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PROSPECTIVE PLANNING
and

INVESTMENT DECISIONS

-Economic problems concerned with
preparation and carrying out of
investments-
by

Prof. Dr. habil Erhart Knauthe

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CAIRO

3. MOHAMED MAZHAR - ZAMALEK

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I. Introduction. Types of investment programmes.

Investment decisions are closely connected with prospective planning. Investments require an estimation of market and of technological as well as economical processes in scope of a long term.

Under the conditions of public sector in the UAR-industry the possibility of long-term planning arises.

The investment plan has to be a part of the general prospective plan and, let me add, it is one of the most important part of prospective plan. In accordance with the experiences in the GDR, types of investment plans can be

- 1- programmes for improving technology in existing plants, prepared by enterprises and general organisations (GO);
- 2- programmes for bringing-out new products which will require additional equipments in existing plants, prepared by enterprises and GO;
- 3- industrialization programmes for a branch or a local district, prepared by GO and local planning bodies in case of new plants, prepared by enterprises and GO in case of existing plants.

Let me describe these different types of investment programmes more specially.

The first one is directed to rationalize existing plants. This way is very important in order to raise the level of productivity and to increase production capacity in the frame work of existing plants.

In practice a great number of small and medium-sized investment projects is subordinated to this group, after a certain level of industrialization has been reached.

In the UAR-industry investments for improving technology will become more important under the second prospective plan than they have been under the first one, especially in advanced branches like textile industry.

Rationalization programmes of enterprises and GO have to be running plans, that means, they have to be improved permanently, in scope of some years ahead. The period depends on the branch. Programmes for power stations or steel mills for instance will require a longer forecast than such for manufacturing of ready-made dresses.

The second type of programmes, mentioned above, is concerned with enlargement of plants in order to bring out new products (or to substitute obsolete products by new kinds of products).

This type of programmes includes measures aimed to enlarge the scale of assortment and corresponds with purchase of licences.

The programmes for bringing out new products have to be considered as a running plan, too, as mentioned above.

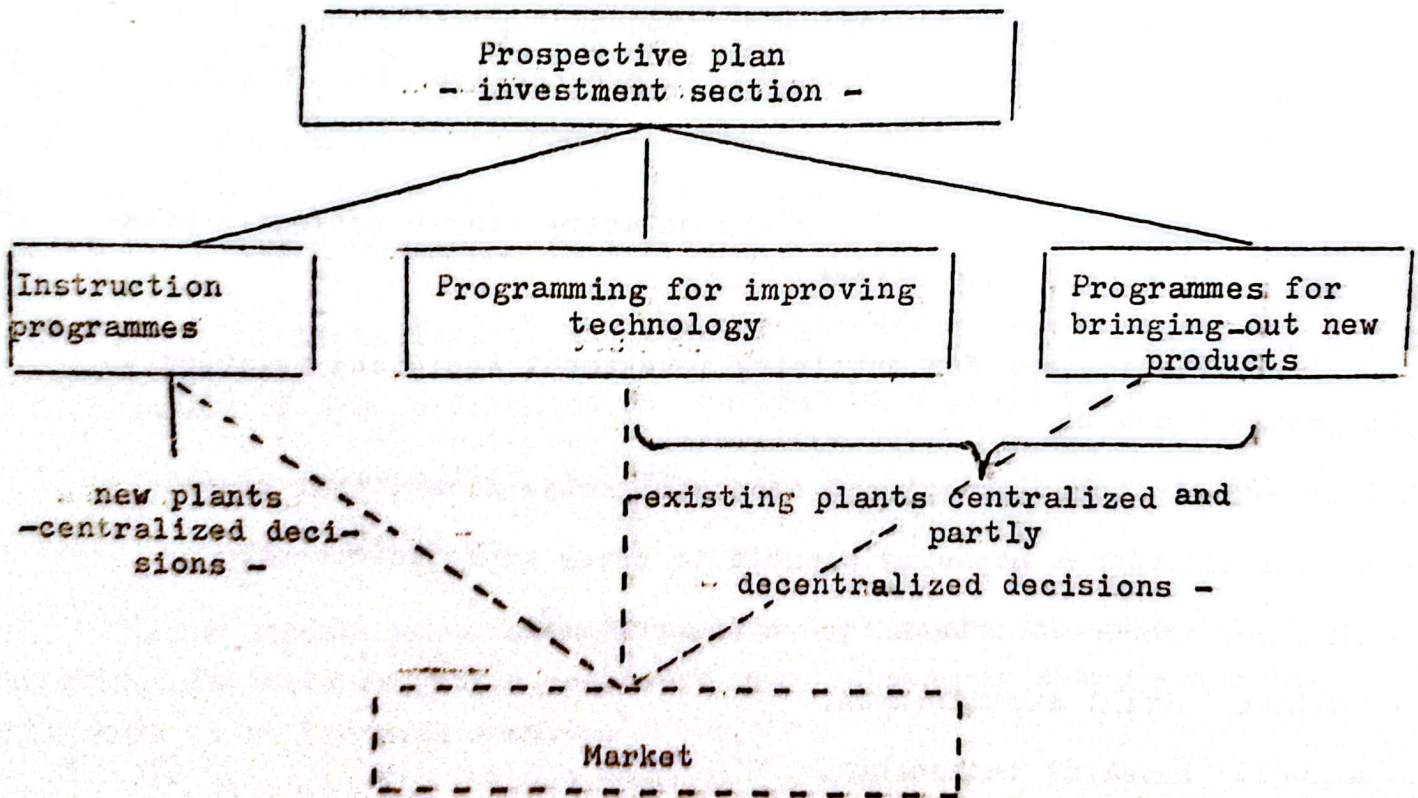
As to the third type of programmes, industrialization programmes for a branch or a local district. We can say that they must be fixed plans and not running over. These programmes require usually considerable physical and financial resources and they may cover the greatest share of accumulation funds in a national economy, through the number of projects is limited. It is up to the government and its several bodies to discuss thoroughly the problems and tasks in this concern. With respect to the interlacings between the branches the different industrialization programmes have to be coordinated together and priorities must be fixed.

