysis at market prices, as happened in the case referred to.

3/ One major theoretical problem with the use of shadow prices is the question of 'second best'.
For a formal discussion of the justification for marginal cost pricing in one or a few, but not all sectors of the economy (the problem of second best) see e.g. Dasgupta & Pearce (19729, pp. 109-12, or Mishan (1972), pp. 90-99, or Lipsey, R.L. & Lancaster, K., The General Theory of Second Best. Review of Economic Studies, Vol. 24 (1957), pp. 11-32. These two authors were the first to comprehensively formulate the theory of second best, although the problems involved had been recognized earlier.

that one of the more significant elements in a CBA was not taken into account, and as it appears indisputable that serious market imperfections were at hand, which would have called for the use of shadow prices, it can be argued whether the approach to project appraisal in use was CBA. According to Feldstein's (1964) definition of CBA, which prescribes the use of shadow prices, it was not. (See footnote 1/ on p. 157.)

Another observation common to the three countries was that the estimate of the profitability with hardly any exception was a point estimate, without any analysis of risk and uncertainty.[1/] To the extent risk and uncertainty was taken into account at all in the projects studied, contingencies were added on the cost side, and this is a method normally considered to be too crude and of "limited usefulness".[2/] In other words the analysis was simplified in this respect as well.

IX.4.2.8 The Significance of the Profitability Criterion (K) (RQ-24)

In Kenya senior decision-makers in the Minag and the MFP were asked to indicate on a five degree scale what significance they attached to the profitability criterion in their overall assessment of the desirability of a project. The replies showed that as a general rule scores given were "high" or "very high".[3/] For projects which aimed at small-holders or otherwise had a pronounced 'social' nature, there was a tendency to play down the significance to "some". Probing clarified that what was important was that a minimum acceptance level of profitability was reached. In this sense a high or very high significance was attached to the criterion. If this level was surpassed, however, the significance was considerably less. These

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1/ Appendix 1, section (A1.3.2), p. 236.

2/ Dasgupta & Pearce (1972), p. 194. For a discussion of uncertainty and project evaluation see also Mishan (1972), pp. 268-306 and Reuthlinger, S., Techniques for Project Appraisal under Uncertainty, World Bank Staff Paper No. 10. Baltimore 1970.

3/ Appendix 1, section (A1.3.2), p. 243.

observations seem to conform with expected behavior in accept/reject decision situations.

The answers given are interesting in the light of some other observations. Firstly, the validity and the reliability in the analyses were questioned in section (IX.4.2.6) above, due to the low command in CBA that was observed. If a low validity/reliability was the result, the justification for attaching a high significance to the profitability criterion was disputable. Secondly, the point estimates of the profitability either presupposed that decision-makers were not risk adverse, which was rejected in section (III.8) in chapter III, or the analyses must be regarded as an incomplete basis for decision-making.

IX.4.2.9 The CBA and the Budget Preparation (K,Z,T) (RQ-25)

In the capital budgeting literature the investor is assumed to choose a portfolio of projects, which gives the investor the highest expected present worth of the investments.[1/] Bierman and Smidt[2/] summarizes this view by proposing the following rule in capital budgeting decisions.

> "Essentially, the procedure consists of a choice of a rate of discount representing the time value of money, and the application of this rate of discount to future cash flows to compute new present values. The sum of all present values associated with an investment (including immediate outlays) is the present value of the investment. Those investments with the highest present value should be chosen."

The rule could easily be rephrazed to refer to public investments, rather than investments made by a firm.

Little and Mirrlees[3/] indirectly subscribe to the above procedure to determine the project content of the budget in their discussion

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1/ The portfolio model has many elaborations and the above presentation is the model in a primitive form. For elaborations see e.g. (i) Gordon, M., The Investment, Financing and Evaluation of the Corporation. Homewood 1962; (ii) Solomon, E., The Theory of Financial Management. New York 1963.

2/ Bierman, H. & Smidt, S., The Capital Budgeting Decision. New York 1966, p. 1.

3/ Little & Mirrlees (1968), p. 118.

of the determination of what they call the accounting rate of discount. They propose that the rate should be chosen so that the investment budget is exhausted when the last project with a positive present value is included. The authors recognize, however, that other considerations than the social profitability may be warranted to correspond to a multi-dimensional objective, but they never attempt to reconcile this observation with the implied approach to budget decisions as described.

In his study of four large private enterprises Bower[1/] showed that the capital budgeting decisions had little to do with Bierman and Smidt's prescriptions. His main argument was that resource allocation decisions involved far more than what normally falls under the concept of financial management, and that resource allocation is a dynamic process along a time axis in which impetus as a subprocess whereby a proposal gains support is an important element.

Bower can be interpreted as if the financial view was too narrow, and a similar argument is used by Wildawsky to explain the limited use of the CBA in the (federal) US budgeting process.

> "Because the cost-benefit formula does not always jibe with political realities - that is, it omits political costs and benefits - we can expect it to be twisted out of shape from time to time."
> (Wildawsky, 1964, p. 150)

In this study it was reported in none of the three countries, that projects were compared and ranked according to their profitability criterion in connection with the budget preparation.[2/] When cuts were made, normally implying a rephasing of expenditure, economic efficiency criteria were not used as a guidance either.

The interpretation made here is that once a project had been accepted as economically viable earlier in the selection process, i.e. surpassed a minimum acceptance level, its profitability was not any longer a major concern. Rather other considerations as the availability of donor finance, absorption capacity in the administrative agency to execute the project, and also what vaguely

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1/ Bower (1970), p. 78.

2/ Appendix 1, section (A1.3.3), p. 249.

was referred to as the level of priority, were overriding considerations. "Priority" was used less to express level of profitability, but rather with reference to other considerations as the conceived significance of the problem that a project was to solve.

It is questionable if the CBA, as carried out for different projects, had been very useful to guide decisions on rephasing of expenditure, had they been used. Most unlikely were the relative merits of marginal changes in projects reflected in their overall level of profitability, and given the time pressure under which the budgets were prepared any recalculations were simply not conceivable.

In the PPB literature the decision-maker is urged to consider costs and benefits over an extended period of time rather than expenditure and income for one, or in the best case for a few years, which is typical for traditional public budgeting.[1/] CBA is proposed to achieve this change in view. Although CBA was widely used in the three countries studied, it was evident that no attempt was made to integrate the CBA with the budget preparation as foreseen in the PPB literature.

In summary, projects were not ranked according to their profitability criterion in the budget preparation.

IX.4.2.10 Other Techniques for Project Appraisal and Project Selection (K,Z,T) (RQ-26)

None of the three countries were reported to have a specific proforma or manual prescribing how CBA should be applied in the maturation process. There were no centrally determined rules for e.g. how uncertainty was to be treated in the analyses, whether shadow prices should be used, and if so, how they were to be determined.[2/] As already noted, there was no centrally determined social rate of discount.

1/ See e.g. (i) Lyden, F.J. & Miller, E.G., Planning, Programming, Budgeting: A System Approach to Management. Chicago 1968; (ii) Fisher, G., The Role of Cost-Utility Analysis in Programme Budgeting. In Norvich, D. (ed.), Programme Budgeting: Programme Analysis and the Federal Government. Cambridge, Mass. 1965, pp. 61-78; (iii) For a critique of PPB see Hoos, I., Systems Analysis In Public Policy. A Critique. Berkeley 1972.

2/ Appendix 1, section (A1.3.3) p. 250.

This lack of a prescribed project appraisal technique within the agricultural sector resulted in differences in the approaches taken to appraise different projects. A non-uniform treatment would have limited the possibilities for comparisons between projects, had such been attempted.

Other techniques than CBA might have been applied in the project selection process. Scoring systems and checklists for instance, could have been used at different stages. This was not the case, however,

IX.4.3 The Techniques Used and the Normative PAL

As the observations on techniques used and their relation to the PAL already has been discussed at some length throughout sections (IX.3 - IX.4) above, only summary comments are warranted here.

The donor influence on the techniques used for project appraisal was striking, which meant that attempts were made to apply CBA, which is the approach favored in the PAL. These attempts were limited to one project design, however, and hence the techniques played a far more limited role than suggested in the PAL. They neither assisted in the choice of problem to attend, nor in the choice of design of a project.

It is questionable if a CBA approach even in the more simplified forms proposed in the PAL was applied. Shadow pricing, which is unanimously recommended in the PAL, was for instance hardly ever practised.

The application of CBA, particularly in its more advanced forms, proposed by e.g. Dasgupta, Sen and Marglin, and Little and Mirrlees, presupposes a command in capital budgeting theory and welfare theory that was largely lacking. The 'enforced' use of techniques in which the command is inadequate is likely to result in reduced validity and reliability in the analyses.

The PAL is often not very specific as to how project appraisal is related to the budget process. Little and Mirrlees treat the subject

superficially in an indirect way, when they discuss what they call the accounting rate of interest. The budget would, according to these authors, be determined by choosing an accounting rate of discount, so that the investment budget is exhausted when the last project with a positive present social value is included.[1/] As concluded elsewhere, however, the techniques proposed in the PAL were not reported to play any role in ranking projects during the budget preparations.

To summarize, the techniques proposed in the normative PAL played a far less significant role than proposed, and far-reaching simplifications were made in these techniques.

IX.4.4 Techniques Used and the Behavioral Theory of Rational Choice

The behavioral theory of rational choice, as discussed in chapter II, does not concern itself directly with techniques, but the arguments for simplification apply to techniques as well, to comply with the limited cognitive capacity of man, the availability of information, and the costliness of analysis.

In chapter III a number of characteristics of d-countries were identified, some of which were expected to increase simplifications in techniques used. The presence of expatriate experts and donor influence was foreseen to reduce simplification, however.

The field studies demonstrated that donor influence towards more advanced techniques was decisive, and hence the hypothesis to this effect in section (III.7.2) in chapter III was supported by evidence. The rigidity in the format for project appraisal, implying an attempt to apply CBA, resulted in a more widespread use of discounting than is generally observed in private firms in industrialized countries. At the same time simplifications were made in the techniques, as an adjustment to the limited command and the restricted availability of information.

1/ Little & Mirrlees (1968), p. 181 et seq.

In section (IX.4.2.6) it was argued that such an 'enforced' use of an advanced approach like CBA, which did not reflect an adjustment to the limited analytical capacity, information availability and the costliness of analysis was likely to have caused considerable validity and reliability problems in the analyses.

Whether the expatriate experts reduced the degree of simplification is a matter of speculation. A fact is, however, that simplification in techniques used was considerable in their presence.

IX.4.5 Differences in Techniques Used Between Countries and Between Projects

For the projects studied no decisive difference between the countries could be established. Donor influence on the format was equally apparent and the limitations of the use to the end of the maturation process was the same.

This study was confined to donor financed projects. In the interviews it was mentioned both in Kenya and in Zambia, that less advanced techniques tended to be applied to domestic projects. In Zambia this was reported to be the case even for rather large projects. No difference was noted between large and small projects in the project set in Kenya, or between new and second phase projects.

CHAPTER X
SOME NORMATIVE CONCLUSIONS

X.1 INTRODUCTION

In this chapter findings in the empirical studies will be used to indicate ways in which changes in the selection process might be considered or to indicate characteristics of the process that may be pertinent to keep in mind for those involved in it.

Prescriptions are often given with the hope to achieve improvements. It is therefore necessary to be explicit on what is to be improved, and what is meant with an improvement. Prescriptions in this study would be given to improve the project selection process, and an improvement is realized if the process with the prescriptions re-results in projects chosen with a higher degree of development obejctive contribution, than without these prescriptions.[1/] Obviously, it is next to impossible to empirically verify if an improvement so defined has been achieved. In a hierarchical structure of objectives with the highest level of objective to improve the project selection process, objective contribution to lower level objectives resulting from prescriptions have to be assessed to seek their justification. It is then essential to indicate a probable means-end relationship between the lower level objectives and the improvement objective. For example an increased validity and reliability in the analyses of projects can be identified as a lower level objective, which could be achieved by certain prescriptions, and such an increase is likely to lead to a selection of projects with a higher degree

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1/ The concept 'development objective' is deliberately used without further specification, as that is not needed for the argument.

of contribution to the development objectives. Admittedly the means-end relationship may not always be as clear as in this example.

The discussion below is related to three specific interest groups, namely administrators in d-countries, donors and contributors to the normative PAL.

X.2 ADMINISTRATORS IN D-COUNTRIES

X.2.1 The Significance of the Early Phase

This study has demonstrated that the early phase of the selection process is crucial, and it is claimed to be the most significant. This importance was not observed to be reflected in the efforts devoted to that phase, however, but the choice of what problem to focus at and the choices of basic project characteristics were made with little consideration of alternatives. The basic concept was early laid down, and the ensuing maturation process was geared to substantiate that concept and 'write it up' to get a presentable document to be forwarded to a donor.

It seems justified to suggest that considerably more emphasis should be given to the very early phase of the maturation process. This emphasis should contain two components. Firstly, more analytical efforts with a pre-specified structure should be made to assess conceived project ideas and alternative designs of project ideas, before they are accepted for maturation.

Secondly, search for alternatives should be extended. In particular is it desirable that alternatives to the problem focused at are considered. An approach to decision-making at the early stage that will imply this redirection of emphasis is proposed in the next chapter.

Would these changes, a more extensive and a pre-structured analysis of each alternative considered, and an extension of alternatives considered, lead to an improvement of the process? This is suggested for the following reasons.

The more extensive analysis at the early stage will increase the basis on which to make a judgement of the merits of a particular project idea and/or project design focused at before the project decisively enters the maturation process, and before commitment has agumented to levels at which reconsideration becomes less and less likely.

The consideration of alternatives has the advantage of focusing attention at the opportunity cost of resource use. The dangers with focusing at and comparing with H_0, to do nothing, can be be described as follows:

None of the Development Plans in the three countries studied is specific to the extent, that a comprehensive priority ordering of problems/projects is given. There are too many things which understandably are described as important. This can be interpreted as if no stand has been taken on how important they are, which is a pitfall as it then becomes easy to justify, that attention is directed to any of a considerable number of projects. The lack of comparisons makes it possible and as mentioned often easy to justify the concentration on almost any project.[1/] The virtue of comparisons is that it (1) introduces a relative point of view (2) enforces a stand to be taken on the relative weights of objectives, and (3) increases the likelihood that attention is paid to problems with high priority. The same argument is relevant for comparisons of project characteristics.

X.2.2 Donor Influence on the Selection Process

It was shown by the field studies that normally donors were brought into the selection process at an early stage, in that the agricultural ministries informally attempted to raise donor interest in various project ideas. Implicitly the presentation of the project ideas and an eventual positive donor response was a commitment on both parts, which reduced the likelihood that the basic project

1/ We were several times trapped this way in the Minag in Kenya 1970-72. Horticulture received keen attention whereas major crops like maize were relatively neglected. A minor canning beans project was worked on, but no efforts were made to develop an extended production of pulses for domestic farm consumption to a partly malnutritioned population. To mention a few examples.

concept would be reconsidered during the maturation process. Furthermore it tended to make the preparation of the project document acceptable to a donor a major objective of the maturation process, rather than the assessment of the desirability of the conceived project.

To avoid such an early commitment and to reduce the biased focus on the project document, it appears desirable to postpone the stage at which the donors are brought into the selection process. The fact that donor preferences are generally known, which to a varying degree have to be taken into account, and the pronounced tendency among the donors to leave to the recipient country to make the micro allocations within areas or programmes, would reduce the drawbacks of a late presentation of project ideas.[1/] A standard format could be worked out to prescribe how far the maturation should go before a donor is brought in.

X.2.3 Techniques Used in the Selection Process

The question of techniques used in the selection process appeared to be surrounded with considerable difficulties. At the early stage of the maturation process no formalized techniques were used to structure the analytical efforts involved in choosing the problem to focus at and the choices of project characteristics. This matter will be dealt with extensively in chapter XI. Equally absent was a technique by which projects were compared in the budget preparation.

Considerable attention was in the field studies paid to the economic project appraisal techniques used in the maturation process. It was apparent that donor influence on the choice of techniques was considerable, resulting in attempts to apply (CBA) involving discounting of cash flows. Some of the observations made on the use of CBA will be briefly repeated.

The command in CBA and capital budgeting more in general was strikingly low among the staff involved in the selection process.[2/] This is likely

1/ A drawback mentioned in the interviews was that resources would have been spent in vain if the donor rejected the project idea or rejected the design. If presented early, donor comments could be taken into account in the design of the project.

2/ Only expatriate staff in Kenya was interviewed on this matter, but one would hardly expect a higher command among local staff.

to have reduced the validity and the reliability of the analyses made and impeded the interpretation of the results. Furthermore, there was no prescribed format or version of CBA or any other approach that was uniformly applied, ensuing comparability between projects.

No analysis of uncertainty was made, but only one state of the world was assumed. This assumption is questionable, and furthermore the pronounced uncertainty in the estimates of parameters and technical coefficients caused by limited information makes the absence of an analysis of uncertainty highly questionable.

In this light it was interesting to notice that senior decision-makers still attached a high significance to the profitability criterion surpassing a minimum. It was unclear what that minimum was, however.

At this stage a number of proposals can be made.

It should be recognized that project appraisal with CBA or other approaches to investment analysis represent a specialized field indeed, and that economists or agricultural economists very seldom have more than a general, and hence inadequate capability in that field. This recognition should be reflected in the recruitment of local and expatriate staff, and it appears as if the selection process could have been improved had such staff been available.

It is also highly desirable that an analysis of uncertainty is made compulsory in project appraisal. A considerable improvement would be achieved even if such a simple devise as sensitivity analysis was introduced.[1/]

The wisdom of attaching high significance to the profitability estimate under prevailing circumstances reported at the time of the study must be questioned. The reliability and the validity problems, the lack of analysis of uncertainty, poor parameter estimates, no uniform approach to the application of CBA and the undecisive nature of the cut-off rate with which the IRR's were to be compared, makes it relevant to seriously question the use-

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1/ See e.g. (i) Rappaport, A., Sensitivity Analysis in Decision Making. Accounting Review, Vol. XLII (1967), No.3, pp. 441-56; (ii) House, W.C. Jr., The Usefulness of Sensitivity Analysis in Capital Investment Decisions. Management Accountant, (1966) pp. 23-29.

fulness of the profitability estimates as a guidance to the determination of project desirability. The recommendation would be to play down the significance attached to the profitability estimate awaiting decisive improvements in the economic analyses made.

From the above it follows that the introduction of a uniform format for project evaluation is desirable as the determination of a generally recognized cut-off rate.[1/] This rate should obviously not be used to reject/accept projects. A project failling below might still be eligible for acceptance, but the arguments therefore would have to be explicitly presented.

X.2.4 Procedures and Coordination

This discussion refers only to Kenya, where sufficient observations were made to permit a comment.

The selection process extended along the time axis, with a number of organizational units involved, called for particular efforts to avoid poor coordination, delays and non-involvement of units, which rightfully should have been involved. Considerable shortcomings were apparent in these respects, but the discussion here will be limited, as changes were under consideration, which may pre-emt the arguments if advanced. Only one remark will be made, as this point did not appear to have been embraced by the proposal discussed.

If the Ministry of Finance and Planning will be able to perform its stipulated task to ensure that projects are chosen in accordance with Government priorities, as indicated in the development strategy, it is necessary to involve this ministry already at the very early stage of the maturation process, given its demonstrated significance. Admittedly this happened occasionally, but it should be a rule and with explicit recognition of its significance.

X.3 DONORS

X.3.1 The Early Involvement

A donor should be aware of the fact that a non-commital attitude paradoxically enough can result in a decisive influence on the selection process. When the donor reacts to a project idea presented

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1/ It is likely that different formats would be required for different kinds of projects.

to him by indicating that it looks interesting but that a study is needed before he can commit himself, he is likely to say that with an easy mind, as he has shown his willingness to consider what the d-country proposed without committing himself. The interest shown holds a promise of possible financial contribution. This is likely to tie the recipient country to the project idea and the project characteristics presented. Bearing in mind that the early choices were made with very limited search, a well-wishing attitude by the donor may prematurely restrict the focus to a particular project and a particular project design.

The advancement of land programming in the field of development cooperation is made on the assumption that the d-coutries know their priorities best themselves, and this makes sense. However, it does not necessarily mean that the priorities are very well defined. Still, knowing them far better than donor representatives, they may be quite unclear and project selection affected accordingly. When it is suggested here that donors should ask more rather than less at the early idea stage, this is not because the donors would know the answers. It is because questions on the justification of the choice of problem focused at and the choices of project characteristics would induce an analysis, before the donor had responded to the project idea hithertoo not too frequently carried out.

X.3.2 Format for Project Appraisal

When prescribing in which way a project should be presented, what information that is required, and accordingly, what economic appraisal technique that should be applied, the donors should take the prevailing constraints in the d-countries into account. It may be questioned whether this is done, at least by some donors like the IBRD.

Donor influence on techniques was noted to be extensive, and earlier in this report it has been mentioned that donors to a varying degree have adopted CBA as the preferable approach to project appraisal. The CBA is continuously refined and elaborated upon, and this increases the complexity of the approach, and is likely to continue

to do so.[1] Donors can afford to have the single 'theorist' needed to design a format for project appraisal, which this study has shown goes beyond the planning capacity in a d-country like those studied. There is a pronounced risk, that the theoretical refinement of CBA will be followed by revised formats presented by donors. The result will be a continued lag in the capacity and the capability in d-countries to apply CBA. It will also result in not altogether successful attempts to live up to donor expectations.

Also the donors should be warned for shortcomings in reliability and validity in analyses presented to them. As the decision-makers in the d-countries were recommended that a lower significance should be attached to the profitability measure, the donors can be cautiously warned not to place too much faith in it either.

X.3.3 Technical Assistance

In a sector review the World Bank noted that Kenya suffered from a pronounced weakness in micro-planning in the field of agriculture.[2] This study appears to support that observation made by the Bank, and the judgement can be extended to Zambia and Tanzania as well. Project preparation and appraisal is a specialized task, and the specialized staff required therefore did not appear to be adequate. This weakness should be the target for technical assistance.

1/ Elaborations are made both on the theoretical foundation for the CBA and on new application to public investments in the fields of health, education, recreation, housing, transportation, etc. For a good coverage of contemporary writings see: Benefit-Cost Analysis, An Aldine Annual on Forecasting, Decision-Making and Evaluation. Chicago 1971, 1972 and 1973.

2/ IBRD. Report No. 201-KE. The Second Decade: A Basic Economic Report on Kenya. January 15, 1974, p. 4.
IBRD. Agricultural Sector Survey, Kenya. Report No. 254-KE. East African Projects Department. October 10, 1973, p. 59 et seq.

X.4 THE PROJECT APPRAISAL LITERATURE (PAL)

X.4.1 Objective Achievement

Considerable attention has been paid to the prescriptions in the normative PAL and its relation to the observed process in this study. Hence, only a brief summary is needed here.