We can sum up that socialist prospective planning with regard to investments should base upon investment programmes such as industrialization programmes as well as programmes for improving technology and bringing out new products.

All these programmes should be prepared by the enterprises and branch organizations of public sector.

It is up to the top level of socialist planning to coordinate and balance all these proposals. A main task has to be the decision on priority regarded to every single project. The following scheme outlines this problem.

Types of Prospective Investment Planning.



Now let me point out some ideas related to connections between prospective planning and investment decisions. It is to distinguish between two occasions of investment decisions.

The first occasion takes place in elaboration of a prospective plan (elaboration of the different programmes included). These decisions are regarded to investment programmes and, the complexity of a technological or economical trend of development is considered. It is to decide on whether a programme should be approved or not.

The second occasion for decisions on investments takes place in the process of preparation and carrying out of separate investment projects which form a programme. Every separate investment project ought to be calculated with respect to its efficiency. In prospective plan the framework for those decisions is given.

But, only by help of decisions on every single project a prospective plan can be put into effect.

Main indicators for outlining investment decisions regarded to single projects can be

1- Setting-up of technological and economical objectives, that means:

- needed additional capacity capable to cover expected output,
- aims for improvement technique and assortment,
- maximal initial expenditures,
- expected level of technology,
- expected level of labour productivity, prime cost and profit.

2- Setting-up time objectives (i.e. the date) for finishing.

II. The process of preparation and carrying-out of investments.

In the range of this outline the process of preparation and carrying-out of investments takes place.

It is in this process that decisions have to be taken on the best variant to implement the prospective plan. Technicians and economists have to find out appropriate technological solutions under economizing all resources.

Let me give a survey concerning the economical main problems which are tied to the process of preparing and carrying-out of investments. I'll try to introduce this process and its problems by a scheme. (Page 6 & 7)

In the scheme the process is subdivided in a preparation period and in a period of carrying-out of investments. Both of these periods are subdivided in two fractions. As a result we have to discuss four stages:

- 1- Setting-up of technological and economical objectives;
- 2- elaboration of and decision on the outline of a project;
- 3- elaboration of a specified project.
- 4- Carrying-out of a project.

The scheme introduces all partners which are in touch with the investor. Furthermore, it is mentioned what happens in every stage and which have to be the main results.

The process of preparation and carrying-out of investments includes plenty of economical problems, beside technological problems. It may happen that losses will arise coming from false or incomplete preparation of projects or from uncontinuously carrying-out of investments. Moreover, quality of preparing and carrying out of an investment will effect upon the time of its finishing as well as upon its efficiency.