It may be warranted to recapitulate the argument about the different ways to view normative literature presented in section (II.11) in chapter II. A distinction was suggested between prescriptions that could be followed if certain preconditions had been met, and prescriptions which should be followed as the preconditions were at hand. It was also noted that between these polar extremes there will be cases when it is not clear whether the first situation prevails or the second. Normative theorizing of both kinds can be justified on their own rights.

The objective of giving prescription is in this study said to be to improve the selection process. This also appears to be the objective in most of the normative PAL. If this is so, one conclusion of this study is that objective contribution by the PAL is limited and certainly not what is envisaged in that literature.

X.4.2 Redirection of Emphasis

As discussed at some length in section (IX.3) in chapter IX, the PAL reflects an emphasis given to the late stage of the project maturation process, with little attention paid to the stages before and after. It deals rather narrowly with the application of CBA in different forms as an approach to project appraisal, and it does not attempt to relate project appraisal to a project selection process explicitly referred to the time axis and to an organizational context.

A major outcome of this study is the recognition of the very early phase of the selection process as the most significant one, and about this phase the PAL has little or nothing to say. Hence, a redirection of emphasis in favor of the early phase in the PAL should be justified. Rather than only proposing an approach to project appraisal, which can not be applied until the crucial choises at the early stage are made, the PAL should to a considerably higher degree devote efforts to normative contributions related to these choices.

X.4.3 Contextual Constraints

To a verying degree the PAL pays insufficient attention to the identification of constraints, which might impede the application of the prescriptions made. A considerably higher degree of search than observed in this study is taken for granted, and the suggested role to be played by the appraisal techniques offered is considerably overestimated.

A notable constraint on the capacity to formulate projects was observed. The simplifications of the CBA, as proposed by authors like King (1967) and Solomon (1970) may appear to go far in reducing the resource requirements. This may be true. Still the demand on planning capacity may be beyond what is available in a d-country.

A second constraint observed with significance for the applicability of the prescriptions in the PAL was related to the command in the theoretical foundation of CBA and of capital budgeting. The approach frequently taken in the PAL to offer theoretical chapters, if at all included, as optional reading is disputable. A familiarity with the theory appears to be a decisive means to increase the validity and the reliability of the analyses, and to determine what can be achieved and what can not be achieved by applying the CBA.

The lack of a familiarity with the theoretical basis, in a way blessed by suggesting that it has an optional nature, tends to lead

To a 'filling-the-forms' application of the CBA, with such a demand upon the analyst to cope with the mechanics thereof that the substantive part of the analysis might be opressed. There are hence reasons to believe that such an analysis as already indicated suffers from considerable validity and reliability weaknesses, a problem not recognized in the PAL.

CHAPTER XI

AN APPROACH TO THE SELECTION OF PROJECTS TO BE PURSUED IN MATURATION PROCESSES

XI.1 INTRODUCTION

With reference to product development in the firm Child, Davis and Näslund (1972) note that the relevant literature eventually represents two approaches to view this problem. The first approach considers product planning as a strategy problem, and the second deals with particular stages in the product planning process with emphasis on the development of appropriate techniques. Few attempts have been made to link the two approaches, however.

As was noted in chapter I a parallel can be drawn with the literature on development planning and project selection. On the one hand there is an extensive literature, which deals with the formulation of the overall framework for development, or more specifically with the formulation of development strategy. This literature has been called the development planning literature in this study. On the other hand there is the PAL, the project appraisal literature, which is mainly concerned with the development of techniques. Yet another similarity can be noted. Child, Davis and Näslund claim that the technique-oriented approach largely fails to take the context for the decision-making into account, and this is one of the conclusions drawn about the PAL in this study.

Based on the above classification of approaches to view the product development in the firm and the project selection as discussed in this study, a normative contribution could refer to (1) strategy formulation, (2) development of techniques, or (3) an integration of (1) and (2).

The discussion in this chapter is limited to (2) - the development of techniques. The use of techniques at different stages in the project selection process is a major research target in this study, and the field observations revealed characteristics of the process, which point to the desirability of changes in techniques used.

Focusing at (2) does not reflect any order of relevance. This question is by-passed, and no claim is made that the approach to be suggested aims at optimality in project selection, but merely that marginal improvements will be achieved by adopting it.

XI.2 FINDINGS IN THE FIELD STUDIES AS A BASIS FOR AN APPROACH TO DECISION-MAKING AT THE EARLY STAGE OF THE MATURATION PROCESS

The following characteristics of the selection process brought to light by the field studies will be recapitulated:

(1) Of the various stages in the selection process the very early stage appeared to be the most important.

(2) At that early stage search for alternatives was very limited.

(3) The normative PAL does not offer any techniques that are applicable to the choices to be made at the early stage.

(4) There was no structural and repeatedly used way observed in which analysis was made at the early stage in the process.

The above observations pointed to a design of an approach that implies:

(i) that more analytical efforts were directed to project ideas at the very early stage, given the significance of that stage;

(ii) an explicit recognition of in which dimensions the analytical effort at the early stage should be made;

(iii) an increased consideration of alternatives.

In addition the approach should take the conceived implementation into account to ensure that practitioners to use the approach do not refuse to consider it because of too high a degree of sophistication, lack of realism, data requirements, etc., frequently observed as obstacles to implementation of techniques.[1/]

1/ Näslund, B. & Sellstedt, B., A Note on the Implementation and Use of Models for R&D Planning. Research Policy, Vol. 2 (1973), pp. 80-83.

XI.3 THE BASIC STEPS IN THE APPROACH

As a basis for the ensuing discussion the various steps in the approach are presented at this stage. This early presentation has the advantage of giving a general comprehension of the approach, but it may have the disadvantage of raising questions in the mind of the reader, questions which hopefully will be answered in the proceeding discussion. The reader is hence kindly requested to have some patience.

The basic steps in the approach are shown in the figure on page 176, and they are also listed below.

As can be inferred from the figure the following six steps make up the approach:

(1) Identify a problem/opportunity of high priority and call this a defender.

(2) Identify a challenger to the defender.

(3) Identify two alternative designs of the defender and the challenger respectively.

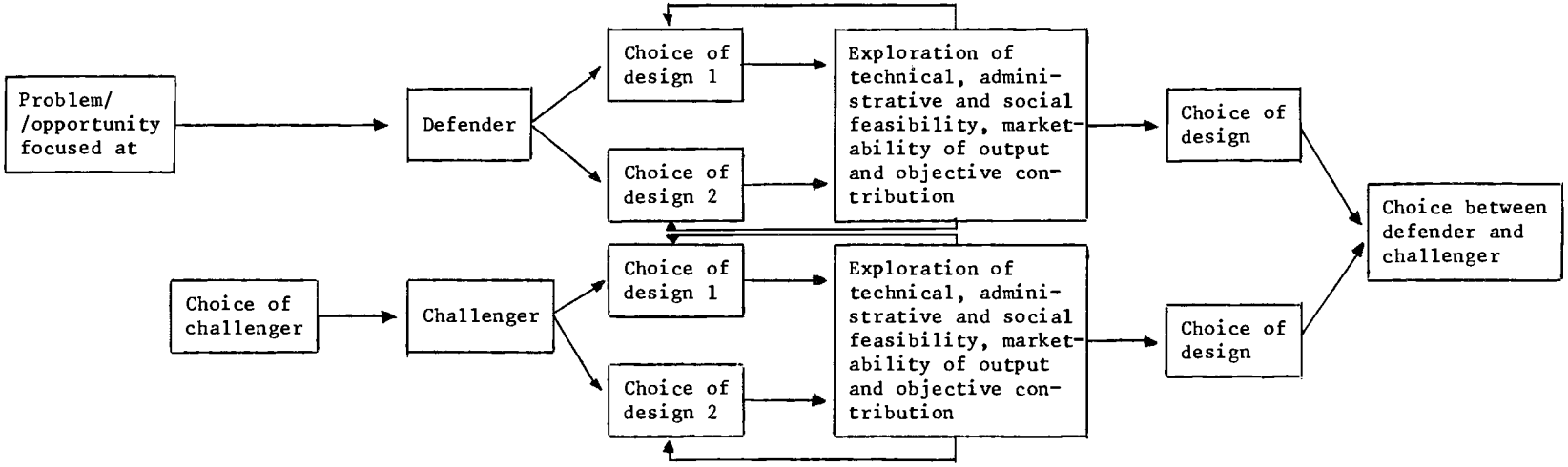
(4) Explore the technical, administrative and social feasibility, the marketability of output and the objective contribution of the alternative designs.

(5) Compare and choose between the alternative designs for the defender and the challenger separately.

(6) Compare the remaining single design for the defender with the remaining design for the challenger and make a choice.

These steps will increase the search for alternatives at the early stage and they involve the collection of a prespecified kind of information analyzed in a prespecified manner as a basis for choice. Each step will be discussed below.

The Basic Steps in the Approach to the Selection of Projects for Pursuance in Maturation Processes



XI.4 STEP I - IDENTIFICATION OF A DEFENDER

A distinction will be made between the case when defenders are chosen external to the organizational unit in charge of micro-planning in the field of agriculture, and the case when the defenders are chosen internally. What is to be considered external depends upon the special setup in each country and should not be elaborated upon here. What matters is the fact that when defenders are chosen externally, they present themselves as given to the planning unit.

Domestic and private sponsors, parastatals and donors put forward project proposals, which can not be implemented without a Government license/permission/informal consent or direct involvement. In Kenya this meant a steady stream of proposals to the Minag, which had to respond to them. The externally chosen defender was accordingly an important case given its frequency.

When the origin of the defender is internal the question of choice arises. Out of a number of 'promising' project ideas one to be the next to pursue in a maturation process is to be chosen. This choice involves a screening process, in which a more or less elaborate development strategy for the agricultural sector is the framework within which the accumulated stock of information and experience vested with different individuals is exploited in an exchange of ideas. Such an exchange can be achieved in different institutional settings. There can be standing committees or occasionally constituted groups. The representation on such committees or groups should be given particular attention. It is essential that expertise from different fields are involved to ensure that a variety of problems and opportunities are considered, and that these considerations involve a variety of aspects represented by the participating specialists. It is equally important that senior decision-makers, or so-called 'policy makers' with responsibility for the entire activity of the ministry participate.

The choice of a defender should not be the result of a quick in-between meeting but the outcome of a serious discussion justified by the significance of the choice as demonstrated in this study. (This point is further discussed in section (XI.11) below.)

In summary, one can say that in a large number of cases the defender is externally chosen and presents himself as given to the Minag, and that efforts should be made to increase the cases in which the defender is chosen within the Minag through informed judgement by specialists and policy-makers with explicit reference to a sectoral strategy.

XI.5 THE ROLE OF THE CHALLENGER

Before ways to identify challengers are discussed it may be warranted to explain the role of the challenger. Challengers appear at two stages in the approach, although in the discussion in the other sections the concept is reserved for alternatives to the problem focused at. However, challengers appear also when alternative designs to the one initially focused at are identified.

Without implying any order of significance the following roles are given to a challenger:

(1) To offer an alternative if the defender is rejected.
(2) To be a measuring rod with which the defender is compared.
(3) to extend search and explicit consideration of alternatives.

The first role is significant in a context where the pressure to pursue project ideas in the maturation process is high. The rejection of an idea, unless it is made with very good reasons, is easily seen as destructive, and the absence of a superior alternative will impede efforts to turn down less good alternatives. The aspiration level may be adjusted downwards to make the alternative at hand acceptable, as discussed in section (II.6.1.2) in chapter II.

The second role implies an avoidance that the point of reference with which a conceived project is compared is H_0 (=to do nothing). As was discussed in section (II.9) in chapter II a comparison with H_0 may point to a high degree of desirability, because H_0 is highly unacceptable. A poor H_0 is typical to d-countries, and hence there is a propensity to regard a large number of conceived changes as important. The challenger will rather focus on the potential opportunity

use of resources as the relevant point of reference. If the outcome of the comparison is to the advantage of the challenger this should be the choice.

The third role of the challenger is to ensure that search for alternatives which are considered in some detail is enhanced above the very low level observed.

XI.6 STEP II - IDENTIFICATION OF A CHALLENGER

Among the roles given to a challenger in the previous section one was to serve as a measuring rod with which the defender is to be compared and one to provide an alternative to the defender. This implies firstly, that the challenger and the defender have to be described in the same dimensions to permit comparison and, secondly, that the challenger as an alternative is related to the same objective or objective set as the defender. Obviously the challenger then can not be any project idea.

The search for a challenger will be related to alternative means to achieve a prime objective focused at. If this search refers to the commodity objective (CO) level, alternative designs will result, and if the search refers to the national objective (NO) level the identification of challengers to the defender is the outcome.

To identify an alternative to the problem focused at, the main national objective (NO) to which the conceived project will contribute is identified.

It may be earnings/savings in foreign exchange, improved regional balance, employment generation, increased availability of protein to certain social strata, etc. The question is then asked, whether there are alternatives to the defender through which a high degree of contribution to the (NO) focused at can be achieved. This way challengers to the defender will be identified.

One advantage with alternative identification at a higher objective level is that search is extended beyond narrow sub-sector boundaries.

It may be far-fetched to think of a bean project as a challenger to a poultry project, unless they are referred to a prime (NO) of reduced protein deficiency, all for the sake of argument.

It may be hard to identify one dominant (NO) to which a defender contributes. If more than one (NO) is considered 'very important', there is no objection to search for challengers which contribute to a set of objectives.

Since a number of challengers is eventually identified, omission is necessary to reach the one or the few to be explored. This will be achieved through informed judgement along the lines discussed in the preceeding section.[1/]

XI.7 OFFICERS INVOLVED IN THE IDENTIFICATION

The problems dealt with in this sub-section do not appear in the many cases when the defender originates externally. When the defender is chosen internally, however, it makes a difference who chooses the defender and who chooses the challenger.

If a particular defender is chosen internally through informed judgement, it implies that the defender has been considered superior to alternatives conceived. The defender is preferred and will accordingly tend to be favored to a challenger if chosen by the same individuals as chose the defender. Soelberg's (1972, p. 22) argument, that the decision-maker early chooses a favorite candidate to which he is commited, although he maintains alternatives until he makes the confirmation decision, is relevant here. A challenger so chosen may not get a 'fair chance', given the inclination to the favorite candidate, which is the defender, and the challenger may even unconsciously be chosen not to threaten the defender.

1/ The use of informed judgement as a means to reduce a large number of alternatives to a few to be explored more in detail, is proposed by e.g. Ansoff with reference to strategic planning and Quade with reference to systems analysis. Ansoff, I., Corporate Strategy. New York 1965, chapter 9; Quade (1968) p. 305.

Two points can be raised to weaken these arguments. Firstly, if defender identification is made with reference to commodity objectives, and the identification of challengers is made with reference to national objectives this may generate alternatives still not considered and deemed inferior to the defender. Secondly, there are reasons to expect that not all involved in the choice of a defender have the same opinion about what that should should be. Such discontent can be exploited to identify a challenger.

A more decisive way to reduce the problems of a biased commitment to a favored candidate is to split the identification responsibility between two groups of officers where one identifies the defender and the second the challenger. Attempts should be made to constitute the groups comparable in level, (but not necessarily in kind of experience), capability and rank.

The challenger is to be compared with the defender, but this can hardly be done without a certain degree of project maturation. This causes a special problem. Project maturation involves the choice of design, and this choice should involve the exploration of alternatives. Hence, the consideration of alternative designs will have to precede a choice between a defender and a challenger.

XI.8 STEP III - IDENTIFICATION OF ALTERNATIVE DESIGNS

Assuming that there is a defender and a challenger step III involves the identification of alternative designs of the defender and the challenger. Also then are challengers and defenders conceivable. These concepts will not be used when discussing alternative designs simply to avoid confusions and misunderstanding whether defender refers to one project vis-à-vis another project, or whether it refers to a particular project design. The designs will hence be numbered $(1,2,\ldots,n)$.

Again, informed judgement is the means through which designs are identified, and as discussed in the preceding section the question can be raised about who should be involved in the identification.

The same arguments for involving two groups of officers in choosing the defender and the challenger appear to be valid for the choice of design. The disadvantages with the same officers involved in choosing the two competing designs for the defender and the challenger respectively are less, however, since these choices are less crucial in the sense that the most significant reduction of potential alternatives is made, when the defender and the challenger are chosen.

As when the challenger is identified by the same officers as identify the defender, disconsent on what is a preferable design can be used as a means to identify alternatives. Still a sub-division of staff involved along the following lines is desirable.

The group that chose the defender, assuming it was internally chosen, is split in half (a) and (b). (a) identifies one design, (1) and (b) identifies an alternative design (2). Alternative designs to the challenger are determined the same way.

The identification of alternatives to be compared is now completed and the next step in the approach involves an analysis of the alternatives, which will be discussed in the next section.

XI.9 STEP IV - EXPLORATION OF THE TECHNICAL, ADMINISTRATIVE AND SOCIAL FEASIBILITY, MARKETABILITY OF OUTPUT AND OBJECTIVE CONTRIBUTION

The analysis in step IV covers five aspects of a project design as indicated in the headline. The break-down is not entirely unambiguous as there may occur some degree of overlapping. In considering the administrative feasibility, for example, issues may be touched upon, which equally well could be discussed in conjunction with social feasibility. This is hardly any objection to the break-down, since what is essential is that the topics are covered rather than that they consistently appear under the same headlines as they occasionally may not.

Before the aspects to be covered by the exploration in step IV are discussed, an approach to reveal sources to uncertainty and hence potential causes to project failures to be employed in the exploration will be presented.

XI.9.1 Identification of Sources to Uncertainty

This section is based on an approach to identify potential sources to project failure developed by A.O. Hirchman (1967).[1/] From a number of case studies Hirchman concludes that it is the ignorance of uncertainty rather than inadequate measurement thereof which leads to frequent failures in project implementation.[2/] Systematic search for sources to uncertainty is hence important, and to facilitate this search Hirchman splits uncertainty into supply and demand uncertainty with a set of sub-divisions.

Hirchman describes a project as either a trait-maker or a trait-taker, and a project can be both at the same time. A paper mill may be a trait-taker in using local material (e.g. bamboo), but a trait-maker in that it involves training of laborers. The laborers do not have the skill needed, the trait, and the project has to ensure that this trait is forthcoming. When a project is a trait-maker it implies that changes like an increase in skill in the example are called for by the project, and these changes are likely to be sources to a higher degree of uncertainty than in those cases when the project is a trait-taker. The uncertainty analysis to be employed in the exploration of alternative project designs should aim at an identification of in which respects a certain design is a trait-maker and an assessment of the likelihood that the traits required will be forthcoming.

Such an uncertainty analysis is an important element in the exploration in step IV. Considerably more emphasis will be put on an uncertainty analysis of the relation between a project and its social context than made by Hirchman. This is motivated by the important role this aspect is expected to play in agricultural projects, which will affect more traditionally oriented sections of the societies.

1/ For a discussion of the Hirchman approach see Birgegård, L.E., Uncertainty and Public Investment Project Selection in Developing Countries. Stencil, Stockholm School of Economics, Nov., 1973.

2/ No distinction is here and in the following made between uncertainty and risk.

XI.9.2 Technical Feasibility

The exploration of the technical feasibility of a project basically involves a determination of the physical resource flow and the know-how required and an assessment of the availability of such project inputs. This way backward linkages with other projects will be identified. What this exploration means more specifically obviously depends upon the particular project considered. The analysts may for the sake of exemplification concern themselves with the availability of water, roads and transport, tractors, electricity, storage facilities, fertilizers, pesticides, species/varieties, and with the availability of knowledge of soil conditions, yield-response relationships for fertilizer applications, sugar content in cane produced under different conditions, diseases and pests and their combatment, etc.

Informed judgement will guide the analysts in identifying what might be important aspects to be given attention. As weaknesses in the design are revealed by the exploration, changes are made to improve the design. Still each design will suffer from uncertainty, which should be identified and assessed along the lines indicated in section (XI.6.1).

The outcome of the exploration will then be (1) possibly a changed and improved design, and (2) a qualitative statement on the technical soundness of the project design in which revealed sources to uncertainty should be listed and commented upon.

XI.9.3 Exploration of Administrative Feasibility

A frequently noted reason for inefficient project implementation with objective contributions falling below expectations is inadequacy in the administering of the project at different levels. The assessment should cover the executing agency or agencies in charge or involved in the project implementation. In large projects it is often the case that several agencies become involved and may have the executing responsibility for certain components of

a project. This considerably increases the propensity to administrative and managerial difficulties.

The exploration should also cover the managerial feasibility at farm level to assess whether the farmers can be expected to fulfil or be taught to fulfil their managerial tasks. This point is crucial and should be particularly emphasized when a project involves smallholders.

Again the Hirchman approach to identify sources to uncertainty by determining in which respects a project design is a trait-maker should be employed, and the analysis should result in a comment on the conceived significance of the uncertainty so revealed.

XI.9.4 Exploration of Social Feasibility

To explore the social feasibility of a project design is to relate the project to the context in which it will be implemented. This context could be described in three dimensions; an economic, a social and a cultural dimension. The clarity of these concepts is disputable, but they can still be employed here to guide the thought with the needed degree of precision. The 'social feasibility' of a project should then be understood in a broad sense, and the analyses made with a broad perspective.

The significance of the exploration of the social feasibility seems to be notoriously underestimated in the PAL, where it often is only superficially covered or altogether ignored. This relative negligance at micro level is somewhat hard to understand, since there are numerous studies by sociologists and social antropologists pointing to the significance of the interplay between project characteristics and the social setting in which a project is implemented. In discussing development strategies the social context is considered as important by many economists, and this is particularly so where agri-

cultural development is considered.[1/] At project level as it appears in the PAL the awareness is less pronounced, however.

The need for an analysis of the social feasibility is particularly strong in agricultural projects for two reasons. Firstly, agricultural projects mostly affect the rural population, which is more traditionally oriented than the rural population. Secondly, as agriculture in most d-countries has been the means for survival since immemorial time, agriculture has become an integrated part not only of the economic but also the social and the cultural structures of these societies, and fundamental pillars of these structures are generally somehow rooted in agriculture. Changes embedded in agricultural projects may rock such pillars and cause resistance or ignorance, or undesirable changes in the structures.[2/]

The analysis should attempt to clarify in which respects the project design as conceived calls for changes in social, economic and cultural characteristics of the context, and in which respect it may cause other changes in such characteristics. The particular project design focused at and the particular context will determine what considerations that will be involved. Some exemplifications out of which some are deliberately simple to get the point clear may substantiate the discussion.

Accordingly the analyst may have to ask how a project design will affect the traditional land inheritance system, whether the traditional livestock rearers will accept tilling the soil, what incentives that are required to increase cattle off-take rates, what an increased dependence upon cash production means for a subsistence farmer in terms of uncertainty, what the distribution

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1/ An example of the recognition of the social context in development strategy is Kenkel, J.H., Society and Economic Growth. New York 1970. An example from agricultural sector planning on the same recognition is Whyck, W.F. & William, L.K., Toward an Integrated Theory of Development: Economic and Non-Economic Variables in Rural Development. New York 1968.

2/ India's green revolution may be referred to as a case in point. The failure to recognize the social feasibility of the effort resulted in unexpected changes such as evasion of tenants, rapid increases in income disparities between large scale and small scale farmers, social and political tensions as hardly seen before in the rural areas since independence. For an elaborate analysis see Frankel, F.R., India's Green Revolution. Princeton 1971.

of tasks between family members are, what the role is of livestock in ceremonies, as a stock of capital and as an indicator of social rank, what traditional laws and practices regulating the possession and the rights to use land there are, what the power structure in the society looks like, etc. The list could be made very long indeed.[1/]

An assessment of the social feasibility of a project design presumes an intimate knowledge of the context in which the project eventually will be implemented on the part of the analyst. The hords of expatriate advisers should be recalled that they hardly ever possess this familiarity. The author's experience also indicates that local officers from one community may have a surprisingly fragmented knowledge about other communities, which means that if possible representatives from the community affected should take part in the analysis.

The analysis should give two results. Firstly, the aspects in which the project design which may have been adjusted in the course of the analysis, is a trait-maker should be listed and commented upon. Secondly, other changes in the context, both positive and negative, that may result from the project should be noted.

XI.9.5 Marketability of Output

Crucial to the success of many projects is the correct assessment of the market for the output. Demand forecasting is a highly specialized and difficult task, and hence the ambitions at this stage in the selection process must be restricted. Unless the analysts are quite familiar with the output and its prospective market, information should be gathered from usual sources like trade statistics, trade associations, etc. The aim should be to indicate the market

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1/ In discussing the formulation of a development strategy for a community Adams and Howens stress the significance of the social context and they suggest that an analysis should be made in ten dimensions: (1) physical conditions, (2) cultural patterns, (3) historical patterns of diffusion and change, (4) the ecclesiastical structure, (5) the family structure, (6) the political structure, (7) the economic structure, (8) human resources, (9) the educational system, and (10) the decision-making processes. Adams, D.W. & Howens, A.E., The Use of Sociology. Economic and Development Change. Vol. 14 (1966), pp. 204-216.

prospects as uncertain, reasonable or bright, whether these prospects refer to the domestic and/or the export market and in the former case, what social strata that are likely to dominate as buyers.

Not all projects have a marketable output. For these projects the analyst should determine who will be the recipients of the output. Training and extension projects are examples in this category.

XI.9.6 Objective Contribution

XI.9.6.1 Introduction

The analysis of the project designs proposed in the preceding sections has basically aimed at pin-pointing and assessing relations between characteristics of a project and the context within which it will be implemented, where threats to a successful implementation might be embedded.

In this section an attempt will be made to apply the objective achievement matrix to describe objective contribution. Such a matrix has been used by Hill in designing approaches to regional planning.[1/] Hill has been criticized by Brandle for the lack of dynamics in the matrix concept and for the failure to present an overall indicator on plan desirability, expressed with a common denominator.[2/] Hill has subsequently tentatively indicated ways in which the latter problem can be overcome.

XI.9.6.2 Some Special Problems

In an analysis of the desirability of a project it is normally argued that a measurement of both gains and sacrifices to be related to each other is a necessity. To consider only costs or only benefits would be pointless. These costs and benefits may be expressed in monetary terms or with other quantitative measures.

1/ Hill, M., A Goal Achievement Matrix for Evaluating Alternative Plans. American Institute for Planners Journal, Vol. XXXIV (1968), pp. 19-29.

2/ Brandle, J.E., A Comment on the Goal Achievement Matrix for Evaluating Alternative Plans. American Institute for Planners Journal, Vol. XXXIV (1969), pp. 139-140.

In the PAL both costs and benefits are assumed to be expressed in monetary terms.[1/]

An assessment of objective contribution in the very early phase of the maturation process causes one particular problem. The root of this problem is that it will not be proposed that the size of the project as a part of its design is determined on the basis of which objective contribution and resource use is estimated.[2/] If the size of a project was determined, and hence the resource use and objective contribution was to be determined in a cardinal sense, the analytical burden would increase manifold. In particular this stems from the fact that no comparison with an alternative, a challenger, could be made unless this alternative was designed with the same level of resource use or the same level of objective contribution.[3/]

As the size is not determined objective contribution can not be measured in a cardinal sense, but only in an ordinal sense. Furthermore, to make a comparison between alternatives possible an assumption of linearity in objective contribution and resource use at different scales of activity has to be made. This may seem to be a bold assumption, which hence needs elaboration.

One important characteristic of many agricultural projects, which makes the assumption of linearity an acceptable approximation is the fact, that an increase in project size generally means an increase in the number of farm units involved in the project. Such an expansion of the scale, implying a multiplication of homogeneous units is likely to be approximate to linearity in objective contribution and resource use.[4/] Accordingly, this approximation is acceptable

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1/ It is recognized in the PAL that not all costs and benefits can be monetized, but the expressed aim is to do so when possible.

2/ The size of a project could be measured in different ways, but as this point is not relevant for the argument the matter is left without further comment.

3/ Comparisons between alternatives with different levels of resource use or objective contribution is conceivable, but this would imply a full appraisal of the alternatives with consequences expressed in a common denominator.

4/ Typical to the preparation of many agricultural projects is the identification of one or a limited number of farm models, which are analyzed to determine the costs and the benefits, and to arrive at the total project costs and benefits the number of farms in each class is simply multiplied by the unit costs and benefits. See Solomon (1970), chapter 12.

and no decisive objection to the way in which the objective contribution matrix will be used.

XI.9.6.3 The Objective Contribution Matrix

In the objective contribution matrix objectives (O_i) are entered in columnes and alternatives (Y_j) in rows. In each resulting cell (O_iY_j) objective contribution from alternative (Y_j) to objective (O_i) is found. The lay-out of the matrix is shown below.

	Objective O_i (i=1...n)				
Alternative Y_j (j=1...n)	O_1	O_2	O_3	.	O_n
Y_1					
Y_2					
:					
Y_n					

Normally three matrixes will be used in the analysis. In the first matrix objective contributions from the alternative design of the defender are entered, and in the second the contributions from the alternative designs of the challenger are recorded. It is convenient to use two matrixes as O_i is likely to differ for the defender and the challenger. In both matrixes the national objective (or possibly the objective set) to which the defender primarily contributes will be found. The commodity level objective in the two matrixes will be different, however.

The third matrix is simply a summary in which the preferred design of the defender and the challenger are entered.

In the matrixes the prime objectives at the national and the commodity levels, which were the basis for the identification of challengers and designs, will be pre-specified. Other objectives at the national level, which are attached a high weight and against

which projects usually are scrutinized should also be pre-specified. Which these objectives are has to be determined in a particular context, but for the sake of exemplification employment generation and foreign exchange earnings/savings are objectives that may belong to that set.

Space should be left in the matrix for objectives that are not pre-specified. Although these objectives may be attached less weight, it is possible that there are so remarkable differences between alternatives in these objective dimensions that they will affect the outcome of a comparison. Which these other objectives are will be revealed as an answer to the question, what positive and negative consequences of a project there are.

Objective contribution can be both positive and negative, and it is euqally important to take note of the negative contributions. Mechanization may contribute positively to a production or growth objective, but the contribution to an employment objective may be negative.

XI.9.6.4 Measures to be Used

An objective can be negatively or positively affected by a project design or it can be unaffected. The measure to be used should reflect these possibilities. The degree with which an objective is affected varies. Above it was noted that objective contribution can not be measured in a cardinal sense, as it is not proposed that the size of the activity is determined at this stage in the maturation process, but that ordinal estimation of objective contribution can be made on a linearity assumption.

The analyst is proposed to use three degrees of positive and three degrees of negative contribution. A higher degree of precision, which a larger number of degree would permit, is hardly commendable in view of the expected reduction in reliability. The adjectives small, medium and large will denote the degrees, and to indicate whether a contribution is positive or negative + and - signs can be used. Where no contribution is expected 'n.a.' is entered.

XI.9.7 Summary of Step IV

The exploration of the alternative designs for the defender and the challenger in step IV will result in:

(1) An assessment of the technical feasibility with emphasis on identification of in which respects each project design is a trait-maker calling for changes to make successful implementation possible.

(2) An assessment of the administrative feasibility where the trait-making properties of each project design are identified and the uncertainty so revealed commented upon.

(3) An assessment of the social feasibility which will give two re-results. Firstly, the aspects in which the project design is a trait-maker calling for changes in the economic, social and cultural context to which a particular project design is grafted will be identified and listed and commented upon. Secondly, other changes, both positive and negative, in the context that may result from each project design should be listed and commented upon.

(4) An assessment of the marketability of the output in each project design with the market prospects indicated as uncertain, reasonable or bright. Information whether the output is aimed for the domestic and/or the export market and in the former case an indication of what social stratum or strata that are likely to dominate as buyers will be provided as well. If the output is non-marketable the recipients should be identified.

(5) An assessment of positive and negative objective contribution for each project design presented in a matrix and measured as small, medium or large.

On the basis of this information choices as described in steps V and VI will be made.

XI.9.8 Steps V and VI - The Choice of Designs and the Choice Between Defender and Challenger

The analysis made in step IV is the basis on which the choices in step V and step VI are made. In step V a pairwise comparison between the designs for the defender and the challenger respectively is made, which results in a preferred design for each. In step VI a choice is ultimately made between the defender and the challenger. This choice is crucial, and given the possibility of an early commitment to a favored alternative it makes a difference who is involved in making the choice.

As even the most senior officers in an agricultural ministry should be involved in the identification of defenders and/or challengers, it may be hard to escape the problems with a favored candidate. The problems are reduced for the reason given below, however, and a measure for further reduction is suggested as well.

The efforts in step IV result in a stock of information, which may have revealed differences between alternatives. The more decisive the differences are, the more difficult it will be to maintain a biased preference. The less the differences are, the less harmful is the bias.

Yet another reduction of biased influence can be achieved if officers not previously involved in the process are brought in to consider alternatives at stake. Given the responsibility of most planning ministries in d-countries to ensure that micro planning carried out in the operating ministries conforms with national priorities expressed in a development strategy, and given the observations in section (X.2.4) in chapter X, that the planning ministries should involve themselves at the early stage of the maturation process, if they decisively wish to affect the outcome of the process, it appears as if this involvement could take place at step VI. This way should a third party with less prejudice be confronted with the alternatives.

XI.10 ELABORATION OF THE APPROACH

Any elaboration of the approach although easily conceivable and likewise easily justified will either increase its analytical complexity or the resources required to apply it, or both. Bearing in mind that the approach is concerned with the choices at the early stage in the selection process, where the analysis should be limited, it is pertinent to ask what elaboration, if any, that should be incorporated.

XI.10.1 A More Dynamic View

In the preceding discussion limited attention has been paid to the time axis. Typical to most investment projects is the extended period of time during which project consequences are expected. This banal fact could be taken more explicitly into account in the approach.

In identifying the defender and the challenger there is likely to be a propensity to focus at circumstances in t_o rather than in the more relevant $t_1,\ldots,n$, when project consequences are felt. Attempts could be made to explicitly refer the discussions by which the defender and the challenger are chosen to future points in time. Likewise, considerations over time could be introduced when alternative designs are identified.

The exploration of a project as a trait-maker as presented in the preceding sections has a time element although this was not made very explicit. The changes called for, when the project is a trait-maker, have a time dimension which could be analyzed in different degrees of detail. An increased degree of detail is hence a possible elaboration of the approach.

The objective contribution matrix is as it stands a point estimate without any indication of the distribution of objective contribution over time.[1/] One elaboration would be to indicate in which year

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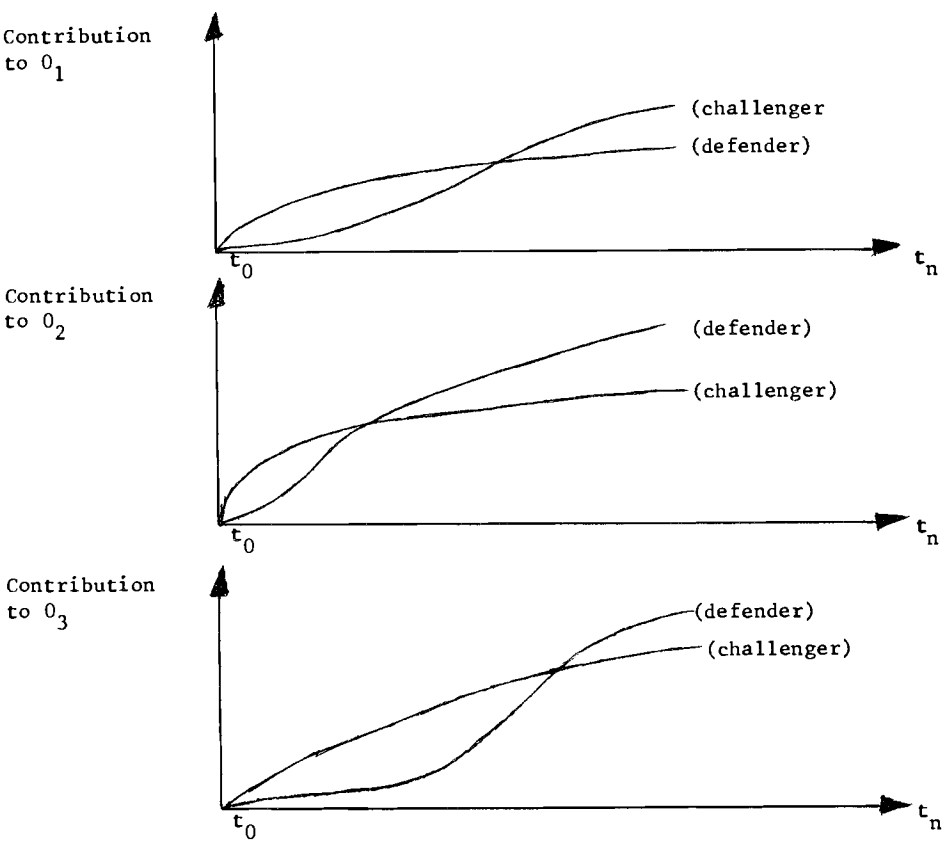
1/ This does not mean that the estimates for the different designs refer to the same point on the time axis. The estimates are made on the assumption of the project designs being in 'full swing', and this may of course occur at different points in time.

from t_0 the project is expected to be in 'full swing', which implicitly is the basis on which the single estimate is made. This year could be noted in the matrix.

Yet another elaboration would be to take into account that the time profile for contribution to different objectives for different project designs may show intra- and interdifferences. Assume that there is one design of a challenger and one of a defender left, and that the choice in step VI is to be made with reference to three objectives 0_1, 0_2 and 0_3. The time profiles for the two alternatives in the different objective dimensions are assumed to have the shapes shown in the figures below.



The point estimate fails to take the differences in the time profiles into account. The graphs also demonstrate that it may not be entirely clear what is meant with 'full swing' of a project, and that 'full swing' may occur at different points in time for different objectives.

The presentation of time profiles certainly adds information, but it also adds complexity. The decision-maker is then asked to weigh the contributions to different objectives taking intertemporal time preferences into account.

Intertemporal time preferences are usually taken into account by discounting, and discounting in the various objective dimensions is conceivable, provided objective contribution is measured on a cardinal scale.[1/2/]

In between the extremes of a single estimate and annual estimates over the project lifetime there is the possibility to make a few estimates of objective contribution. In the simplest case only two estimates are made. The first should refer to the project in 'full swing' with an indication of in which year the projec is likely to reach that stage. The second estimated could refer to t_{10}.

XI.11 ANALYSIS AT A COST

Analysis in the maturation process is, needless to say, made at a cost, and given scarce resources for that purpose allocation problems arise. At a higher level of magnification the problem is to determine how much resources that should be devoted to project maturation versus other tasks, and at a lower level the problem is to allocate the resources within the process. The comments below will be restricted to the problem.

1/ The choice of a discount rate adds an interesting and a difficult aspect to the analysis, as it may be argued that not one but different discount rates should be applied to different objective dimensions.

2/ For a formal discussion of how to take intertemporal preferences into account see e.g. Asztély, S., Investeringsplanering. Uddevalla 1968, chapter 2.

The Options

A major outcome of this study is the proposal that more resources should be directed to the early stage in the maturation process. If this argument is accepted still many options as to how resources should be allocated remain. The various steps proposed (I-VI) is one dimension along which resources can be distributed. Another is the number of alternatives considered - challengers and alternative designs. Yet another is the degree of elaboration of the approach.

To Strike a Balance

Conceptually attractive approaches to resource allocation as seeking equality between marginal cost and marginal revenue would apparently be of little operational use to solve the allocation problem at hand.[1/] Striking the balance then becomes a matter of judgement. Some guidance can be given to that judgement, however.

The crucial choices are those when the defender and the challenger are identified, as this determines what problem that is focused at. Hence, there are reasons to devote considerable amounts of resources to steps I and II.

The pursuance of alternatives in the analysis is resource demanding. The resource constraint may reach a point where the justification of considering a challenger has to be questioned, and the analysis may be confined to a defender. One point should be noted, however. The analysis of a challenger that eventually is defeated by a defender may not be waisted, as the challenger later may be chosen a defender or once more chosen a challenger. The defeated alternatives will enter a pool of project ideas for which an early analysis is made and from which ideas may be selected in steps I and II at subsequent occasions.

The approach should not be applied rigidly. Occasionally it will be pointless to raise and pursue the question of a challenger, since a promising alternative can not be found, or because a decision is

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1/ The lack of an operational approach to solve the kind of problem encountered here is clearly demonstrated in Ansoff's well-known approach to strategy formulation. Ansoff (1965).

already made, than precludes a challenger. Furthermore, one would not expect the search for alternatives and the depth in which the analysis is made to be the same for small projects as for large projects.

XI.12 IMPLEMENTATION

Considerable research has been geared to the problems of implementation of management techniques. This research has been promted by the well-known fact that the rate of diffusion of such new techniques is often slow. In a number of case studies circumstances, which will facilitate a rapid adoption, have been suggested. Easy access to data is one such condition noted by Lönnstedt and by Miller.[1/] Previous experience with models will also increase the likelihood of a successfull introduction according to Lönnstedt (1971) and Harvey.[2/] Furthermore, the user-to-be wishes to know that savings can be realized by using the new technique. This is noted by e.g. Lönnstedt (1971) and Radnor et al.[3/] Näslund and Sellstedt (1973) observe that the managers will tend to choose simple models which they understand despite the lack of realism often characterizing such models.

The proposed approach to decision-making at the early stage in the maturation process has several features, which related to the findings referred to in the preceding paragraph seem to facilitate implementation.

Given the modest ambitions on precision in data to be collected, the approach does not imply information requirements extensive enough to make the user-to-be questioning its applicability.

1/ Lönnstedt, L., Operationsanalys in börsnoterade företag - ett innovations- och anpassningsproblem för individen och organisationen. Stockhom 1971.

Miller, E.C., Advanced Techniques for Strategic Planning. New York 1971.

2/ Harvey, A., Factors Making for Implementation Success of Failure. Management Science, Vol. 16 (1970.

3/ Radnor, M.H., Rubinstein, A.H. & Bean, A.S., Integration and Utilization of Management Science Activities in Organizations. Operational Research Quarterly, Vol. 19 (1968).

The approach does not imply something entirely new and alien. Fragments thereof were observed during the field studies, and hence the practitioner confronted with the approach will have a feeling of recognition, which will raise his interest.

It may be difficult to demonstrate that the application of the approach will result in cost savings or better projects chosen. However, an appreciation of the significance of the early phase will go a long way to indicate that an extended analysis in that phase, which the approach involves, is likely to lead to improved decision-making.

Ultimately, the approach is not complex, but readily comprehensible without specialized competence.

One more point should be made. The approach can be implemented step by step, which has the advantage of a gradual change to which the staff involved will have time to adjust. A start can be made with analysis confined to one alternative, a defender, with only one design, and successively the approach can be adopted in full by introducing an alternative design to the defender and a challenger with alternative designs. At a later stage elaborations as those discussed in section (XI.10) can be considered.

FURTHER RESEARCH - CLOSING REMARKS

The target of this research effort has been the selection process for investment projects in three d-countries. The theoretical framework has been the behavioral theory of rational choice, and the objectives were to relate the process as observed to the normative literature on project appraisal, and to explore if simplification, which is a major component in the behavioral theory, characterized decision-making in the selection process.

The field studies gave insights that resulted in a questioning of the emphasis represented by the project appraisal literature and to a verification that simplification was considerable. A major outcome was the recognition of the very early phase in the process as the most significant.

Although the study this way has given a better understanding of the process focused at, further research in different directions is desirable to enhance this understanding.

As mentioned above simplification is a cornerstone in the behavioral theory of rational choice and yet there is no 'theory of simplification'. Various studies like the present one indicate that different means to simplification are observable in decision-making. Further empirical studies on how the decision-maker arrives at the 'definition of the situation' to use March-Simons notation and how in the context of a simplified model of the reality he identifies, assesses and chooses preferred directions of actions is needed to become the basis on which a 'theory of simplification' eventually can be formulated.

More specifically related to the process focused at in this study further research with reference to the early phase is warranted. In this study no attempt has been made to clarify why focus of attention was directed to certain project ideas. Given the significance of the early phase as demonstrated by this study, research efforts aiming at the process prior to D_1 would add highly desirable knowledge. Among the many aspects that would deserve attention, is an analysis of the influence passively exerted by

financiers by their restricted areas of interest and by their involvement in project identification.

In addition to empirical research aiming at a better understanding of the process normative contributions, particularly with reference to the early phase, should be given high priority.

The project selection process also has an institutional framework. It is argued in this study that the PAL by and large has failed to relate project appraisal to a selection process, which has a time axis and which should be related to an organizational setting. Still more specific attention directed to the selection process seen in an organizational context and to the legal framework defining lines of command, distribution of responsibility and authority, etc., generally more important in a public administration than in a private firm, would give further insights about the process.

Although it was not the specific target for this study empirical evidence tentatively indicated a surprisingly limited involvement of 'politicians' in the micro planning, including the budget preparation. Despite valuable contributions from political scientists it appears as if further research on the role played by the polity in the project selection process in different contexts would be beneficial and add to the understanding of the process.

APPENDIX I

FINDINGS ON THE INDIVIDUAL RQ-S

A.1.1 INTRODUCTION

To facilitate the reading of this appendix the RQ-s are grouped into three main cathegories:

(1) RQ-s exploring alternatives considered
(2) RQ-s exploring techniques used
(3) Other RQ-s

The RQ-s in cathegory (1) are then discussed under sub-headings referring to the various decision-points (D_1-D_5).

The RQ-s in cathegory (2) are subdivided into three groups, where the first refers to D_1 (the very early phase), the second to the investment caculus between D_1 and D_2 (the maturation process) and the third group covers techniques used in the budget preparation work.

In the remaining cathegory (3) one sub-group covers the involvment of donors in the selection process, and another sub-group covers certain aspects of the budget preparation not previously dealt with.

There are understandable difficulties to keep in mind, where in the organizational structures the different decision-points are to be found. The reader may hence wish to make reference to chapter VI where the decision-points in the organizational context of the

three countries were identified.