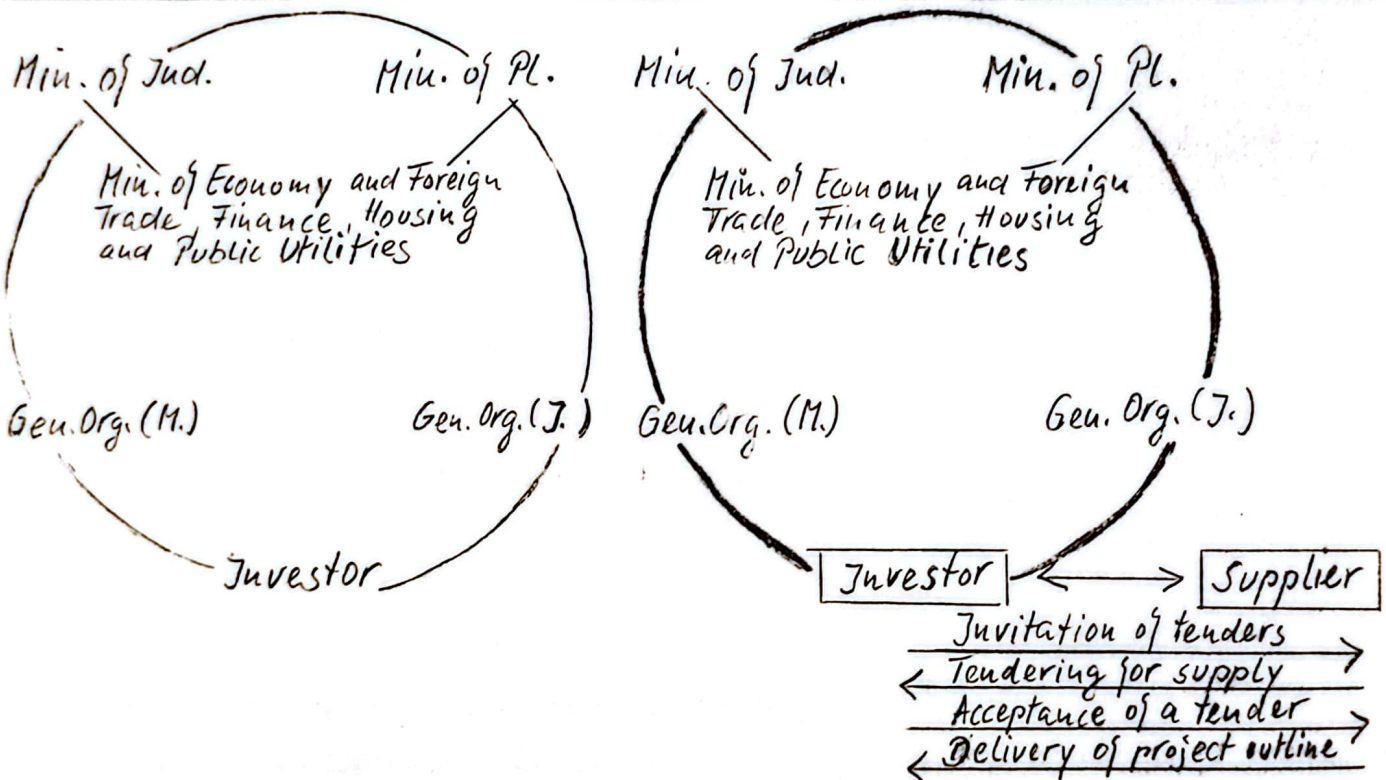
Preparation and

Targets of prospective plan
which require investments.
List of projects.

Preparatory period

Setting up of technological
and economical objectives

Elaboration of and decision on the
outline of a project



Coordination of objectives

Results:

Decision on priorities.

Setting up of targets after discussion with all bodies, all indicators compared with standards and norms available given to the investor as a directive.