The findings in the three countries on each RQ are presented together. As a reduced number of RQ-s were explored in Zambia and Tanzania codes in brackets at each RQ indicate, in which country a specific RQ was investigated. (RQ-4) (K, Z and T) accordingly means, that this RQ was covered in all three countries.

A1.2 RQ-S REFERRING TO ALTERNATIVES CONSIDERED

A1.2.1 During the Maturation Process ($D_1 - D_2$)

RQ-4 (K, Z, T)

The RQ has the following wording:

How many problems at a certain objective level to be resolved in the form of investment projects competing for resources for planning and implementation were considered at the same time as a certain problem?

The interview questions asked were:

(1) This project (X) basically aims at (Y = the objective mentioned in RQ-2) as you mentioned. The resources used for its preparation and implementation could have been used for some other project. When you attended the first meeting arranged with the prime purpose to discuss this project, were at that occasion alternatives to (Y) like (V and Z) explicitely discussed in the way, that they were compared and ranked and a choice made among them in favor of (Y)?

If "yes":

(2) Which alternatives did you consider?

(3) I have here five different interpretations of the concept discuss. When you say, that alternative (Z etc.) was discussed, which do you think is the most appropriate description of the way in which it was discussed?

The replies to these questions asked with reference to specific projects were distributed in the following way:

Table A1:1.

Country	Question	Yes	No
K	(1)	0	17
Z	(1)	0	3
T	(1)	0	1

Questions (2) and (3) were not applicable given the replies to (1).

All the respondents indicated, that no alternative was discussed to the problem focused at a D_1. As commodity objectives with only two exceptions were the objectives mentioned in RQ-2, the findings here could be phrased in the way, that if increased tea production was discussed as the basis for a project, other projects like oilseed production were not discussed in the way, that a comparison was made and a choice made between them.

RQ-4 in its non-project specific formulation was asked to the following officers with the following replies:

Table A1:2.

Respondent	Country	Reply
Permanent Secretary, Minag	K	No
Director of Agriculture, Minag	K	No
Deputy Secretary/Development, Minag	K	No
Head Economic Planning Div., Minag	K	No
Head Land Use Service, MRD	Z	No
Economic Adviser to the Treasury	T	No
Head Administration, Personnel and Planning, Minag	T	No

The replies to the general formulation of the RQ give, with no exception, the same impression as the project specific replies.

The Permanent Secretary (K) pointed out, that among the reasons why no explicite comparisons were made was the fact, that projects were at different stages (of maturation) which makes comparison difficult. He also noted, that there was nothing like a project bank with project ideas that could be compared. The main constraint in his view, was the availability of manpower, that could identify and prepare projects.

The Director of Agriculture (K) also stressed the limited capacity to identify and formulate projects as a reason why comparisons were not made. Furthermore, he indicated, that the lack of information in some fields excluded them from comparison and resulted in a bias in favor of fields for which information was available. When the initiative to pursue a project was taken externally (to Minag), comparisons were not made as the project often already was under way.

The Head of the Economic Planning Division (K) also stressed the lack of planning capacity including resources to identify and formulate projects as a cause why comparisons were not made. He suggested, that "once a project is identified that is all. No attempt is made to identify similar projects in the same sector to choose between them, but all resources are marshalled to formulate the project identified".

The Permanent Secreatary (K) in addition observed that it was hard to make choices as "the Government has no agreed policy on priorities". "National objectives as such are lacking."

The replies indicate, that at D_1 a project as a means to solve a problem which is focused at is not explicitly compared with other projects in the way, that they are ranked and chosen among. Probing revealed, that among several reasons mentioned to this, inadequate capacity to identify and formulate projects was considered an important cause by senior officers in the Minag. This may be true, but it seems as if the direction of attention to the commodity objective level would tend to prevent a comparison at that level even if the planning capacity was at hand. The findings on this

RQ support the argument given in the analysis of RQ-2, that the number of alternatives considered at the commodity objective level would be low as this was the level focused at and not the national objective level.

RQ-5 (K, Z, T)

RQ-5 was given the following formulation:

> Is one or more than one alternative design of each project pursued at the same time in the maturation process?

The interview questions asked were:

(1) This project has the following characteristics (A, B, C, D, E and F). During the process of formulating and writing up the project have you had a different set of characteristics, a different design, on which you collected information and worked on for a period time parallel to another alternative?

If "yes":

(2) Which were the alternatives and what was the difference between them?

If "no":

(3) So no alternative involving a different size, location, administrative set-up, target group, financial arrangements, out-put or technology was specified and worked on parallel to another alternative?

(4) Still you probably had propositions to alternatives as e.g. a different size or a different location coming up. If you did not specify and work parallel with more than one alternative, what did you do, when such alternatives were suggested?

Question (4) proved to be somewhat unclear and in several cases was an elaboration necessary. Question (4) wanted to confirm, that since

alternative designs were not pursued parallel decisions had to be made as alternatives were presented themselves as maturation increased.[1] In the elaboration on the interview question this approach was mentioned to the respondents and to it was added "did you use this or some other approach?". In table A1:3, which summarizes the findings, this approach is headed "decided along".

Table A1:3. Summary of replies to RQ-5.

Country	Reply to (1)		Reply to (3)		Reply to (4)	
	Yes	No	Yes	No	Decided along	Other
K	1	15	1	15	15	1
Z	-	3	-	3	3	-
T	-	1	-	1	1	-

With one exception the respondents indicated, that only one alternative design of a project was pursued in the maturation process. The exception was an irrigation project in Kenya, which was formulated by a large international consultant firm in cooperation with the Minag. This project will appear as a deviation in a number of RQ-s. Six alternatives based on different cropping patterns were considered throughout the maturation process.

Again this project constituted the exception in the replies to question (4). It is already noted, that the formulation of this question was not entirely satisfactory, and that elaboration often was called for. The respondents were then offered one defined alternative and they were left to formulate and specify others, if such were used. This is likely to have introduced a bias in favor of the formulated alternative, which calls for some caution, when the results are interpreted.

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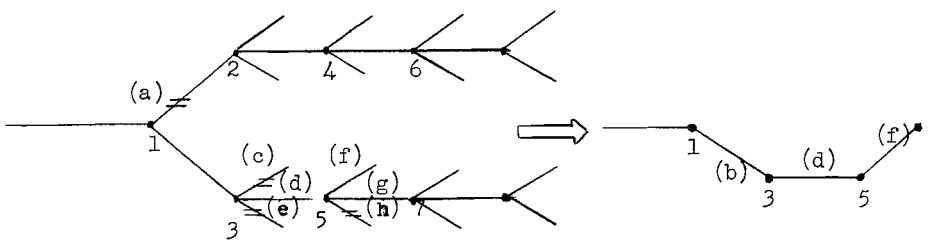
1) There is also the possibility that no decision was taken but the question was left open.

In section (VI.1.1) in chapter II omission was suggested to be powerful means used in the selection process to achieve simplification. The replies indicate, that omission is brought far indeed in that only one design is maintained throughout the selection process. The approach can be illustrated in the following way:



Figur A.1:1.

At each decision-point (1, 2, 3 etc) alternatives could be defined and retained. However, through systematic omission the alternatives offered at each decision-point were eliminated except one. At 1(a) is omitted, at 3(c) and (e) etc. Only one alternative as a composite of (b), (d) and (f) resulted.

RQ-6 (K)

How many alternatives in each project dimension were considered at the stage, when the initial choices in project dimensions were made at D_1?

The interview questions asked were:

(1) I have here specified a set of characteristics or dimensions in which a project can be described. (Shown on a screen.) Which of these dimensions were discussed for project (X) at the first meeting for this project?

(2) When you at that occasion discussed dimension (Y, etc) were any alternatives to (Y, etc) discussed?

If "yes" (3): Which?

(4) I have here five different interpretations of the concept discuss. (Shown on a screen.) When you say, that alternative (Z, etc) was discussed, which do you think is the most appropriate description of the way in which it was discussed?

The interview questions go a bit further than the RQ. Question (1) attempts to clarify, which dimensions that were covered in the discussions at D_1, and question (4) explores the way the discussions were held.

Problems of validity and reliability are apparent in this RQ. In other RQ-s like RQ-7 and RQ-8, where alternatives (designs) were asked for, probe questions were formulated to ensure, that not differences, that according to definitions in this study warranted the recording of an alternative, were neglected. Probing to avoid this possibility was far more difficult in this RQ. What respondents in their minds at the time the questions were asked did not consider an alternative was never mentioned, and the interviewer in those cases was never given an opportonity to determine, whether an alternative was at hand or not.

Recollection problems also can have been considerable. Not only had the respondent to recall the alternatives discussed, but he was supposed to make sure, that his replies referred to a specific occasion for discussion. These demands are considerable and can not be expected to have been met in full, which means, that the reliability was affected.

These considerations imply, that inferences on this RQ should be made with some care.

Question (1)

Question (1) was asked to clarify which dimensions, that were discussed at D_1. The findings for the fourteen projects are summarized

in table A.1:4.[1)]

Table A.1:4.

	Dimension (1)	(2)	(3)	(4)	(5)	(6)
Discussed	7	7	9	13	4	6
Not discussed	7	7	5	1	10	8
No of projects	14	14	14	14	14	14

A cautious interpretation of the table would be, that the size of a project was generellay discussed at D_1, and that the administrative set-up was least discussed. In other dimensions save location and target group, which also seemed to be more frequently discussed than not, it appeared as if the likelyhood for a discussion was about as high as for the absence of it.

The frequency distribution on dimensions broken down on new projects and second phase projects indicate some differences between the two cathegories. Still more reservations are called for at this stage, as the number of projects in the two groups is limited to five (new) and nine (second phase) respectively. The relative frequency is yet shown figure A1:2.

Differences appear in dimension (1), out-put expectations and (2), process characteristics, where for the projects studied the dimensions were discussed in 4 of 5 cases for new projects but only in 3 out of 9 cases for second phase projects.

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1) Where two respondents were interviewed on one project their (two) answers to one question were counted as one answer. In dimension (1) there were two cases, where the respondents gave different replies. One of them answered "discussed" and the other answered "not discussed". It should be noted, that this inconsistency appeared in only 2 our of 18 potential cases. In the table "discussed" is the answer recorded in the two cases to avoid under-reporting of dimensions discussed.

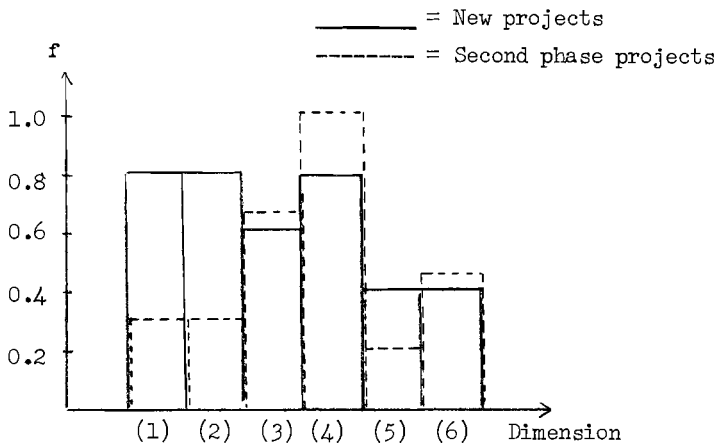

Figure A1:2.

One explanation to such a difference could be, that in second phase projects characteristics in these dimensions were taken as givens, a reply in fact given by several of the respondents.

The ratio between dimensions discussed and total number of dimensions (no of projects x 6) for new and second phase projects are 0.6 and 0.5 respectively. This would imply, that the former projects caused more discussions measured as the frequency of dimensions discussed. This result should be interpreted with caution as the error margin might well be larger than the difference noted.

The same ratios were recorded for large and for small projects: 0.6 and 0.5 respectively.

Question (2) and (3)

If all six dimensions for each project had been discussed for all fourteen projects "discussed" would have been reported 14 x 6 = 84 times. However, discussions were reported in no more than 46 cases. In question (2) and (3) the respondents were requested to indicate if alternatives in each dimensions discussed were considered, and which these alternatives were. In 27 of the 46 cases, where "dis-

cussed" was reported, the respondents indicated, than no alternatives were discussed. In 12 of the remaining 19 cases respondents claimed, that alternatives were discussed, but failed to specify what the alternatives were. Only in 7 cases could concrete alternatives be presented.

The replies have also been analyzed to determine, if there was any difference between new projects and second phase projects and between small projects and large projects.

For 9 second phase projects alternatives were discussed in 11 cases (in various dimensions). For the 5 new projects alternatives were discussed in 8 cases. The resulting ratios between number of cases and number of projects were 1.2 and 1.6 respectively. With reservations for the error margin it appears as if alternatives were more frequently discussed for new projects. A likely explanation to this difference is, that the conceived need to explore alternatives in second phase projects was less, as characteristics from the first phase were adopted without discussion. Another reason for extended search could have been the higher degree of risk envisaged with new projects.

A similar difference was noted between large projects and small projects for which the ratios were 1.8 and 1.0 respectively. This would imply, that more efforts were made to identify alternatives for large project.

The difference can be explained by the expected behavior of a risk adverse decision-maker, when the possible degree of a loss varies. To hedge against the risk for a large loss the decision-maker extends the search for alternatives.

With the reservations presented above the findings seem to support the hypothesis, that the number of alternatives in the various project dimensions discussed at D_1 was low.

Question (4)

Question (4) intended to clarify in which way the discussion of alternatives in the various project dimensions were held. The respondent had to choose between the following predetermined alternatives:

(Code)

(1) Mentioned
(2) Discussed without documentation at hand
(3) Discussed with documentation at hand
(4) Seriously discussed without documentation at hand
(5) Seriously discussed with documentation at hand

The replies were distributed in the following way:

Table A1:5.

Code	(1)	(2)	(3)	(4)	(5)
Frequency	2	6	9	-	2

Asked to choose most respondents felt, that alternatives were more than "mentioned", and that they were rather "discussed" than "seriously discussed". Precision in measurement is low, and no further elaboration will be made on the findings.

RQ-27 (K)

Will a project undergo changes in its basic characteristics during the maturation process?

The interview questions asked were:

(1) For project (X) it appears in the proposal, that (the basic characteristics in each dimension one by one described to the respondent) is what became the choice. Was the characteristic (Y etc) the same or different, when you started to determine the payment streams on the basis of a detailed technical description of the project?

If "different" ask:

(2) What was the assumption then?

(3) Has this project undergone any change in any dimension since it was first discussed until the write-up was completed?

If "yes": Which?

Question (3) goes further than the RQ in that it covers the entire maturation process from D_1 to D_2.

Findings on question (1)

For twelve out of thirteen projects the respondents replied, that no change was made in any of the deminsions after the projects had reached the stage in the maturation process, where the payment streams were determined. Expressed otherwise it shows, that after that the economic analysis of the project started no changes were made.

In one case such a change was reported. It refers to grazing scheme in which the area was increased to improve the level of profitability.

The remaining project, the Bura irrigation project, could not be investigated in this respect, since the payment streams had been determined by a consultant firm.

Findings on question (3)

As was expected changes were reported, when the entire maturation process was considered. The results are presented in the following two tables.

Table A1:6. Frequency of changes per dimension

Dimension	(1)	(2)	(3)	(4)	(5)	(6)	
Frequency of changes	0	5	3	5	1	3	Σ 17

Table A1:7. Frequency of changes per project

Frequency of changes (per project)	0	1	2	3	4	
No of projects	4	5	4	-	1	Σ 14

Table A.1:6 shows e.g. that in three projects (entry frequency of changes) was there a change in the location/target group (dimension 3) for the projects. Table A1:7 should be read in the following way. In four projects there was no change in any dimension etc.

Before the findings are commented upon, the validity problems involved with this RQ should be noted.

Although the dimensions were mentioned to the respondents, and they were asked for changes in any of the dimensions, it is possible, that changes that had taken place were not reported, either because the respondents thought they were not so important, or because they were forgotten.

Although it is argued, in this study, that the choices at a low level of detail give a project its basic characteristics, it can not be taken for granted, that a respondent in all cases considered a change at a low level of detail important and therefore worthwhile mentioning. Dimension (6), financial arrangements, may exemplify this. A change from bilateral to multilateral financing may have been of little concern to the respondent and yet it is a change at a low level of detail of the kind looked for. This argument leads to the possibility, that the validity in this RQ may have been reduced by under-reporting.

The objection does not seem too serious, however, as one would expect, that degree of conceived importance and level of detail by and large coincided.

Discussion of the Findings in the Tables above

Two observations can be made with reference to table A1:6. The first is that the reported frequency of changes was low or only 1.2 changes per project. Even if under-reporting was substantial, this conclusion will remain unaltered. Second, it appeared as if changes were slightly more frequent in dimensions (2) and (4), process characteristics and size than in other dimensions. Least changes were indicated for dimensions (1) and (5), out-put expectations and administrative set-up. No change was reported in dimension (1), which means, that in no case was the attention initially directed to one problem shifted to another problem during the maturation process.[1] A somewhat unexpected result was the relatively high frequency of change in dimension (2).

Table A1:7 shows, that changes were made in most projects, but that only one of the fourteen projects is accounted for more than two changes. With the reservation about the possibility of under-reporting it seems, as if there were strikingly few changes in each project.

To summarize the findings, which due to validity problems must be interpreted with some caution, it appeared as if the likelyhood that a project was to undergo changes ones it had reached the stage for economic analysis was low. Furthermore, few changes were reported in each project, when the entire maturation process was considered.

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1) This argument is based on the observation in RQ-2, that problem identification was made predominantly at the commodity objective level, and on the assumption, that out-put expectations conceived were related to the commodity objectives focused at.

Differences between new and second phase projects and between large and small projects

An analysis of changes during the entire maturation process with a distinction between new and second phase projects indicates differences in the frequency of change. To the reservations already made regarding the validity should now be added, that the number of projects in the different cathegories is small. Yet the relative frequency of changes in each dimension for new and second phase projects will be shown.

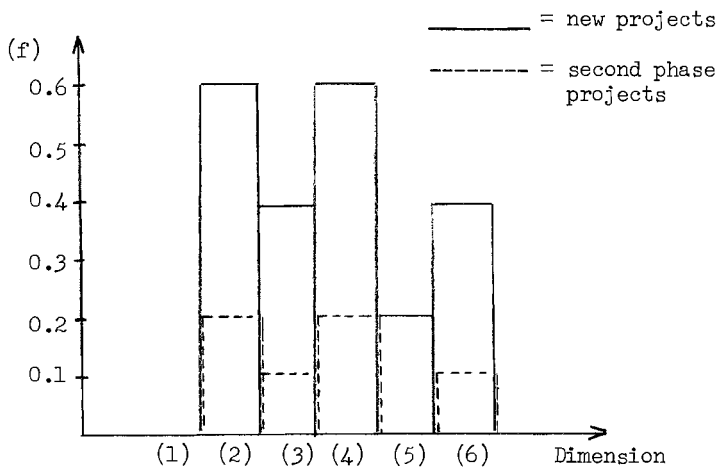

Figure A1:3.

Apperently the frequency of changes was considerably higher for new projects. The ratio between the number of changes and the number of projects was 2.2 for new projects and 0.7 for second phase projects. The noted difference can be interpreted so that the formulation of a new project is more of a trial and error effort than for a second phase project, where many project characteristics are taken for granted from the first phase and never questioned in the maturation process.

An analysis along the size variable shows, a difference in the frequency of changes as well. The ratios between the number of changes and the number of projects were 0.8 for small projects and 1.6 for large projects.

RQ-2 (K, Z, T)

The RQ has the following formulation:

Are commodity level objectives focused at in problem identification?

The interview question asked was:

What was the prime target or prime objective set for (the project to be mentioned)?

The question was asked with reference to specific projects in the three countries. The replies given in coded form are shown in table A1:8.

Table A1:8.

Country	No of replies, commodity level	No of replies, national level	Unclassified replies	Total replies
K	16	1	1	18
Z	2	-	-	2
T	-	1	-	1

The basis for the classification of the replies is the definitions of national and commodity objectives in section (VI.2.1), chapter VI.

As indicated above one reply given in Kenya has not been classified. The reply refers to a small scale farmer credit project and it reads: "to develop consolidated small scale farmers". It is hard to determine the meaning of this statement due to the different interpretations, that can be given to the word develop in this context. Interpretations are conceivable, that would warrant reference to either of the two classes. Here the reply will be disregarded, but the reader with a different opinion can adjust the conclusions drawn below if need be.

The table above indicates, that the objective level mentioned with few exceptions was the commodity level. As is discussed in the

section on the operationalization of this RQ (in appendix 2) this would suggest, that problem identification predominantly took place at this objective level.

Particularly two implications thereof are worth mentioning. First the number of potential alternatives was considerably reduced, as commodity objectives rather than national objectives were focused at. If a problem was identified with reference to a (national) objective like increased earnings/savings in foreign exchange rather than a commodity objective like increased production of tea, the potential alternatives to problem resolution were far more numerous. Furthermore, a conception of problems at the higher objective level, would have increased the likelyhood, that incompatible alternatives, (e.g. due to budget restrictions) at the commodity objective level were identified and chosen among. To pursue the example given above, if savings/earnings in foreign exchange had been the objective focused at, increased production and export of coffee or increased import substitution of oil through production of oilseeds could have been identified as alternatives to increased tea production, which for the sake of argument is assumed to contribute basically to the foreign exchange objective. Problem identification at the lower objective level was in other words likely to result in few comparisons at that level.

Secondly, as problem identification and problem resolution was predominantly conceived at the commodity objective level, one would expect, that project contribution to national objectives became a secondary consideration. Such objectives might be mentioned in the project write-ups but in rather vague terms, and as an addition to project benefits stated with reference to commodity objectives. An analysis of the project writeups for the project set supports these arguments.

The above RQ-s explored alternatives considered during the maturation process and as a major finding it can be noted, that the search for alternatives was very limited.

In the next section findings on RQ-s referring to the stage in the selection process where the maturation is halted and a decision upon a proposal has to be made in the Agricultural ministry before the project is submitted to the Finance of Finance/Planning ministry are reported. The focus is still alternatives considered.

A1.2.2 Alternatives Considered at the End of the Maturation Process

RQ-7 (K, Z, T)

Are alternative designs of a project considered at D_2, when muturation is halted and the project turns from an idea to a proposal?

To explore this RQ the following interview questions were asked:

(1) When the profitability calculations of this project (X) were completed and the project was presented as a draft to the PS and/or the Deputy Secretary/Development, did it contain one or several alternative designs?

If "only one" ask:

(2) So no alternatives in size, location, administrative set-up, target group, out-put expected or technology were given?

If "more than one" ask:

(3) Can you mention which alternatives and describe the differences between them?

The results obtained in the interviews are summarized below.

Table A1:9.

Country	Reply to (1)		Reply to (2)		Reply to (3)	
	one	>one	No	Yes	N.a.	Other
K	15	1	15	1	15	1
Z	3	-	3	-	3	1
T	2	-	2	-	2	-

Note: One of the respondents in Tanzania was given the RQ in a non-project specific formulation.

With only one exception did the projects contain only one alternative design at the end of the maturation process. At that stage, at D_2, the decision-maker had only one design of the projects to consider, and the decision would not be a ranking of designs but rather an accept/reject decision of the design suggested.[1)]

The exception is again the Bura irrigation project, which was formulated by a consultant company. The project document contained six alternative designs with different cropping patterns.

RQ-8 (K and Z)

Are different project proposals simultaneously considered at D_2 and decisions involving ranking made?

The interview questions asked were the following:

(1) Projects are completed and decided upon by the Minag throughout the year and these projects are subsequently submitted to the Treasury. My following questions refer to these occasions and not to the annual budget exercise.

When a project is submitted to you for decision-making after the completion of the economic analysis, do you then explicitly compare it with other specific projects so that you rank them, or do you consider the project on its own merits?

(2) (Showing the project list.) Would you like to change that statement for any of these projects? (This question was asked in Kenya only.)

These questions were asked to the following officers in Kenya and Zambia, who all responded, that projects were considered on their own merits, but some of them wished to qualify that statement as described below.

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1) Still there may have been a ranking of projects, which was explored by RQ-8.

(1) The Permanent Secretary, Minag, Kenya
(2) The Director of Agriculture, Minag, Kenya
(3) The Deputy Secretary/Development, Minag, Kenya
(4) The Undersecretary/Planning, MRD, Zambia
(5) The Head Land Use Service, MRD, Zambia

None of the Kenyan officers wished to modify their statements with reference to the project list.

The Permanent Secretary (K) indicated, that he tried to relate a project to the sector it came from to see how it affected other activities.[1] As a reason why projects were not compared at D_2 he mentioned, that a major problem was, that projects were ready (reached D_2) at different points in time, which in his opinion meant, that the question of comparison did not really arise, and that a situation of choice was not there. He felt, that too few projects were prepared due to the severe constraint on manpower for planning purposes.

Also the Director of Agriculture (K), reported, that although he did not explicitly compare a project with other projects, he tried to assess the implications of a project proposal on on-going and other planned activities interdependent with the project to see how it fitted in with the sector it came from.[2] Such an assessment would not go beyond the sector focused at.

A similar qualification was also made by the Deputy Secretary/ Development (K), who mentioned, that he tried to forsee how a certain project would affect other projects.

The impression given by the replies in Kenya was, that no explicit comparison was made at D_2, but that the officers attempted to

1) Sector here refers to e.g. horticulture, livestock.

2) The Head of the Land Use Sercice referred to the considerations made by the Technical Committee, which was described in section (VII.2.2) where it was noted, that this was a decision point in addition to D_2, which did not exist in the other countries.

visualize what interdependencies there were with other activities, and how the proposed project would affect these activities.

The Undersecretary/Planning in Zambia as well as the Head of the Land Use Service reported, that no comparison was made at D_2.[1] The former questioned whether it was necessary, as "any good idea will contribute to development, and then there is no real need to compare".

RQ-10 (K, T, Z)

Is one or more than one project design for each project submitted from the Minag to the MFP?

This RQ was formulated with the assumption that possibly a number of alternatives for a project remained at D_2 in which case the operating ministry, Minag, could either choose to forward only one of these alternatives or more than one alternative. The RQ obviously became preempted by the findings on RQ-7. Since the information was ready available in the project documents with few exceptions it was collected more to increase the reliability of RQ-7. The table below gives the result:

Table A1:10.

Country	No of designs		Source of information	
	1	> 1	Document	Interview
K	13	1	13	1
Z	3	-	-	3
T	1	-	1	-

The exception in the above table is still the Bura irrigation project.

1) Se footnote 2 on p. 223.

The submission of only one alternative design for each project means, that the decisions after D_2 would be accept/reject decision as far as the design was concerned.

From the above findings reported in this sub-section it is clear, that there was only one design of each project to be considered at the end of the maturation process and that no comparison with other projects was made before the project was submitted to the Planning or Finance/Planning ministry. The decision was an accept/reject decision.

In the next section it will be reported to what an extent alternatives were considered in the Planning or Finance/Planning ministry before a project was submitted to a donor.

A1.2.3 Alternatives Considered in the Planning or Finance/Planning Ministry (D_3 - D_4)

Is the decision at D_3 in the Planning Department in the MFP an accept/reject decision?

The interview questions asked were:

(1) Has this project (X) been forwarded to you/your unit for comment?

If "yes" ask:

(2) When this project (X) was submitted to you for comment/ decision-making, did you explicitly compare it with other specific projects so that you ranked them or did you consider the project on its own merits?

If the reply was, that it was compared the respondent was asked:

(3) With which projects was it compared?

The interview questions were asked to two advisers in the Planning Department responsible for agriculture and to the Head of the Project Evaluation Unit.

The replies revealed, that there were no laid down procedures that were followed, which ensured that a project was formally forwarded to the Planning Department either from the Minag or from the Treasury Department in the MFP. The respondents were acordingly hesitant to answer question (1). Projects under preparation were normally known and the officers understood it as their responsibility to comment on such projects whether they were formally asked to do so or not. (See further the discussion of RQ-12.)

The respondents indicated in reply to question (2), conceived more in a general way (non-project specific), that they made no explicit comparison between projects, but rather considered them on their own merits, which would indicate, that the decision at D_3 was an accept/reject decision. (See also RQ-11.)

RQ-12 (K, Z, T)

Will projects that have been presented to donors prior to D_4 and for which donors have indicated interest be forwarded to the donors without comparison with other projects, which would imply, that the decision is an accept/reject decision?

The interview question asked was:

(1) Is a project in which donors have indicated interest explicitely compared with other specific projects and ranked, or is it considered on its own merits before it is submitted to the donor, who has indicated interest?

The question was non-project specific, and the replies as shown in the table below indicate, that the projects were considered on their own merits and not explicitely compared with other projects at D_4.

An attempt was also made to clarify, if any appraisal of a project was made at D_4 before a project was sent to a donor.

Table A1:11.

Country	Respondent	Reply
K	Finance Officer, Treasury	On its own merits
K	Senior Assistant Secretary, External Aid Division, Treasury	On its own merits
K	Former Head External Aid Division, Treasury	On its own merits
K	Head Project Evaluation Unit, Treasury	On its own merits
Z	Planning Economist, Development Planning Division, Treasury	On its own merits
Z	Senior Economist, Development Planning Division, Treasury	On its own merits
T	Head External Finance Division, Treasury	On its own merits
T	Project Evaluation Consultant, External Finance Division, Treasury	On its own merits

An attempt was also made to clarify, if any appraisal of a project was made as D_4 before a project was sent to a donor.

In Kenya it was clear, that the External Aid Division in the MFP did not make any appraisal of the projects. As the former Head of the Division put it: "The External Aid Division is not concerned with the economics of the projects but is interested in the prospects of financing them." When asked about project appraisal at D_4 both he and the Senior Assistant Secretary in the External Aid Division suggested, that this was done by the Planning Department in the Ministry.

The interviews with the Deputy Permanent Secretary/Planning, the Head of the Project Evaluation Unit and two Planning Officers all in the Planning Department of the MFP indicated however, that the involvement of the Planning Department between D_2 and D_5 was rather uneven, and that the involvement was more of a commenting nature than an appraising nature. There were no procedures that were followed which secured, that projects passed the Planning Department before they were submitted to donors. The feeling that there was

not much that the MFP could do about a project was also expressed. When a project reached the MFP it was a ready project and in most cases the Minag had already a donor lined-up. In summary it seems as if in Kenya projects were not explicitely compared with other projects at D_4 but rather considered on their own merits, and that no comprehensive appraisal was carried out.

In Zambia the Development Planning Division (DPD) of the Ministry of Planning and Finance was responsible for the official contacts with donors. This Division was predominantly concerned with sectoral rather than project planning. Asked for what project appraisal that was carried out by the Division the reply was given, that it was hardly any.

When the institutional framework for the project selection process was described in chapter VII, it was noted, that Tanzania differed from the two other countries in that projects, which involved donor financing, had to be cleared with the Economic Committee of the Cabinet before they could be sent to donors. To recall the flow it was as follows:

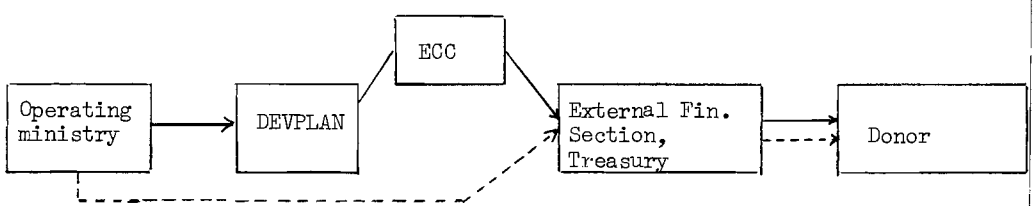

Figure A1:4.

The dashed arrows indicate a possibility, that projects pass to a donor prior to clearance with the ECC. This could happen in urgent cases, if the project was not too big, not controversial and the Minister in the operating ministry decided to take the risk to have the project rejected or changed, when it later was discussed in the ECC.

DEVPLAN was reported to have no machinery for project appraisal and hardly undertook any. (Planning Economist, Agricultural Section, DEVPLAN.) Accordingly DEVPLAN did not appraise projects before they were laid on the table of the ECC. Each minister introduced the projects emanating from his ministry to the committee. Before discussing the functions of the ECC it will be noted, that the External Finance Section undertook to check that the projects were presented in an acceptable way (the format) for the to-be donors, and that the information provided in the project documents was adequate to avoid time-consuming requests for additional information. Attempts were also made at times to check if all relevant cost items had been included in the analysis. (The Project Evaluation Consultant and the Head External Finance Division, both in the Treasury). No appraisal of the projects as understood here was carried out by the Division however. The large number of projects and the lack of familiarity with the specialized fields from which the projects came were mentioned as reasons, which made a meaningful appraisal difficult.

The functions of the ECC are worth specific attention. The existence of this cabinet committee constituted a marked difference between this country on the one hand and Kenya and Zambia on the other. Contrary to the case in the latter countries politicians and politicians at the highest level of the Executive were brought into the selection process prior to the budget preparation.

The information presented in the following on the ECC was provided in an interview with the former Principal Secretary to the Treasury, who attended the ECC meetings up to July 1973.

In the ECC projects tended to be discussed on a case by case basis without explicit comparison with other projects. A brief on a couple of pages plus the introduction made by the relevant minister was normally the information provided about a project. The discussions used to cover particularly "policy" aspects of the projects like their size, location and who would benefit from them and less the "technical" aspects.

In most cases projects tended to pass as they were proposed, but at times changes and sometimes very substantial changes were ordered by the ECC. The respondent could recall a number of cases, when a project had been rejected by the committee. He had noted no difference in the treatment of donor financed projects and claimed, that the ECC did not hesitate to change or even reject a project for which a donor was lined-up, if the project did not stand the policy scrutiny.

To summarize projects were not explicitely compared with other projects at D_4 before they were submitted to donors in any of the three countries. The Planning and Finance Ministries made limited if any appraising efforts.

RQ-13 (K)

Are the two following decisions made on projects for which no donor has been identified and accordingly no interest is indicated prior to D_4:

(1) A decision to accept or reject the project which is made without comparison with other projects.

(2) A decision on to which donor(s) the project will be submitted

The interview questions asked were:

(1) Is it a correct description that for projects for which no donor has been identified and accordingly no interest is indicated at the time of submission of the project from the Minag to the Treasury two decisions are made namely

- a decision to accept or reject the project
- a decision on to which donor(s) the project will be submitted

(2) As a general rule is the decision to forward or not to forward a project to a donor taken after an explicit comparison with other specific projects in which they are ranked, or is the project considered on its own merits?

The two respondents to these questions, the Head of the Project Evaluation Unit and a Senior Assistance Secretary in the External

Aid Division both in the Treasury replied affirmative to question (1) and reported that the projects were considered on their own merits.

The three preceding RQ-s revealed, that projects were considered on their own merits and not compared with other projects also in the Planning or Finance/Planning ministries. With the exception for Tanzania limited or no efforts were made at this stage to question the justification of the projects by appraising them.

In the last subsection on alternatives considered, which follows, the exploration covers the budget preparation.

A1.2.4 Alternatives considered in the budget preparation

RQ-15 (K, Z, T)

Will a project for which an agreement is signed be compared with other projects at D_5?

The interview questions asked were the following:

(1) If an agreement for a project is signed with a donor prior to a budgeting opportunity and disbursements are expected the coming fiscal year, will such a project automatically go into the budget?

(2) In considering whether such a project should be included or not do you explicitely compare it with other projects so that you rank them or do you consider the project on its own merits?

Question (1) goes a bit further than the RQ as it attempts to explore, if there is a high degree of preference treatment at D_5 for donor financed projects.

The replies given to the above questions were:

Table A1:12.

Country	Respondent	Reply to (1)	Reply to (2)
K	Head Finance Section, Minag	Yes	On its own merits
K	Head External Aid Division, Treasury	Yes	On its own merits
K	Finance Officer (agric.) Treasury	Yes	On its own merits
Z	Planning Economist, Minag[1)]	No	On its own merits
Z	Senior Economist, Treasury	Yes	On its own merits
T	Project Evaluation Consultant, Treasury	No	On its own merits
T	Economic Advisor, Devplan	No	On its own merits

1) The Planning Economist was responsible for the preparation of the development budget for the Ministry of Rural Development.

Question (1)

The replies in Kenya indicated, that donor financed projects for which finance was secured, were included in the budget without being questioned. This is hardly surprising in a situation with no budget constraint. In Zambia there is an inconsistency in the replies. Since almost the entire budget preparation work was carried out in the Ministry of Rural Development it seems justified to ascribe the first reply a considerably higher significance. That respondent noted, that the budget situation (1974) was so tight, that nothing could be included in the budget without being questioned.

In Tanzania the respondents showed a reluctance to agree to the formulation "atuomatically". The projects referred to, it was said, were given a preference treatment, but yet thought was claimed to be given to their time phasing. It was not a question of accepting or rejecting such projects but rather a question of the rate of expenditure.

Question (2)

A comparison of the replies to question (1) and question (2) in Kenya

appears to show an inconsistency. If the projects went into the budget automatically, question (2) does not seem to be applicable. An interpretation of the replies may be, that still some consideration was given these projects and to the extent this was the case the projects were considered on their own merits without explicit comparison with other projects.

The findings in Zambia and Tanzania indicated the same one by one approcah as in Kenya, which means that the RQ appears to have been answered in the affirmative.

RQ-16 (K)

Are projects for which donor interest is indicated by specific donors but for which no agreements are signed kept pending next budgeting opportunity?

The interview question asked was phrased as follows:

(1) How are projects for which donors have indicated interest but for which no agreements are signed treated in the budget preparation?

The officers interviewed were:

The Head of the Finance Section, Minag
The Senior Assistant Secretary, Finance Section, Minag
A Planning Economist (involved in the budget preparation), Minag
The Finance Officer (agric.), Treasury
The Head of the External Aid Division, Treasury

All respondents indicated, that if negotiations on a project were at an advanced stage and the signing of an agreement close in time, the project would most likely be put into the budget. Three projects in the set - the KTDA tea project, the 129 livestock credit project and the livestock buying centres - were treated this way. If a donor had indicated firm interest, but negotiations were at a less advanced stage, the project would be given a token provision of e.g. K£ 10 in the budget. Probing suggested, that it was a

matter of judgement, whether a project for which no agreement was signed would be put in either in full, or as a token provision or if it was to be omitted.

In summary the most striking out-come of the exploration of alternatives considered during the budget preparation was the absence of any explicit comparison of projects, which rather were considered one by one on their own merits.

The main findings on alternatives considered in the selection process

In the selection process strikingly limited search characterized the early phase with very few alternatives considered. Only one design, that was infrequently changed, was pursued in the maturation process, and decision-makers were presented with one single design for each project. Nowhere in the selection process were projects reported to have been compared explicitly, but each project was considered on its own merits. Decisions were accept/reject decisions.

A1.3 RQ-S REFERRERING TO TECHNIQUES USED

A1.3.1 Techniques Used at the Early Stage of the Maturation Process

RQ-17 (K)

The RQ read as follows:

Which of the classes of techniques identified in section (IV.3.1) in chapter IV are applied to determine consequences of alternatives when (1) problems are chosen among and (2) when designs are chosen among?

The respondents were asked to choose on a screen the class of techniques, that they thought was predominantly used in making the choices referred to in the RQ. The alternatives on the screen were:

(1) Verbal - qualification
(2) Verbal - quantification
(3) In writing - qualification
(4) In writing - quantification

With reference to the choice of problem the respondents indicated in 70 % of the cases (10 out of 14), that qualification rather than quantification was used, and in 9 out of the 14 cases the presentation was verbal (65 %). The stage was described as one during which discussions of project consequences were in rather general terms, where the kinds of consequences rather than their magnitudes were considered. No analytical efforts had been made at that stage permitting much quantification.

With reference to the choices of project characteristics the pattern was much the same. Qualification dominated in nearly 70 % of the cases (13 out of 19). One difference was notable, however. "Verbal" was reported in 7 out of 19 cases (35 %), whereas in chosing the problem "verbal" was reported in some 65 %.

The findings are supported by experience suggesting that the choice of problem is the result of discussion generally with little documentation and with emphasis on qualification, and that some sort of background paper then may be written as a basis for the choice of project design. Still qualification will dominate.

A1.3.2 Techniques used in the investment calculus

RQ-18 (K, Z, T)

Are payment streams determined for (i) more than one alternative design and (ii) for more than one state of the world?

In Kenya the project set was used to answer the RQ, and in all cases except one (the Siaya FTC) was the information obtained from the project documents. Of the three projects explored in Zambia the project document was available for one project as was the case with the single project in Tanzania. In addition the RQ was asked

without reference to specific projects to two respondent in Tanzania (Tgen). The results appear in the table below:

Table A1:13

Country	Reply to (1)		Reply to (2)	
	1	>1	1	>1
K	13	1	13	1
Z	1	-	3	-
T (spec)	1	-	-	-
T (gen.)	2	-	2	-

Once more the project formulated by the consultant firm, the Bura irrigation project, becomes an exception in the table. As already shown, when RQ-7 was discussed above, six alternative designs were presented for this project, and payment streams were determined for them. A sensitivity analysis was carried out on five variables in sequence in this project. For each variable two states in addition to H_0 were assumed, which means, that in all fifteen states were explored. In all other projects only one state of the world was assumed.

This means that the profitability estimates were point estimates, and that the possible dispersions around these estimates as a measure of the degree of risk were neglected.[1)] The only visible consideration of risk was the use of contingencies on the cost side in most projects, a method which is widely criticized.

An analysis of fourteen project documents covering the project set in Kenya save one indicates, that risk analysis, which is a significant component in investment theory, was neglected when these projects were prepared.

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1) The concept risk is here used to cover both risk and uncertainty as often distinguished between.

RQ-20 (K,Z,T)

With the exception of the Siaya FTC project the information on this RQ was in Kenya found in project documents. The same source was used for one project in Zambia and for one project in Tanzania. The remaining three projects in Zambia were covered with interviews. In addition the RQ was posed in a non-project specific version to two more respondents in Tanzania. The result is shown in the following table.

Country	Use of IRR	Other criteria	No profitability estimate
K	10	I	3
Z	2	-	I
T	I	-	-

When profitability estimates were made, the internal rate of return (IRR) was the criterion par preference. The exception was a storage project (in Kenya). The analyst felt the forecasting of grain availability so hazardous, that he chose to determine a break-even volume for the storage facility. Also the respondents in Tanzania reported that the IRR was the profitability used.

The frequent use of the IRR is interesting bearing in mind the criticism delivered against this criterion. It is also interesting in the light of the findings on RQ-21, which indicate that the respondents had limited about the definition and the limitations of the IRR.

RQ-21 (K)

The techniques and the criteria used in investment calculus, when the profitability is determined, all have their limitations and fallacies. To what an extent are these known?

To answer the RQ a set of interview questions to test the familiarity with basic conepts in investment theory were asked. The intent was to interview all officers that were interviewed in connection with the other RQ-s in this study. This approach had to be abandonned at an early stage, however. The exploration of the RQ was confined to expatriate staff involved in the project selection process, and they were asked the following questions:

(1) When you wish to rank incompatible projects in order of their profitability, which criterion do you prefer to use? Motivate.

(2) Ratios like the benefit-cost ratio are sometimes used as criterion on profitability. Can you specify any draw-back with this criterion?

(3) Can you mention a few ways in which uncertainty and risk can be taken into account in investment analysis?

(4) How do you define the internal rate of return?

(5) Are there any situations in which the internal rate of return fails as a criterion?

(6) What is meant with external effects in cost-benefit analysis?

(7) What justification if any do you see in the use of shadow prices in project analysis?

The precision in measurement was deliberately set quite low with only two scores - satisfactory and unsatisfactory, with reference to the requirements in a graduate course. The result per question is shown below.

Table A1:14.

Question	Satisfactory	Unsatisfac-tory
(1)	1	8
(2)	1	8
(3)	6	3
(4)	5	4
(5)	1	8
(6)	7	2
(7)	6	3
	27	36

The table indicates, that the respondents as a group would not have passed the "examiniation" had all questions been given the same weight. There are considerable differences between individual questions, however. Of the questions referring to profitability criteria (1, 2, 4 and 5) only number 4, the definition of the IRR, was answered in an acceptable way by a (slight) majority of the respondents. It may be worth noting, that the knowledge about the IRR was so limited, although it was the criterion almost exclusively used in project analysis. In addition to what appears in the entries for (4) and (5) in the table most respondents suggested the IRR as the most suitable criterion for ranking of incompatible projects. Hardly any could motivate the choice made.

A low command in the techniques used, would suggest, that both the reliability and the validity in the profitability estimates may have been reduced. This should be born in mind, when RQ-24 is discussed.

RQ-22 (K)

Does it happen, that the calculus of the profitability ending the maturation process results in projects falling below a minimum acceptance level of the criterion in use, and in those cases, what actions are taken?

The interview questions asked were:

(1) You were involved in the calculation of the profitability of this project (X) in which you used criterion (Y). What was the minimum level of (Y), that you thought the project had to surpass to become accepted?

(2) Did the project (X) at the termination of the first calculus of (Y) fall above or below that minimum?

(3) (If below): Did you do anything to improve the profitability or was the project forwarded to the PS without any change in the calculation?

(4) (If changed): What changes were undertaken?

Question (1)

Four respondents answered with reference to what they thought the IBRD would require as a minimum rate, and the replies ranged from (10-15)%. One respondent, who had been involved in the preparation of the IDA 105 small holder credit project, thought that the IBRD would not accept anything below an IRR of 25 % for such a project.

For the remaining five projects where the profitability was determined the respondents could not indicate any minimum level they thought the projects had to pass to become accepted.

Questions (2), (3) and (4)

In all five cases, when reference was made to the IBRD, did the IRR turn out to be higher or considerably higher. No changes were made on these projects as a result of the outcome of the calculations.

In one of the remaining cases the IRR was considered "quite high" and acceptable although the respondent could not quantify a minimum level. No change was made in that project either.