Project appraisal

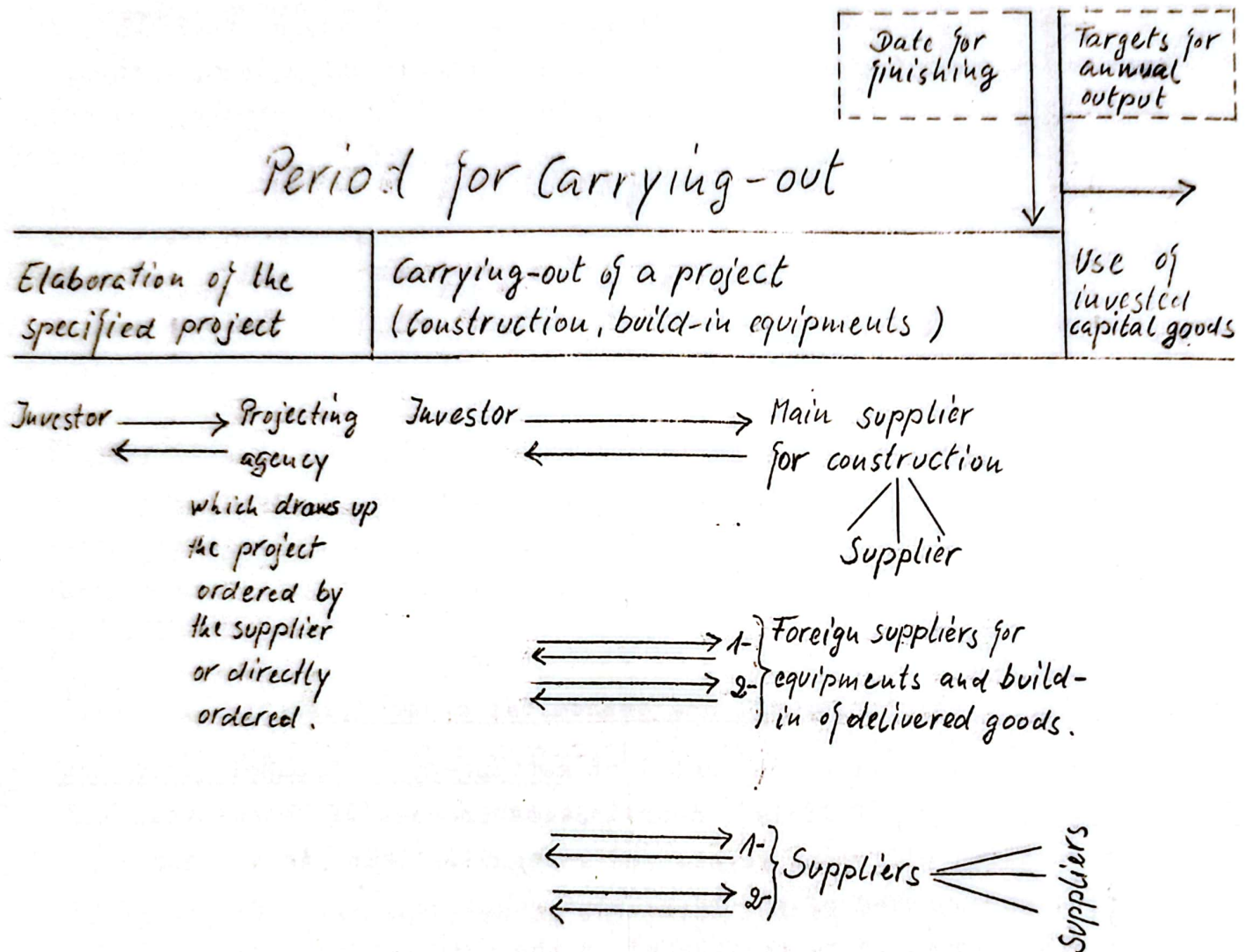
Results:

Selection of the best variant by a commission headed by the investor.

Decision on the chosen variant by a commission headed by the General Organization (J.).

Delivery of project outline by the supplier or by a projecting agency ordered by the supplier and approval of the outline.

Carrying-out of Investments



Result:

Delivery of project and improvement of the project.

Results:

Delivery of constructed or reconstructed plants ready for operation.
 Coordination of all deliveries by the investor.

Usually, investment problems are considered only from the point of view which benefit or efficiency will be realized after going into operation. International publications deal on first place with problems of criteria for investment decisions. I'll not underestimate this question, but, without a good achievement in preparing and carrying-out of an investment, the efficiency calculated before can not be reached in current production. This is a very vital problem in a national economy going to industrialization and, even in a developed economy, too. Therefore, we have to consider the investment process from the very beginning. The process of preparation and carrying-out of investments includes many reserves and it is closely connected with prospective planning.

In accordance with experiences in socialist countries in last decade I'll try to give a survey about the problems which are relevant in this concern. If we follow the subdivision in the scheme introduced above we'll get a systematization of the problems in accordance with the stages of investment process.

III. Setting-up of technological and economical objectives

Let me begin with the period of setting-up of technological and economical objectives. This is a coordination process of objectives. All bodies representing different levels and responsibilities in planning should have been approved of the investment required. After coordination the project is allowed to be registered in the prospective plan.

The plan has to contain at least

- capacity of output in main assortments ,
- expected market and location,
- manpower and supply situation,
- direction of technology, if possible.

It is to decide on priorities of projects which are included in the investment plan. Targets have to be set up as orientation indicators for drawing-up projects.