In two cases where the respondents could not indicate a minimum level for the IRR it was felt, that the IRR-s were "on the low side". One of these projects, the NEP grazing scheme, was enlarged to improve the IRR.

For one of the projects, where the respondent could not indicate a minimum IRR, he refrained from answering question (2).

To summarize one could say, that in those cases respondents were able to indicate a minimum level this was done with reference to what the IBRD was thought to require as a minimum rather than what Kenya Government, Treasury or Minag thought was an acceptable level. In most cases regardless if a minimum was concieved or not the resulting IRR-s were felt to be high enough.

RQ-23 (K)

Is there any prespecified level of the profitability criterion in use under which a project may not fall and yet become accepted?

The interview question asked senior officers in the Minag and the MFP was:

The profitability of a project is usually measured by its internal rate of return. (If this proves to be the case; see RQ-20.) Is there any pre-specified level of that criterion under which a project may not fall and yet become accepted?

The Permanent Secretary, Minag, made a distinction between three types of projects and indicated, that he used the payback period as a criterion as well. For industrial projects he expected an IRR equivalent to the market (bank) rate and a payback period not exceeding 10 years. For irrigation and water projects the payback period was increased to 15 years and for land purchase project to 30 years. For the two latter kinds of projects a somewhat lower (not specified) IRR was expected.

The Director of Agriculture suggested, that the minimum level depended upon which donor, that was involved, since they had different required minima. In his personal opinion, if all projects could be financed domestically, any project with a positive IRR would be acceptable.

The Deputy Secretary/Development, Minag, did not know of any minimum level for the IRR, but indicated, that the rate would be lower for projects affecting small scale farmers.

The Head of the Economic Planning Division, Minag, replied that there is nothing said officially about a minimum level for the IRR. His own suggestion was, that it would be in the order of 13 %, based on the opportunity cost for capital in the market.

The Head of the Project Evaluation Unit, Treasury, reported that there was no minimum level defined.

The impression gained by the interviews was, that no attempt had been made to determine a cut-off rate within the Government. Occationally individual officers had their own ideas, what such a rate might be.

One point of criticims against the IRR is, that the rate is not internal in the sense, that a discount rate and here a social discount rate somehow has to be determined with which the IRR for a particular investment opportunity can be compared. An IRR without such a reference rate is of limited use. It seems as though the IRR was widely used in Kenya no such agreed reference rate was at hand.

RQ-24 (K)

The RQ was formulated in the following way:

What is the significance attached to the profitability criterion when the desirability of a project is determined?

The interview question, which was asked without reference to specific projects, was:

In deciding upon an investment project there are several different considerations to be made. One of them refers the profitability of the project as reflected in (criterion X). What significance do you attach to this criterion, when you make your overall assessment of the desirability of a project?

The respondents were offered five alternatives to choose between: (1) very little, (2) little, (3) some, (4) high and (5) very high.

The findings are reported in the following table:

Table A1:15.

Respondent	Code	Remarks
The Permanent Secretary, Minag	Not coded	See explanation below
The Director of Agriculture	4	
The Deputy Secretary/Development, Minag	3 and 4	See explanation below
The Head of the Economic Planning Division, Minag	3 and 4	See explanation below
The Deputy Permanent Secretary/ Planning, Treasury	5	

The Permanent Secretary, Minag, replied that if the case had been, that he had had many projects to choose between, he would have chosen "high" (= 4). As discussed in RQ-8 the question of choice did not really arise, according to the PS, Minag. Hence he felt, that the IRR had to reach an acceptable level, and that that was important, but having done so the IRR was not too important.

The Deputy Secretary wished to distinguish between two cases. For projects affecting small scale farmers he suggested "some" (= 3) and for other projects "high" (= 4).

The Head of the Economic Planning Division also distingushed between

two cases. He suggested, that for projects to be presented to donors the significance was "high (= 4), but for other project it was rather "some" (= 3).

The Deputy Permanent Secretary/Planning attached "very high" significance to the profitability criterion and mentioned mainly two reasons for that. Firstly, in his opinion profitability was a valid criterion. Secondly, the only meaningful information about a project he could get was the level of profitability, as there was no system to present other project consequences.

Partly due to donor considerations senior decision makers seemed to attach high significance to the profitability criterion. This should be seen in the light of the following observations made elsewhere in the study:

(1) That projects were not compared and ranked, but that decisions were rather of an accept/reject nature.

(2) That no (social) discount rate was determined and agreed upon with which the calculated IRR-s should be compared.

(3) That when cuts were made in the budgets the profitability criterion was not used to determine the relative desirability of projects.

(4) That the command in the techniques used for project appraisal appeared to be rather low.

(5) That the IRR-s calculated were point estimates without any risk analysis.

(6) That considerable doubts often surrounded the accuracy of technical coefficients, prices etc. and their changes over time.

(7) That most projects with considerable margin surpassed what more or less explicitely and often with reference to the IBRD was conceived as a minimum level for the IRR.

Two remarks seems warranted.

Since the decisions in the selection process largely were of an accept/reject nature, and the reported significance attached to the profitability criterion was high, one could interpret this to have been the case up to a point, where the cut-off rate was reached. From there on the significance would tend to have decreased. This was the view presented by the PS/Miang, and the replies given by the other respondents are here interpreted in the same way for reasons just given. The fact, that most projects seemed to surpass what was vaguely conceived to be a minimum level for the IRR would, if the interpretation of the replies given to this RQ is correct, suggest, that the significance de facto ascribed to the IRR in the selection process in most cases is high only up to a treshhold level, a cut-off rate.

RQ-32 (K, Z, T)

Are there any prescribed norms, rules of techniques to be used in the appraisal and selection of investment projects in the agricultural sector to ensure uniform treatment?

The interview question asked was phrased as follows:

Are there centrally determined rules, norms or techniques for investment project appraisal and selection to be applied to investment projects in the agricultural sector, which the planning officers are expected to use?

The table below summarizes the replies given.

The overriding impression given in all three countries was, that it did not exist a prespecified approach to project formulation, which would ensure more uniform treatment and comparable project proposals.

In Kenya the Head of the Economic Planning Division noted, that the IBRD requirements were known, and that project preparation was influenced by the IBRD format. He also mentioned, that although there was no instruction very small projects with a total project

Table A1:16.

Country	Respondent	Reply
K	Deputy Permanent Secretary/Planning, Treasury	No
K	Head Project Evaluation Unit, Treasury	Nothing of that kind
K	Deputy Secretary/Development, Minag	No
K	Head Economic Planning Div., Minag	No
Z	Head Land Use Service, MRD	A format had been prepared for settlement schemes
Z	Planning Economist, MRD	
Z	Deputy Secretary Planning, Minag	No
Z	Associate Expert, Treasury	No
T	Head Planning, Administration and Personnel Division, Minag	No
T	Planning Economist, Minag	No

cost of less than K£ 15,000 - 20,000 and particularly if they were locally financed the analysis would be much simpler and only in financial terms. For larger projects, which generally involve donors, a more comprehensive analysis would be made involving both an economic and a financial analysis.

RQ-34 (K)

Are shadow prices used in the analysis of investment projects?

The project write-ups for the projects in the set were analyzed and the findings were, that out of thirteen projects (for one no write-up was available) shadow prices were used in the analysis of two. One of these was the Bura irrigation project, which as several times noted was prepared by a consultant firm. In neither case was there any indication of how the shadow prices were arrived at.

As the project documents showed, that shadow prices seldom were used, the following interview question was asked to the Deputy

Permanent Secretary/Planning and the Head of the Project Evaluation Unit both in the MFP and to the Head of the Economic Planning Division in the Minag:

It seems as if shadow prices or accounting prices seldom were used, in project analysis in the agricultural sector. Can you give the reasons why this is so?

The interviews indicated, that the reluctance to use shadow prices in project analysis was considerable. The Deputy Permanent Secretary/Planning in the MFP gave the following reasons:

(1) The determination of shadow prices was difficult.

(2) The use of shadow prices was just a way to formulate subjective views.

(3) Ministries could use shadow prices to cheat (to get projects through).

(4) The use of shadow prices would require a substantial input of highly qualified manpower, which could be better used for other purposes.

(5) Shadow prices could be misleading.

The Head of the Project Evaluation Unit mentioned particularly:

(1) That the use of shadow prices would only improve project profitability.

(2) That many prices were controlled to reflect Government desire to restrict or increase consumption, and then the use of shadow prices was not justified.

(3) Financial considerations were overriding since the Government had to pay market prices.

The Head of the Economic Planning Division in the Minag did not really know why shadow prices were used so seldom, but felt that point (1) in the last set of replies partly explained why.

Summary on Techniques Used in the Investment Calculus

Attempts were made to apply social cost-benefit analysis as an adaptation to donor preferences on techniques to be used for project appraisal. The degree of sophistication in the cost-benefit analyses was rather low with very limited use of shadow prices, no analysis of uncertainty, an uncritical use of the internal rate of return and with no consensus on a reference rate or a cut-off rate. The command in capital budgeting theory and the familiarity with basic concepts in investment calculus was found to be low. Still senior decision-makers attached a high significance to the profitability criterion.

A1.3.3 Technizues Used in the Budget Preparation

RQ-25 (K, Z, T)

To what an extent is ranking of projects at D_5 undertaken on the basis of profitability criteria?

The interview questions asked were the following:

(1) For most investment projects attempts are made to determine the profitability, which is measured usually by (criterion X) and presented in the project write-up. When you considered various such projects to be or not to be included in the 1974/75 development budget, did you use this criterion to explicitly rank the projects in order of profitability?

If "no":

(2) Were the projects ranked according to some other profitability criterion? Which?

Whether "yes" or "no":

(3) Did you have the project write-ups at hand during the budget discussions?

The findings are summarized in the table below.

Table A1:17.

Country	Respondent	Reply to (1)	Reply to (2)	Reply to (3)
K	Head Finance Section, Minag	No	No	For some. For most just briefs
K	Finance Officer (agric.), Treasury	No	No	No. The Minag memo[1]
K	Head External Aid Division, Treasury	No	No	No. The Minag memo
K	Former Head Ext. Aid Division, Treasury	No	No	No. The Minag memo
Z	Economic Adviser, Treasury	No	No	No. Briefs prepared by Minag
Z	Planning Officer, MRD	No	No	For several project. Briefs for the rest.
T	Adviser to the Treasury	No	No	Briefs only
T	Planning Economist, DEVPLAN	No	No	No. Briefs only

1) The Minag memo was a document in which a short comment was made in support to the figures under each subhead in the development budget.

2) This planning officer was in charge of the preparation of the development budget in the Ministry of Rural Development.

The replies given to question (1) and (2) in all three countries suggest, that no attempt was made in the preparation of the last annual budget (for 1974/1975 in Kenya and Tanzania and for the calendar year 1974 in Zambia) to rank projects on any profitability criterion.

The replies to question (3) revealed, that the project proposal documents only exceptionally were at hand in the budget discussions. The budget coordinating units in the agricultural ministres complained, that the information given by the various divisions in support of their requests was often too fragmentary, which made it difficult to argue with the Treasury. The briefs were also normally rather general statements on the purpose of the expenditure.

RQ-26 (K, Z, T)

Are there any techniques or rules for project comparison systematically used in the budget preparation work?

The interview questions asked were:

(1) Are there any pre-specified rules or techniques like scoring systems or check lists, that are systematically used, when deciding upon investment projects in the budget preparation work?

(2) If "yes": Can you describe them/it?

The following officers in the three countries all answered "no" to question (1).

The Head of the Finance Section, Minag (K)
The Finance Officer (agric.), Treasury (K)
The Head External Aid Division, Tresuary (K)
A Senior Assistant Secretary, Treasury (K)
The Head of the Project Evaluation Unit, Treasury (K)
An Economic Adviser, Treasury (Z)
A Planning Economist, MRD (Z)
A Planning Economist, DEVPLAN (T)

A1.4 OTHER RQ-S

A1.4.1 RQ-s exploring the involvement of donors in the selection process

RQ-14 (K, Z, T)

Are projects informally presented to donors prior to D_4, and if so to what an extent have donors inidicated interest in projects prior to D_4?

The information for the project set in Kenya was obtained by interviewing the planning officers involved at D_1 - D_2 in the process.

The same source of information was used in Zambia and in Tanzania with reference to the projects identified, and in addition the question was posed in a general form in these countries. For one project in Zambia the RQ was irrelevant, since it was domestically financed.

All donor-financed projects studied in the three countries had been presented informally to donors prior to D_2. In most cases the respondents indicated, that the potential financier was brought in "early" or "very early" in the maturation process. As this seemed to be a result of conscious efforts a new RQ, RQ-35, was formulated.

The RQ was given the following wording:

Is it an accepted policy, that the Minag informally approaches donors during the maturation process for a project in order to raise donor interest in the project and if so, what advantages and disadvantages are conceived with such a policy?

The interview questions were:

(1) Is it an accepted policy, that the Minag informally approaches donors during the preparation stage of a project in order to raise donor interest to consider financial contribution to the project?

If "yes" ask:

(2) What advantages and disadvantages do you see with such a policy?

The findings in the three countries will be presented separately.

In Kenya the following officers were interviewed:

(1) The Permanent Secretary, Minag
(2) The Director of Agriculture, Minag
(3) The Deputy Secretary/Development, Minag
(4) The Head of the Finance Section, Minag
(5) The Former Head of the External Aid Division, Treasury
(6) The Head of the Project Evaluation Unit, Treasury
(7) The Deputy Permanent Secretary/Planning, Treasury

All interviews confirmed that Minag as a normal procedure at an early stage in the maturation process tried to identify a donor, who might be interested in a certain project, and informally presented the project to the donor with the intention to raise donor interest, which means that an attempt was made to line-up a donor. This was not a formally laid down procedure, but one which was accepted by both the Minag and the Treasury. In most cases the Minag succeeded in its endavour, and a donor had tentatively indicated interest in a project before it was submitted to the Treasury and subsequently officially to the donor.

Since the replies to question (2) showed intra-personal variances rather than intra-functional variances they will be presented as a gross inventory.

The following advantages with the approach to bring in the donor at an early stage in the maturation process were mentioned:

- It cuts down the time until the project can be implemented.
- Minag is in a better position (than Treasury) to sell agricultural projects.
- Minag can get ideas from donors.
- If the Nairobi-based donor representative is convinced half the work is done to convince the donor head-quarter.
- It gives an indication of who is interested in a project.
- It is easier to get a project accepted by Treasury, if a donor is lined up.

The cut down in time was most frequently mentioned by the respondents. The following disadvantages were reported:

- Donors may be in a position to distort priorities (the choice of projects).
- Donors can influence the way in which the project is formulated.

- If a donor is brought in at an early stage you are married to the donor.
- It may distort resource allocation between sectors.[1)]
- Little is left for the MFP when the project is submitted to it, when the write-up is completed and a donor is lined-up.

Before the findings are discussed, the replies given in Zambia and Tanzania will be presented. With minor modifications the patterns were the same as in Kenya. Operating ministries could informally approach donors and they did so in an attempt to line-up donors for particular projects. As in Kenya it was emphasized, that these approaches were non-commital in nature. For most projects that eventually would be donor financed, donors were identified and approached prior to D_2. In Zambia the conceived advantages and disadvantages were less pronounced than in Kenya and Tanzania, which possibly can be explained by the fact, that the Zambian experience with donor financing was far less. Hardly any disadvantage was reported.

RQ-1 (K, Z, T)

Are projects put on shopping lists although project maturation is low?

In Kenya the project list for the Consultative Group Meeting in Paris, April 1974, was used to determine the degree of maturation of projects put on a so called shopping list. The results appear in the following table.

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1) As an example the Deputy Permanent Secretary/Planning, Treasury, mentioned, that the planned allocation during the past Plan period to the Ministry of Works was K£ 40 million, but due to its ability to formulate and sell (large) projects to donors willing to invest in tangible projects the achieved amount reached no less than K£ 90 million. This implication was the most serious in his opinion.

Table A1:18.

Total no. of agricultural projects[1)]	Degree of maturation		
	Low	Medium	High
30	10	10	10

1) Excluding rural and urban water projects.

This project list was not exclusively a shopping list but also a presentation of agricultural projects to be undertaken over the next few years.[2)] Accordingly finance was already secured for several of them, and of these a number were ready for implementation. This is likely to have increased the number of projects scoring high and medium in the table.

In the interview with the former Head of the External Aid Division it was noted, that the Government holds annual or semi-annual discussions with the individual donors, and that during these discussion "all kinds of projects are presented often with little information about them".

In Zambia and Tanzania the RQ was asked without reference to specific projects. The intent with these shopping lists, which normally were presented, when a donor had sent a mission to visit the country or as a part of the annual and for some donors semi-annual discussions between the Government and the donors, were in all three countries reported to be to get indications of donor interest to finance certain projects. The projects were often presented to donors at an early stage in the maturation process according to the respondents.

Even if there was littlie information about a project, when it was presented to a donor, it had to cover at least some of the project dimensions albeit at a low level of detail. Out-put expectations could harldy be omitted, if the project information would be

2) Here reference is made to the agricultural part of the project list which covered other ministries as well.

meaningful. An analysis of the projects with a low degree of maturation included in the project list for the Consultative Group Meeting in Paris showed, that attempts were made to specify out-put expectations, which implies the choice of problem, process characteristics, location and the size expressed as finance required.

It should also be noted, that the presentation of project ideas and project proposals to donors was a marketing effort in which the donors were to be convinced to provide financial assistance. The phrase "sell projects" was in wide use.

Discussion of RQ-14, -35 and -1

With reference to RQ-35 it may be possible to conclude, that the cut-down in time and the superior ability of an operating ministry to sell its projects and other advantages of an early presentation of a project to a donor were considered to outweigh the reported disadvantages, which reflected an awareness of possible donor influence. However, it is interesting to notice, that in no case was the following consequence taking the combined findings in RQ-14, -35 and -1 into account reported.

The pronounced dependence upon donor financing in Tanzania and Kenya and to an increasing extent in Zambia made it a prerequisite not in individual cases, but when the large number of projects in the Development Budget was considered, that external finance was secured, if they were to be implemented. Put in another way, it meant, that unless donors were willing to (partly) finance many of these projects, they would not be implemented. Donor willingness to finance certain activities was sought at an early stage in the maturation process and it seems unavoidable, that this resulted not only in that "one got married to a donor", as reported in Kenya, but also that one "got married to a project". The fact that a conceived project was presented to a donor must be expected to have been taken as an indication of a seriousness of intent, a commitment.

Two other factors should be noted. During the last few years strong voices in the d-countries have demanded less donor influence on setting priorities and selecting projects. Generally both bilateral and multilateral financiers have responded positively and attempted to discuss the financial support rather in terms of sectors or programmes within which the recipient countries would have considerable discression to suggest projects. The significance of this trend is an increased likelyhood, that a donor will indicate interest in a project without questioning it.

The second factor to be noted is the significance of the findings in RQ-1, which indicate, that projects were often presented to donors at a stage when the maturation was low, but that still a choice had been made on what problem to focus at, and that certain project characteristics had been chosen.

The argument may now be summarized in the following way. Dependence upon donor financing and a presentation of projects as a marketing effort to attract donor financing already during the early stage of maturation may imply a marriage or a commitment to the projects. It is likely that the commitment is particularly strong in dimension one, out-put expectations. A project presented as a "sugar project" might not so easily be changed to e.g. a "training project". In other words the commitment is likely to be strongest to the most crucial of all choices made, the choice of problem to be focused at.

A1.4.2 Additional findings at D_5 (K, Z, T)

In chapter VIII where the execution of the field study in Kenya was described, it was noted, that a number of interview questions in addition to those in the plan for the study were formulated. To the rather general formulation of RQ-30, in which the respondents were asked to describe the preparation of the last development budget, were added a number of probe questions.

It should perhaps be emphasized, that it was never intended, that this study would describe the budgeting process (D_5) in a comprehen-

sive way, but that a restricted set of aspects was to be explored. These were covered by RQ-15, RQ-16, RQ-25 and RQ-26 the findings on which are reported above.

The probe questions and the open nature of RQ-30 generated a considerable amount of additional information, part of which is presented below.

Was there a budget constraint

In Kenya the ministries were given ceilings by the Treasury for their 1974/75 development and recurrent budgets. The Finance Division of the Minag then requested the divisions in the ministry and the parastatals concerned to prepare and forward their proposals, but they were given no ceilings.

The aggregation of the divisional submissions indicated a figure for the development budget, which exceeded the ceiling set by the Treasury with more than K£ 3 million.[1] As is described below (p. 258) a number of projects were eliminated because they were considered premature. The resulting total came close but still above the ceiling.[1]

The possibility that there were projects which had been eliminated by the divisions and the parastatals, when they prepared their proposals could be excluded, as is discussed in section (2) in chapter VIII.

The fact, that the divisions and the parastatals had made no eliminations, and that a number of projects could be excluded because they were premature bringing the total amount close to the ceiling given, leads to the conclusion, that the budget constraint was more apparent than real.

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1) The exact figure was not available as the relevant working paper had been lost.

According to the Head of the Finance Division this was not a new experience to the Minag. With reference to the last five years he claimed, that the projects generated and annually added had only called for minor cuts, and that projects had never been deleted.

In Zambia the situation was very much different. Difficulties in the mining industry had made the forecast of the Government Revenue as indicated in the 1972-1976 Development Plan totally unrealistic, and Zambia had had to adjust to a considerably lower rate of expenditure. This capital stringency was reflected in the circular from the (then) Ministry of Development Planning and National Guidance to the other ministries.[1] No ceilings were given, but the circular mentioned, that "the current financial stringency is likely to continue in the next year", and that "it is likely, that availability of funds and capital goods may not show any significant improvement over levels obtaining in the current year". The current year (1973) was this way used to indicate the magnitude of a ceiling.

The preparation of the development budget in the Ministry of Rural Development (MRD) was the responsibility of the Planning Unit, which circulated a letter to the various departments in the ministry and to the parastatals concerned. No ceilings were indicated.

The aggregated submissions gave a grand total for the development budget of 46 million kwacha, which was more than double the level authorized for 1973. The Planning Unit chose to include as much as possible in the ministerial proposal as it was thought, that the grand total would be cut by half anyway, and that it therefore would have been a disaster to present a realistic budget. A high level from which a cutting exercise could start was considered important.

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1) Ministry of Development Planning and National Guidance, MDNG/71/1/5 of 29th June, 1973.

The tactics used by MRD is likely to have exaggerated the indicated shortfall of funds, but it was beyound doubt, that the budget constraint later enforced by the Ministry of Planning and Finance at a level of 21 million kwacha was felt to be very severe.

A direct comparison between Kenya and Zambia is not possible. The Zambian Government was to a notably higher degree involved in direct production activities throught an extensive parastatal sector. The expansions of the budget requests were high indeed from that sector, which seems to support the observation, that it is far easier to identify opportunities for large expenditure in direct production activities and infrastructure, than in non-production activities like research, extension services, credit and marketing.

The information about the prevalence of a budget constraint in Tanzania is less precise as the relevant figures could not be provided. The following appeared, however,

Treasury indicated a ceiling for the Minag development budget prior to the preparation of the ministerial proposal. The Administration, Personnel and Planning Division (APPD) asked the various other divisions and parastatals concerned to prepare and submit proposals. As in the two other countries no ceilings were given at that level. The aggregation of the submissions gave a grand total, which exceeded the ceiling. The APPD then choose to reduce the figure, but left a considerable margin for bargain in a tactical effort to get as much as possible.

The approach to cut down the budget proposals

Checks made on donor financed projects

In Kenya and Tanzania donor financed projects underwent the same kind of checks in which the same criteria were applied. In both cases it was controlled whether agreements were signed or not for

the (new) projects proposed in the budgets.[1] A project for which an agreement was not signed or for which the negotiations with the donor(s) were not in an advanced stage were not included in the budget. What was "an advanced stage" was a matter of judgement.

An agreement normally contains a plan of operation in which the phasing of expenditure is laid down, and the agreement also specifies the local (Government) financial contribution relative the donor contribution. In both countries checks were made on both on-going and new donor financed projects to ensure, that the figures put in by the divisions and parastatals conformed with the agreements.

The very tight budget situation in Zambia made it difficult to honour agreements with donors. In particular was it necessary to re-phase the expenditure for such projects as the rate of expenditure indicated in the agreements would have called for such amounts of local contribution, that it would have left an unacceptable limited amount of money for other projects. Hence drastic cuts had to be made in donor financed projects as well. Apparently other consideration visavi these projects were made in Zambia than those reported in Kenya and Tanzania.

Criteria reported to have been used in the cutting exercise

In Kenya the question of criteria used in the cutting exercise may-be appeared to be somewhat hypothetical as only moderate cuts were needed, once the premature projects were deleted. The respondents in the Minag, where the first cutting exercise took place, yet answered the question by indicating the following order of priorities:

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1) Circular no. 14 of October 12, 1973 from the Treasury in Kenya had explicitely made clear, that a donor financed project could not be included in the budget proposal is an agreement with the donor(s) was not signed. This rule was not adhered to as RQ-16 revealed.

(1) Highest priority was given to on-going activities.
(2) Second priority was given to (new) donor financed projects in which no reduction was made neither in donor nor local components.
(3) Lowest priority was given to local cost items particularly if they were not part of a project.
(4) Items in which reduction preferably were made were constructions and vehicles.
(5) The respondents also said that they tried to avoid to cripple projects (to cut certain items in a project critical for the proper running of the project).

It is already noted, that **profitability criteria were not used** as ranking devises at D_5 (see RQ-25). The probe questions to RQ-30 revealed, that no attempt was made to explicitely compare one subhead (project) in the budget proposal with another subhead to determine the desirability of where cuts should be made. No attempt was made at any stage to determine what was a desirable level of expenditure in different subsectors to be reflected in the sizes of the divisional budgets. The divisional budgets were hence not returned to be cut, but the cuts were made by the Finance Division and the Planning Officer from the Economic Planning Division in consultation with heads of divisions. Both the Senior Assistant Secretary from the Finance Division and the Planning Officer reported, that they had experienced the cutting merely as an accounting exercise.

Zambia

Out of a request for 46 **million kwacha 25 million had to be cut to** meet the ceiling given to MRD. This discrepancy made it necessary to cut in almost all activities. The overriding reported priority was to try to keep the on-going activities alive and to avoid to cut them so hard, that they became too crippled. As in Kenya a reluctance to cut in donor financed project was reported, and asked if there were any items, which were particularly likely to be cut, the respondent mentioned buildings and constructions due to sub-

stantial underspending on such items in the past.[1]

The respondent attemted to have the ministry's priorities as he had conceived them reflected in the cutting exercise. For instance the Government had declared, that it wanted to boost the tobacco industry to reduce the dependence upon copper for foreign exchange earnings.

The Second National Development Plans was said to be of limited quidance as the assumptions underlying it had proven to be totally wrong.

The respondent objected to the idea, that a ceiling was given for the total MRD development expenditure regardless of the source of funds. The inclusion of a project with a substantial donor contribution would then have taken an unacceptable large share of the total allocation and have forced too heavy cuts in other activities. In his opinion the total resources available to RMD could have been considerably increased had the ceiling referred to the local funds only.[2] To indicate this option a budget proposal was worked out, that contained the local components of five identified projects, and which fell within the ceiling of 21 million. In a covering letter the donor components amounting to 3 million were specified. This brought the budget total almost 3 million above the ceiling. At first the proposal seemed to have been accepted by the Ministry of Development Planning and National Guidance, but it was later rejected and under

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1) As described on p. 262 the cutting exercise was carried out by one planning officer in the Planning unit.

2) If the ceiling of 20 million kwacha was set with full information about the availability of donor financed projects and their donor contributions relative their required local contributions and the determination of the ceiling was based on an comparison of the incremental utility or return (whichever chosen as the measure) from one kwacha of local funds spent on a project where this kwacha allowed an additional expenditure of say 2 kwacha contributed from a donor and a project with no donor contribution and the MU's (for all projects) were found equal, the ceiling would be justified. Was that not the case, which seems quite unlikely, there was justification in the argument given by the respondent.

extreme time pressure the budget had to be revised to bring the grand total below the ceiling of 21 million kwacha including the donor financed projects. This exercise was performed in one day.

The actual cutting exercises were carried out so that the budget figures itemized for 1973 and the requests for 1974 were compared item by item and cuts made on the basis of the above mentioned considerations.

Several rounds were needed to arrive at a sufficiently low figure for the total.

At that stage each department was approached with the resulting substantially reduced budget as a proposal. These discussion resulted in rather minor changes. Asked why the respondent suggested, that since the budgets presented to the heads of departments and parastatals were cut so heavily on all items, it was very difficult for them to suggest alterations. It was easy for a head of a department to indicate where he wanted increases, but any increase had to be matched by an equivalent reduction elsewhere in his budget, and given that "all projects were cut to their bones", as the respondent formulated it, the head had severe difficulties to suggest what could be further cut.

The organizational level at which the ministerial proposals were prepared

In Kenya the Head of the Finance Division was in charge of the budget preparation. The divisional proposals were prepared either by the heads of divisions or by officers appointed by the heads. The main work in preparing the consolidated ministerial proposal including the cutting exercise was carried out by a Senior Assistant Secretary in the Finance Division and a Planning Officer from the Economic Planning Division supervised by the Head of the Finance Division.

Neither the Permanent Secretary, nor the Director of Agriculture nor the Deputy Secretary/Development was involved in the budget prepara-

tion. The two former reported, that their interest had been concentrated to the question of the total allocation to the ministry. The Senior Assistant Secretary noted, that the Finance Division had not discussed the budget proposal with any of these officers, and that no instructions were given by them for the budget preparation.

In Zambia the task to prepare the ministerial budget was given to a planning officer in the Planning Unit. The various departments prepared their proposals, but the entire cutting exercise was carried out by the planning officer alone. The resulting proposal, which later on was accepted by the Ministry of Development Planning and National Guidance and the Ministry of Finance, was cleared with the Permanent Secretary in a brief meeting with the Planning Officer.

In Tanzania the Director, Administration, Personnel and Planning who was responsible for the preparation of the budget, reported, that the Principal Secretary was not brought in until the proposal to be submitted to the DEVPLAN was completed. The cutting exercise was carried out in consultation with the various heads of divisions and parastatls.

What appears interesting to notice, is that in all three countries the budget preparation including the cutting of budget proposals in the agricultural ministries was carried out at a surprisingly low level with little or hardly any involvement of the most senior officers in the agricultural ministries.

RQ-11 (K)

Will a rejection of a project at D_3 in the Planning Department of the MFP halt the selection process.

Information relevant for this RQ was gathered in diffent interviews and it appeared in replies to several other RQ-s, rather than as a reply to a specific interview question formulated to cover RQ-11.

Depending upon the different officers way to work the Planning Department to a varying degree got involved in the maturation process before D_2. Planning officers participated irregularly in meetings and discussions in the Minag on projects during their maturation. This way the Planning Department had opportunities to influence the decisions made before D_2. The involvement may also have meant a commitment to various projects. In those cases one would expect that the significance of D_3 as a decision point was reduced.

The Head of the Project Evaluation Unit noted, that when a project reached the MFP it was a ready project with a donor lined-up in most cases, and hence, in his opinion, there was little left, that the MFP could do. The Deputy Permanent Secretary Planning suggested that if the Minag expected a planning officer to raise akward questions (on a project), they would rather approach the Treasury side of the ministry to get support, which reduced the possibility for the Planning Department to fight it, if they wished. Another factor, which considerably reduced the likelyhood, that the Planning Department would reject a proposal, was in his opinion the limited capacity in the Minag to generate projects. If Minag had no other projects than those presented, and finance was not a constriant, MFP could not do much but accept what was submitted. Even if there had been such a constraint, still according to the Deputy Permanent Secretary, Minag could always get a certain project through by withdrawing other projects, which would leave MFP with no choice.

A commenting rather than an appraising nature of the involvement of the Planning Department was also reported.

The above indicates, that the significance of D_3 as a decision point in the selection process appeared to be rather low. The decisions taken were of an accept/reject nature in the sense, that projects were considered on their own merits rather than explicitely ranked, but for reasons given above the possibility for the Planning Department to turn down a project was often reduced.

APPENDIX 2

OPERATIONALIZATION OF THE RESEARCH QUESTIONS

RQ-1

(1) Are projects put on shopping lists although project maturation is low?

(2) Definitions

(i) A distinction was made between three degrees of maturation

(1) Low

(2) Medium

(3) High

These degrees were characterized by the following attributes:

Low

No payment streams are determined.

Horizontal maturation may or may not be completed.

Vertical maturation is low implying that

- few choices are made in each dimension and eventually only in some dimensions
- fragmentary evidence on technical feasibility is at hand
- limited knowledge about technical coefficients is available
- fragmentary evidence on volumes of input/output.

Limited documentation confined to brief project descriptions.

Medium

No payment streams are determined.

Horizontal maturation may or may not be complete.

Vertical maturation is considerably increased compared with 'low' implying:

- several choices at least in dimensions 'output expectations' and 'process characteristics'
- a considerable number of technical coefficients are known and output and input volumes are partly or fully estimated.

Documentation is increased compared with low in that a stock of working papers has accumulated.

High

Payment streams are determined.

Horizontal maturation is complete.

Vertical maturation is considerably higher than in 'medium'.

Documentation is considerable in the form of drafts of final versions of project proposals.

The following notation was to be used for the three stages:

(1) Preliminary planning

(2) Under preparation

(3) Project proposals completed.

These terms were chosen since they seemed to correspond vocabulary in use as well as the attributes of the degrees set out above.

(ii) Shopping list. A shopping list is a written inventory of projects to be presented to potential financiers with the intent to seek financial contribution to the implementation of these projects.

(iii) Second phase projects. The definition of second phase projects is given in . These projects were to be classified as 'medium' even if no documentation or maturation was identifiable. The reason was that the second phase in its design generally has so much in common with the first phase that a considerable degree of maturation is at hand indirectly. Yet there may be changes in the design, technical coefficients may be revised, prices are different, etc., which makes a separate appraisal of the second phase necessary. Hence, these projects should not score 'high'.

(3) Source of information

The submission to the Paris Consultative Group Meeting in Paris 1974, the project registry in the MFP and interviews.

(4) Validity and reliability problems

The definitions given above imply certain reliability problems, as the degrees 'low' and 'medium' are not entirely unambiguously separable. This should be born in mind when the results are interpreted.

RQ-2

(1) Are commodity level objectives focused at in problem identification?

(2) Definitions

(i) Commodity objectives and national objectives
See section (IV.2.1) in chapter IV.

(ii) Problem identification
See definition of decision point D_1 under RQ-4.

(3) Source of information
Interviews

(4) Interview questions

With reference to each project in the set ask:
"What was the prime target or prime objective that was set for (the project to be mentioned)?"

(5) Validity and reliability problems

The operationalization of problem identification was an approximation in that the recognition of a problem in someone's mind precedes the occasion when the problem is presented to others (at D_1). As the observations were to be made with reference to this latter occasion (at D_1), it may be questioned, whether inference about the

objective focused at at the early recognition of the problem can be drawn from the observations. Although it is possible that problem identification was made with reference to a different objective level than the one reported at the point of observations, one would expect that the objective with reference to which the problem was identified also is reported as the prime objective set for the project conceived to solve that problem.

The interview question was formulated to avoid that the respondent would feel expected to report an objective of the highest hierarchical order. Hence, both 'target' and 'objective' were mentioned, as these concepts according to the author's experience were used in Kenya in a way that the former referred to commodity objectives and the latter to national objectives. Furthermore, the respondent was asked to state the 'prime' target or objective. 'Prime' was used rather than 'overriding', 'paramount', 'most important' or some similar phrase, as it was considered that this concept was less liable to direct the thoughts of the respondents towards objectives of an ultimate nature.

RQ-3

(1) Are national objectives explicitly referred to when the project characteristics are determined?

(2) Definitions

(i) National objectives
See

(ii) Explicit. Explicitly means that the objectives were mentioned.

(3) Source of information

Interviews.

(4) Interview questions

With reference to each project in the set ask:
"The achievement of the target/objective you mentioned was set for this project could be made in a number of different ways, which means

that the project could have been designed differently. What considerations were steering when the project was designed this way?"

(5) Validity problems

It may be hard for a respondent to clarify ex post what considerations that were steering, partly because they may have been numerous without anyone being dominant. Furthermore, 'considerations' is an unclear concept, which may embrace far more than objectives like e.g. technical constraints. The respondent may mention such other considerations without mentioning any objectives. This, however, does not necessarily imply that no reference was made to national objectives.

It appeared as if the validity problems were considerable in this RQ, and the interpretation of observations should take this into account.

RQ-4

(1) How many problems at a certain objective level to be resolved in the form of investment projects competing for resources for planning and implementation were considered at the same time as a certain problem?

(2) Definitions and operationalizations

(i) The identification of a problem is a cognitive process in which a choice among problems and early choices in some or all project dimensions may take place. To trace this process in time and space is likely to be extremely hard, and the operationalization of D_1, as the decision point at which these choices were made had to be an approximation. According to the author's experience a project idea was presented to other individuals at an early stage, and a number of organizational units became involved. D_1 will hence be operationalized as the first meeting arranged with the prime purpose of discussing a particular project idea.

(ii) Discuss. An attempt was made to differentiate between five degrees

of thoroughness of discussion. These were:

(1) Mentioned
(2) Discussed without documentation at hand
(3) Discussed with documentation at hand
(4) Seriously discussed without documentation at hand
(5) Seriously discussed with documentation at hand.

(3) Source of information

Interviews

(4) Interview questions

(i) "This project (X) basically aims at (Y, the objective mentioned in RQ-2) as you mentioned. The resources used for its preparation and implementation could have been used for some other project. When you attended your first meeting arranged with the prime purpose to discuss this project, were at that occasion alternatives to (Y) like (V and Z) explicitly discussed in the way that they were compared and ranked, and a choice made among them in favor of (Y)?"

If "yes":

(ii) "Which alternatives did you consider?"

(iii) "I have here five different interpretations of the concept discuss. When you say that alternative (Z etc.) was discussed, which do you think is the most appropriate description of the way in which it was discussed?" (The alternatives were shown on a screen.)

If no comparison is reported for five consecutive projects ask:

(iv) "Is it correct to say that as a general rule a project idea is not explicitly compared with other project ideas in the way that they are ranked, but that a project idea is considered on its own merits?"

RQ-5

(1) Is one or more than one alternative design of each project pursued at the same time in the maturation process?

(2) Definitions and operationalizations, validity and reliability problems.

(i) Alternative design. From chapter II it is recalled that a public investment project in the agricultural sector is defined as

> an activity for which capital resources are allocated to the Ministry of Agriculture of the central government budget to be spent in the expectations of benefits over time which logically seems to lend itself to planning, financing and implementation as a unit.

This definition states what is to be understood with a project, but it does not specify what constitutes an alternative design of a project, and when such differences between designs at hand, that it is justified to talk about different projects. In defining what is an alternative design of a certain project, and what is an alternative project a conceived project with a certain design is the point of reference. Two considerations are important - the project dimensions in which differences are noted and the degree of differences.

Dimension (1), output expectations, is related to the objective focused at. A change in output expectations implies a change in objective focused at. If the objective focused at for a conceived activity complying with the definition of a project is substituted for another objective at the same level and the activity still complies with the definition of a project, a new or different project is at hand.

An alternative design of a particular project is at hand if given an unchanged prime objective there is a change at a low level of detail in any of the dimensions (2-6).

'At a low level of detail' indicates that not any change will result in a different design. This low level of detail is obtained as brief answers to the questions how, where and for whom, how big, by whom and where get the money. At this point the definition of alternative design is not unambiguous, causing both reliability and validity problems. To overcome them it was decided that in cases where ambiguity prevailed whether the degree of difference would warrant the counting of an alternative design the difference would be reported in detail to give the reader a possibility to make his own judgement and discount on the inferences would need be.

The formulation of interview questions related to alternative designs involved particular difficulties. The definition was too complex to be easily communicated to the respondent, and if still attempted the degree of reliability and validity in the observations would have been highly questionable. Alternatively it was decided that the respondent was to be asked for alternative designs without any definition given, and probe questions would explore if alternatives in the different project dimensions were considered/pursued.

(3) Source of information

Interviews

(4) Interview questions

(i) "This project has the following characteristics (A,B,C,D,E and F). During the process of formulating and writing up the project have you had a different set of characteristics, a different design, on which you collected information and worked on for a period of time parallel to another alternative?"

If "yes":

(ii) "Which were the alternatives and what was the difference between them?"

If "no":

(iii) "So no alternative involving a different size, location, administrative setup, target group, financial arrangements, output or technology was specified and worked on parallel to another alternative?"

(iv) "Still you probably had propositions to alternatives as e.g. a different size or a different location coming up. If you did not specify and work parallel with more than one alternative, what did you do when such alternatives were suggested?"

RQ-6

(1) How many alternatives in each project dimension were considered at the stage when the initial choices in project dimensions were made at D_1?

(2) Operationalizations

Alternatives in each project dimension have to be explored at a certain level of detail, or if there are means-end chains at a certain objective level. The initial choices are made when answers are given to the questions how, where and for whom, how big, etc., as discussed in RQ-5 (2 i). These answeres are identifiable ex post, and the exploration was to cover alternatives considered to these answeres.

(3) Source of information

Project characteristics from project documents and interviews and the exploration of alternatives considered through interviews.

(4) Interview questions

(i) "I have here specified a set of characteristics or dimensions in which a project can be described. (Shown on a screen.) Which of these dimensions were discussed for project (X) at the first meeting on this project?"

(ii) "When you at that occasion discussed dimension (Y etc.) were any alternatives to (Y etc.) discussed?"

If "yes":

(iii) "Which?"

(iv) "I have here five different interpretations of the concept discuss. (Shown on a screen.) When you say that alternative (Z etc.) was discussed, which do you think is the most appropriate description of the way in which it was discussed?"

(5) The design of the screen mentioned in (4 i)

(1) Output expectations	What?
(2) Process characteristics	How?
(3) Location and target group	Where and for whom?
(4) Size	How big?
(5) Administrative setup	By whom?
(6) Financial arrangements	Where get the money?

RQ-7

(1) Are alternative designs of a project considered at D_2, when the maturation is halted and the project turns from an idea to a proposal?

(2) Definitions and operationalizations

(i) The end of the maturation process. The maturation process ends when no further information is collected and no more analysis is carried out,but the project is considered a proposal. A project proposal is presented in writing, and hence the operationalization of the end of the maturation process is the completion of a draft project proposal.

(3) Source of information

Interviews and proposal documents.

(4) Interview questions

(i) "When the profitability calculations of this project (X) were completed, and the project was presented as a draft to the PS and/or DepSec (D) did it contain one or several alternative designs?"

If "only one":

(ii) "So no alternatives in its size, location, administrative setup, target group, output expected or technology were given?"

If "more than one":

(iii) "Can you mention which alternatives and describe the differences between them?"

RQ-8

(1) Are different project proposals simultaneously considered at D_2 and decisions involving ranking made?

(2) Definitions

(i) Simultaneously. With simultaneously is here meant the space in time from the point when the proposal is forwarded to the decision-maker to the point when the decision-maker declares his decision and/or passes on the project proposal.

(ii) D_2. D_2 is the decision point where the PS and/or DA and/or the Dep Sec (D) makes a decision on a proposal before it is submitted to the Treasury.

(3) Source of information

Interviews.

(4) Interview questions

"Projects are completed and decided upon by the Minag throughout the year and these projects are subsequently submitted to the Treasury. My following questions refer to these occasions and not to the annual budget exercise.

(i) When this project write-up (X) was submitted to you for decision-making after the completion of the economic analysis, did you explicitly compare it with other specific projects so that you ranked them, or did you consider the project on its own merits?"

(ii) "With which projects did you compare project (X)?"

If the answer to five consecutive questions (projects) is "no comparison" ask:

(iii) "Is it correct to say that investment project proposals decided upon by you and later forwarded to the Treasury as a general rule are considered one by one on their own merits without explicit comparison with other specific projects in which rankings among them are made?"

RQ-9

(1) Is the decision at D_3 in the Planning Department in the Ministry of Finance and Planning an accept/reject decision?

(2) Definitions

D_3 is the decision point at which the Planning Department in the MFP makes a decision on a project proposal submitted by the Minag.

(3) Source of information

Interviews

(4) Interview questions

(i) "Has this project (X) been forwarded to you/your unit for comment?"

If "yes":

(ii) "When this project (X) was submitted to you for comment/decision-making did you explicitly compare it with other specific projects so that you ranked them, or did you consider the project on its own merits?"

If the answer is that it was compared with other projects ask:

(iii) "With which projects was it compared?"

RQ-10

(1) Is one or more than one project design for each project submitted form the Minag to the MFP?

(2) Source of information

Project proposal documents.

RQ-11

(1) Will a rejection of a project at D_3 in the Planning Department of the MFP halt the selection process?

(2) Definitions and operationalizations

With halting the process is meant either that the project is 'killed', or that the project will not proceed further in the process unless it is recycled and changed.

(3) Source of information

Interviews

(4) Interview questions

(i) "Will a rejection of a project in the Planning Department stop the project from being forwarded to a donor or making it non-eligible for inclusion in an annual budget?"

RQ-12

(1) Will projects that have been presented to donors prior to D_4 and for which donors have indicated interest be forwarded to the donors without comparison with other projects, which would imply that the decision is an accept/reject decision?

(2) Definitions

(i) Interest indicated. Interest indicated presupposes that the project has been presented to officials of the financiers by officials of the Government. This presentation can be verbal or in writing and it can be informal as well as formal in the name of the Government. A willingness expressed by the financier either verbally or in writing to consider financial contribution is a sufficient condition for interest indicated.

(ii) Donors. With donors in this context is meant foreign Governments, UN agencies, members of the World Bank Group and non-private international finance institutions like the African Development Bank and the East African Development Bank.

(3) Source of information

Interviews

(4) Interview questions

(i) "Is a project in which donors have indicated interest explicitly compared with other specific projects and ranked, or is it considered on its own merits before it is submitted to the donor, who has indicated interest?"

RQ-13

(1) Are the two following decisions made on projects for which no donor has been identified and accordingly no interest is indicated prior to D_4:

1) a decision to accept or reject the project which is made without comparison with other projects

2) a decision on to which donor(s) the project will be submitted?

(2) Source of information

Interviews

(3) Interview questions

(i) "Is it a correct description that for projects for which no donor has been identified and accordingly no interest is indicated at the time of submission of the project from the Minag to the Treasury two decisions are made, namely:

1) a decision to accept or reject the project

2) a decision on to which donor(s) the project will be submitted?

(ii) "As a general rule is the decision to forward or not to forward a project to a donor taken after explicit comparison with other specific projects in which they are ranked, or is the project considered on its own merits?"

RQ-14

(1) Are projects informally presented to donors prior to D_4 and if so to what an extent have donors indicated interest in projects prior to D_4?

(2) Definitions

(i) Informally. With informally means that no official action is taken either in writing or verbally to approach a donor requesting financial support in the name of the Government.

(3) Source of information

(i) The project set is checked against the Project Registry in the MFP, where information on when projects have been presented to donors is said to be found.

(ii) Interviews

(4) Interview questions

(i) "Was this project (X) informally presented to a donor before it was written up and a proposal document was at hand?"

(ii) "Had the donor indicated interest to consider financial contribution to this project (X) before it was submitted to the Treasury?"

RQ-15 (This is the original version of the RQ, which was changed during the execution of the field study as described in chapter VII section VII.3.3.)

(1) Will a project for which a credit offer is obtained be compared with other projects at D_5?

(2) Definitions

D_5 is the decision point at which a project is considered for inclusion in the annual budget.

(3) Source of information

Interviews

(4) Interview questions

(i) "For this project (X) you had an offer of credit from (donor to be mentioned) prior to the budget preparation I am told. When you decided whether to include it in next years budget did you explicitly compare it with other projects so that you ranked them, or did you consider the project on its own merits?"

If the answer is that a comparison is made ask:

(ii) "With which projects did you compare?"

RQ-16 (This is the original version of the RQ which was changed during the execution of the field study as described in chapter VII section VII3.3.)

(1) Are projects for which interest is indicated by specific donors but for which no offer of credit is given kept pending next budgeting opportunity?

(2) Source of information

Interviews

(3) Interview question

(i) "How are projects for which donors have indicated interest but for which no offer of credit is given treated in the budget preparation?"

RQ-17

(1) Which of the classes of techniques identified in section (IV.3.1) in chapter IV are applied to determine consequences of alternatives when (1) problems are chosen among and (2) when designs are chosen among.

(2) Source of information

Interviews

(3) Interview questions

The interview question referring to (1), problems chosen among, would depend upon the answer given to RQ-4. If alternative problems had been considered, the interview question was given the following phrasing:

(i) "When you attended your first meeting on this project (X) and alternatives to (X) were considered as you have mentioned, which of the classes of techniques listed on this screen would you say was predominantly used to state the consequences of the alternatives?"

If no alternatives were reported in RQ-4 use the following version:

(ii) "When you attended your first meeting on this project (X) and its consequences were discussed, which of the classes of techniques listed on this screen would you say was predominantly used to state these consequences?"

With reference to the choices in project dimensions ask:

(iii) "When at the same meeting on this project (X) alternatives in basic characteristics were discussed, which of the classes of techniques listed on this screen would you say was predominantly used?"

The alternatives given on the screen were:

1) Verbal - qualification
2) Verbal - quantification
3) In writing - qualification
4) In writing - quantification

RQ-18

(1) Are payment streams determined for more than one alternative design and for more than one state of the world?

(2) Source of information

Interviews and proposal documents.

(3) Interview questions

(i) "Was for project (X) more than one net payment stream determined?"

If the answer is "yes" ask:

(ii) "How many different net payment streams were determined and can you describe the underlying differences between them?"

RQ-19

Early provision was made for a RQ-19, but this RQ was subsequently deleted. For convenience no change in the numbering of the RQ-s was made.

RQ-20

(1) If attempts to determine the profitability of a project are made, different profitability criteria can be used. Which criteria are used?

(2) Source of information

Project proposal documents.

RQ-21

(1) The techniques and the criteria used in investment calculus, when the profitability is determined, all have their limitations and fallacies. To what extent are these known?

(2) Source of information

Interviews and project proposal documents.

(3) Interview questions

(i) "When you wish to rank incompatible projects in order of their profitability, which criterion do you prefer to use? Motivate!"

(ii) "Ratios like the benefit/cost ratio are sometimes used as criterion on profitability. Can you see any drawback with this criterion?"

(iii) "Can you mention a few ways in which uncertainy and risk can be taken into account in investment analysis?"

(iv) "How do you define the internal rate of return?"

(v) "Are there any situations in which the internal rate of return fails as a criterion?"

(vi) "What is meant with external effects in cost-benefit analysis?"

(vii) "What justification if any do you see in the use of shadow prices in project analysis?"

(4) Validity and reliability problems

The interview questions are limited in coverage in relation to the RQ, and some of them refer to other than 'limitations and fallacies', and in that sense a validity problem is at hand. The limited coverage should be born in mind when the results are interpreted.

The answers will be classified into two classes - satisfactory and unsatisfactory with reference to the requirements in a graduate course. Precision is in other words low, but this was deliberately chosen to increase the reliability.

RQ-22

(1) Does it happen that the calculus of the profitability ending the maturation process results in projects falling below a minimum acceptance level of the criterion in use, and in those cases, what actions are taken?

(2) Source of information

Interviews

(3) Interview questions

(i) "You were involved in the calculation of the profitability of project (X) in which you used criterion (Y). What was the minimum level of (Y), that you thought the project had to surpass to become accepted?"

(ii) "Did project (X) at the termination of the first calculus of (Y) fall above or below the minimum?"

If "below" ask:

(iii) "Did you do anything to improve the profitability or was the project forwarded to the PS without any change in the calculation?"

If "changed" ask:

(iv) "What changes were undertaken?"

(4) Validity and reliability problems

Questions (iii) and (iv) involve validity problems. The respondent may feel reluctant to admit, that changes were made as this may be seen as outright abuse, or he may admit changes but report 'acceptable' changes only. Probing should be used to reduce the risk, that respondents give answers of a low validity, and the problems should be born in mind, when the interpretation of the results is made.

RQ-23

(1) Is there any prespecified level of the profitability criterion in use under which a project may not fall and yet become accepted?

(2) Source of information

Interviews

(3) Interview questions

(i) "The profitability of a project is usually measured by its internal rate of return (if this proves to be the case, see RQ-20). Is there any prespecified minimum level of that criterion under which a project may not fall and yet become accepted?"

If "yes":

"Which is that level?"

RQ-24

(1) What is the significance attached to the profitability criterion when the desirability of a project is determined?

(2) Source of information

Interviews

(3) Interview questions

(i) "In deciding upon an investment project there are several different considerations to be made. One of them refers to the profitability of the project as reflected in criterion (X). What significance do you attach to this criterion, when you make your overall assessment of the desirability of a project?"

The respondent was offered five alternative degrees to choose between, and they were displayed on a screen. The alternatives were: (1) very little, (2) little, (3) some, (4) high, and (5) very high.

RQ-25

(1) To what an extent is ranking of projects at D_5 undertaken on the basis of profitability criteria?

(2) Source of information

Interviews

(3) Interview questions

(i) "For most investment projects attempts are made to determine the profitability, which usually is measured by (criterion X) and presented in the project write-up. When you considered various such projects to be or not to be included in the 1974/75 development budget, did you use this criterion to explicitly rank the projects in order of profitability?"

If "no":

(ii) "Were the projects ranked according to some other profitability criterion?" "Which?"

Whether "yes" or "no":

(iii) "Did you have the project write-ups at hand during the budget discussions?"

RQ-26

(1) Are there any techniques or rules for project comparison systematically used in the budget preparation work?

(2) Source of information

Interviews

(3) Interview questions

(i) Are there any prespecified rules or techniques like scoring systems of check lists, that are systematically used, when deciding upon investment projects in the budtet preparation work?"

If "yes":

(ii) "Can you describe them/it?"

RQ-27

(1) Will a project undergo changes in its basic characteristics during the maturation process?

(2) Source of information

Interviews

(3) Interview questions

The exploration is divided into two steps, where the first is to cover whether changes take place after that the profitability calculation is made and the second covers the entire maturation process. The interview questions are:

(i) "For project (X) it appears in the proposal, that (the basic characteristics in each dimension one by one described to the respondent) is what became the choice. Was the (characteristic y, etc.) the same or different, when you started to determine the payment streams on the basis of a detailed technical description of the project?"

If "different":

(ii) "What was the assumption then?"

(iii) "Has this project undergone any change in any dimension since it was first discussed until the write-up was completed?"

If "yes": "Which?"

RQ-28

Deleted

RQ-29

(1) What were the major characteristics of the preparation of the project list in the 1974-78 Development Plan?

As described in chapter VII, section (VII.3.1) this RQ was eventually deleted.

RQ-30

(1) What were the major characteristics of the preparation of the 1974/75 development budget?

Rather than pursuing this RQ as an interview question a set of probe questions were formulated in connection with the execution of the field study (in Kenya), and these questions appear in the questionnaires specifically designed for (1) officers in the Minag involved in the budget preparation, (2) officers in the External Aid Division and (3) officers in the Finance Division of the MFP. These questionnaires are presented at the end of this appendix.

RQ-31

(1) Are ex post evaluations of first phases of projects carried out and used in the preparation of second phases?

(2) Definitions

With evaluation is here meant an assessment of project consequences during its lifetime or after its termination, presented in writing.

(3) Source of information

Interviews and evaluation documents.

(4) Interview questions

The meaning of 'an evaluation' is explained to the respondent and he is asked:

(i) "Was any evaluation made of the first phase of this project (X) prior to the completion of a proposal for a second phase?"

If "yes":

(ii) "Did you use the evaluation document during the preparation of the second phase?"

(5) Validity and reliability problems

The operationalization of this RQ involves serious validity problems in particular. This depends upon the ambiguity of the word 'use'. Even if attempts were made to specify more in detail different ways of using an evaluation report is it likely, that the influence on the choice of basic characteristics in the second phase that the evaluation of a first phase may have had would be very hard to establish. The ambitions with the RQ must accordingly be restricted to an indication whether the respondents feel that an evaluation report had any significance, that they were aware of.

RQ-32

(1) Are there any prescribed norms, rules or techniques to be used in the appraisal and selection of investment projects in the agricultural sector to ensure uniform treatment?

(2) Source of information

Interviews

(3) Interview questions

(i) "Are there centrally determined rules, norms or techniques for investment project appraisal and selection to be applied to investment projects in the agricultural sector, which the planning officers are expected to use?"

If "yes":

(ii) "Can you describe them?"

(Probe questions on criteria, shadow prices, uncertainty, discount rates, etc.)

RQ-33

Deleted as RQ but incorporated in the set of probe questions to RQ-30.

RQ-34

(1) Are shadow prices used in the analysis of investment projects?

(2) Source of information

Project proposal documents.

If the outcome is that shadow prices are rarely used ask the following interview question:

(i) "It seems from the project proposals I have looked at as if shadow prices or accounting prices are hardly ever/never used in the appraisal of investment projects in the agricultural sector. Can you give any reasons why this is so?"

RQ-35

(1) Is is accepted policy, that the Minag informally approaches donors during the maturation process for a project in order to raise donor interest in the project and if so, what advantages and disadvantages are conceived with such a policy?

(2) Source of information

Interviews

(3) Interview questions

(i) "Is it an accepted policy, that the Minag informally approaches donors during the preparation stage of a project in order to raise donor interest to consider financial contribution to the project?"

If "yes":

(ii) "What advantages and disadvantages do you see with such a policy?"

Probe questions to RQ-30 (to be asked in the Minag)

(1) What instructions were given by the Treasury prior to the 1974-75 budget preparation?

(2) How were sub-sector allocations made and by whom?

(3) Is it correct that the Minag could not fill up the 1974-75 development budget?

(4) Has any application for any of the projects in the set been sent directly from the Minag to a donor?

The following questions were formulated when it was clear, that cuts had been made in the development budget.

(5) Which officers were involved in cutting down the budget?

(6) How much was to be cut down?

(7) What instructions were given to those who were to carry out the cutting exercise and by whom were they given?

(8) What criteria were used when cuts were made?

(9) What information was at hand about the projects?

(10) Were heads of divisions asked to make the cuts?

(11) When it was known that a certain amount had to be cut down on the total amount for the ministry, was it then determined how much to cut down for each division? If so by whom?

(12) When a cut was made under a sub-head was other sub-heads explicitly compared in order to determine the desirability of cutting different items?

(13) Were any projects deleted from the divisional proposals?

Plan of interview for officers in the Budgetary Supply Division of the MFP

From below it is clear which probe questions that were prespecified. The RQ-s and the interview questions connected with them are not repeated here.

Q-1

Which projects on this list (the project set) were referred to you before an application was sent to a donor?

RQ-12
RQ-13
RQ-23
RQ-24

Q-2

What kind of appraisal if any is carried out in the Budgetary Supply Division before a project is submitted to a donor?

Q-3

How was the allocation of K£ 17.340.000 for the Minag development budget arrived at?

Q-4

The submission from Minag was within the limit set by the Treasury. What changes if any in the development budget have you in the Treasury undertaken?

Q-5

What criteria did you use when you made these changes? (If yes on Q-4.) Were there criteria for what you could not change?

Q-6

Can you indicate if any changes were made on these projects? (The projects in the set.)

Q-7

Who initiated the changes?

Q-8

Who were involved in the discussions of the changes?

RQ-15
RQ-16
RQ-25
RQ-26
RQ-24

Q-9

During a number of years in the past Ministry of Agriculture have underspent the development budget with substantial amounts. I have the impression that this has been expected in advance. What are the reasoning behind passing budgets, that are known in advance to be underspent?

Plan of interview with officers in the External Aid Division, (EAD), MFP

From below it appears what probe questions that were prespecified. The RQ-s and the interview questions connected with them are not repeated here.

Q-1

For which of these projects (the projects in the set) have project write-ups been submitted to the EAD by the Minag?

Q-2

For which of these projects (the projects in the set) have applications been sent to donors?

Q-3

For which of these projects (the projects in the set) have agreements been signed?

RQ-12

RQ-13

Q-4

If the Minag indicates, that a certain donor is interested in the project, do you then automatically forward the application to that donor?

RQ-23

Q-5

What kind of appraisal of the projects is carried out by the EAD before they are submitted to donors?

Q-6

To whom if any are projects referred by the EAD before they are sent to donors?

Q-7

What role did EAD play in the preparation of the 1974-75 agricultural development budget?

Was the Minag draft scrutinized by the EAD?

Were project write-ups prepared by Minag compared with the budget draft?

Were plans of operation for signed projects checked against figures provided in the Minag budget draft?

Q-8

To what an extent were representatives from the EAD involved in meetings where the 1974-75 agricultural budget was discussed?

RQ-25

RQ-26

APPENDIX 3
PROJECT CHARACTERISTICS

Project	Output expectations	Process characteristics	Location and target group	Size (investment in K£)	Administrative setup	Financial arrangements	New or second phase
1 Livestock credit phase II (K)	Increased beef production	Provision of credit for purchase of stock and farm improvement	15 districts in pastoral areas	10,560,000 (362 ranches)	Agricultural Finance Corporation	Kenya Gvt/ donor	Second
2 Foot and mouth disease control (K)	Increased beef production	Vaccination	The disease free zone plus nine continguous districts	5,000,000 (4 m head of cattle)	Vetenary Department, Minag	Kenya Gvt/ donor	Second
3 KTDA's 4th tea project	Increased tea production and processing	Planting of tea, Rotarvene/CRO processing	Tea districts in central and western Kenya, smallholders	2,900,000 (14,000 acres)	Kenya Tea Development Authority	Kenya Gvt/ donor	Second
4 IDA 105 Small Scale Credit II (K)	Increased agricultural production (milk, beef and certain crops)	Provision of medium term credit for purchase of stock and farm improvement	Nationwide, smallholders	2,660,000 (8,000 farmers)	Agricultural Finance Corporation	Kenya Gvt/ donor	Second
5 Bura irrigation (K)	Mainly sugar and cotton	Irrigation	Bura, smallholders	2,000,000	National Irrigation Board	Kenya Gvt/ donor	New
6 Rehabilitation of large scale farms (K)	Increased productivity on a selected number of farms	Provision of credit for farm improvement and working capital. Management services.	Rift Valley and Central Province. Large scale "problem" farms	1,835,000 (131 farms)	Agricultural Finance Corporation and E.A. Acceptance Ltd.	Kenya Gvt/ donor	New
7 Livestock buying centres (K)	Increased production of beef	Establishment of permanent buying stations and purchase on live weight basis	Pastoral areas Pastoralists	978,000 (31 buying stations)	Livestock Marketing Division, Minag	Kenya Gvt/ donor	New
8 C.B.P.P. eridication (K)	Increased production of beef beef	Vaccination	Isiolo, Tana River, Garissa, Wajir, Mandera, Lamu	485,000 (4.5 m head of cattle)	Vetenary Department, Minag	Kenya Gvt/ donor	New

Project	Output expectations	Process characteristics	Location and target group	Size (investment in K£)	Administrative setup	Financial arrangements	New or second phase
9 Grain storage up-country (K)	Increased storage capacity and cost reductions	Bulk handling, silos	Eldoret and Nakuru	470,000	Maize and Produce Board	Kenya Gvt/ donor	Second
10 KFW Small Scale Credit II (K)	Increased agricultural production	Provision of short and medium term credit	Kisii and Kericho districts smallholders	400,000 (2,700 farmers)	Agricultural Finance Corporation	Kenya Gvt/ donor	Second
11 NEP Grazing scheme (K)	Increased livestock production	Water dams, boreholes, farm management	3 blocks in Wajir, 2 blocks in Garissa, 1 block in Mandera	243,000 (4,7 m acres)	Water Department, Range Management Division, Minag	Kenya Gvt/ donor	Second
12 Dryland farming (K)	Farming systems for marginal rainfall areas	Breeding of draught resistent varieties, development of farm management methods	Medium potential areas in Eastern and Central Prov., smallholders	125,000	Research Division, Minag	Kenya Gvt/ donor	New
13 Siaya farmers training centre (K)	Increased farm management capability	Instruction at training institutions	Siaya, smallholders	99,000	Training Division, Minag	Kenya Gvt/ donor	Second
14 Isiolo grazing scheme (K)	Increased livestock production	Water dams, boreholes, farm management	Isiolo district	90,000	Water Department, Range Management Division, Minag	Kenya Gvt/ donor	Second
15 Mixed farming (Z)	Increased agricultural production	Clearance from tsetse fly, provision of credit for stock purchase and farm improvement	Large scale producers mainly	11,000,000	Projects Division, Vetenary Department, Ministry of Rural Devel.	Zambia Gvt/ donor	New
16 Zambezi grazing project (Z)	Increased beef production	Desease control fencing, marketing		110,000		Zambia Gvt/ donor	Second
17 Chamuka (Z)	Increased agricultural prod.	Settlement scheme	Smallholders	75,000	Projects Div.	Zambia Gvt/	Second
18 Dairy Development (T)	Increased production of dairy products	Importation of dairy cattle, collection, processing of milk	35 large scale dairy units 50 ujamaa villages	11,900,000	Credit through Tanzania Rural Dev. Bank	Tanzania Gvt/ donor	New

APPENDIX 4

LIST OF PERSONS INTERVIEWED

I Kenya

Adagala, E.K., Assistant Secretary/Treasury, Ministry of Finance and Planning (MFP)

Awich, H.G., Senior Assistant Secretary, Finance Division, Minag

Clough, R.H., Adviser, Planning Department, MFP

Davies, T., Head Project Planning and Evaluation Unit, MFP

Ekirapa, A.A.A., Deputy Secretary/Finance, MFP

Eriksson, J., Planning Officer, Economic Planning Division, Minag

Gray, R., Planning Officer, Economic Planning Division, Minag

Hesselmark, O., Planning Officer, Marize and Produce Board

Kibe, J.C., Permanent Secretary, Minag

Lijodi, J., Head of Economic Planning Division, Minag

Mburu, J.S., Director of Agriculture, Minag

Moore, G., Head of Loans Department, Agricultural Finance Corporation

Mule, H., Deputy Permanent Secretary/Planning, MFP

Musuva, I.E.M., Head Farm Management Section, Land and Farm Management Division, Minag

Ndoto, J.K., Deputy Secretary/Development, Minag

Nelson, R., Farm Management Research Officer, Minag

Oyoo, F., Planning Officer, Economic Planning Division, Minag

Plantinga, W.J., Planning Officer, Economic Planning Division, Minag

Saggia, J.R., Assistant Secretary/Treasury, MFP

Seidler, E., Planning Officer, Economic Planning Division, Minag

Slater, C., Adviser, Planning Department, MFP

Sullivan, C.A., Head of Finance Division, Minag

Wairagu, P.H., Head External Aid Division, MFP

Vienna, A., Senior Assistant Secretary/Treasury, MFP

Witucki, L., Planning Officer, Economic Planning Division, Minag

Wormer, T., Planning Officer, Research Division, Minag

Vukovick, I., former Head Economic Planning Division, Minag

Yaa, J., Former Head External Aid Division, MFP

II Zambia

Babbar, M.M., Undersecretary Planning, Ministry of Rural Development (MRD)

Bansil, P.C., Senior Agricultural Adviser, Development Planning Division, Ministry of Planning and Finance (MFP)

Daplyn, M., Planning Officer, Planning Unit, MRD

van Driel, J.A., Associate Expert Agriculture, Development Planning Division, MFP

Farmer, B., Planning Officer, Planning Unit, MRD

Gasapu, T.M., Planning Officer, Planning Unit, MRD

Lazaris, G., Head of UN Planning Team, Development Planning Division, MFP

Stokes, J.C.A., Ag. Head Land Use Service, MRD

de Waal, K.R.J., Associate Expert General Planning, Development Planning Division, MFP

Verma, S.D., Senior Economist, Development Planning Division, MFP

III Tanzania

Aldington, T., Planning Economist, Agricultural Sector Section, Programming Division, Ministry of Economic Affairs and Development Planning (DEVPLAN)

Green, R.H., Economic Adviser to the Treasury, MF

Kaduma, J.M., Director for the Institute for Development Studies, former Principal Secretary to the Ministry of Finance (MF)

Korosso, R., Head External Finance and Technical Cooperation Section, MF

Kubberud, T., Project Evaluation Consultant, External Finance and Technical Cooperation Section, MF

Mariki, R., Finance Officer, External Finance and Technical Cooperation Section, MF

McKlein, G., Dairy Development Economist, Livestock Development Division, Minag

Rwechungura, C.I., Planning Officer, Planning Division, Prime Ministers Office

Nema, B., Head Planning Division, Prime Ministers Office

Tenesi, B., Agricultural Director, Head of Administration, Personnel and Planning Division, Minag

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