In this first stage some economical problems arise.

- 1- The state authorities have to follow up that concentration takes place upon such projects which are included in prospective plan, adequate to their priority. It is an experience that often enterprises start investments without coordination to the plan, declared as "repairs". That requires additional demands for equipments and capital out of the balances. In a planned economy the input and expected output of all investment projects must be balanced with respect to those branches which are interlaced to a project.

Divergences from the plan create disproportions and will lead to unfinished investments.

An important experience is that splitting-up of investment funds should be prevented. That can be reached by setting-up of relatively short construction periods in order to prevent a distribution of capital into too much projects being in realization simultaneously.

In practice it will be necessary to divide the accumulation funds of a national economy into two parts:

- Investments to decide on by top-level bodies of a national economy (centralized investments);
- Investments to decide on by enterprises and general organizations or leading bodies for a branch (decentralized investments).

The first fraction will consist from relatively few projects, covering most of financial means in every year. The second fraction will probably consist from the majority of projects, but, those projects will require only a small part of means.

In the second fraction there is really a splitting-up of means caused by the great number of projects. It is necessary that every general organization and every enterprise is in the position having decentralized investment funds for the purpose of carrying out of small projects,

aimed to realize innovations and improvements in technology and organization. This is a question of elasticity in a planned economy.

The remarks against splitting-up of investment funds are directed to the majority of means, concentrated on the big projects.

The problems of centralized and decentralized investments in a planned economy should be devoted to a special discussion under consideration of the experiences in socialist countries. But, in this context it isn't the place to do so.

- 2- The planning bodies have to set up targets which are in accordance with the prospective plan. That is necessary in order to implement the tendency or line of prospective plan with every single project.

Naturally, it is not a problem to set up targets for a new plant if the prospective plan outlines this development. The difficulties arise from the decision on the level of technology and economical achievement which is appropriate to push ahead national economy, and especially the industry in question.

- 3- If targets are fixed in quantity and quality it is necessary to check on whether investments are the only solution to cover the demands. It may be that targets can be reached by using capacities more intensively, without investments. In a national economy you can not pay attention enough to this experience. Saving investments by better use of existing capacities is the shortest and cheapest way for increase national income. Opportunities for increase productive capacity by better management are unlimited in principle. But, it depends on quantity of additional demands, whether they can be satisfied only by better use of capacities or, in which extent investments are required in order to cover the output expected.

- 4- Another point to be considered is the repercussion on payments balance caused by investments. In a country like UAR it is necessary to consider investments from the very beginning under this point of view. A great part of capital funds, especially equipments, has to be imported. Current production may require additional imports for raw-materials, fittings and spare parts permanently and, on the other hand, the share of export market will affect payments balance. The influence of every investment project should be calculated in this way. To sum up, it is recommendable to subdivide these calculations in currency blocs. In general, we can state, investments strengthen interdependence and may create new dependence. Therefore, it is up to the policy-makers to outline the direction of investment policy.
- 5- A last idea in this context is that investments have to be balanced with the capacity of construction industry. We can take it as given that most of investments are carried out with the help of national construction industry. Therefore investments depend largely on capacity of construction industry and of building material industry, too.

IV. Elaboration of and decision on the outline of a project

The second stage is the elaboration of and the decision on the outline of a project.

The core of this process is the project appraisal. First, the investor invites tenders. The suppliers which are interested in a contract can make a tender or an offer, that means, foreign suppliers as well as national suppliers are invited for making tenders. In practice there will take place a division of labour in such a way that most of equipments will be offered by foreign companies and that offers for construction will be expected from home companies. A competition in field of equipments is impossible without having a national engineering and tool industry.

A commission headed by the investor has to select the best out of the variants available. A second commission, headed by the General Organization for Industrialization is usually in charge of the decision on whether

the best variant should be carried out. All bodies, included in the scheme mentioned above, have to contribute to this decision.

With the acceptance of a variant, that means with a tender or offer the supplier is ordered to deliver an outline of the project. It is up to the supplier to contract a projecting agency in order to prepare the project outline, but, the supplier is responsible for this outline. The project outline has to be approved by the investor and, he has to decide on variants for details of its carrying-out. The most important economic problems in the stage of project appraisal are:

- 1- The several variants received as offers or tenders are the basis for the choice of the most favourable solution. An experience is, that especially foreign suppliers offer only the data for the main project and consequently such an offer looks better than another one that is complete. As a result, all variants taken into consideration have to be comparable and last but not least, feasible.
- 2- For the purpose of project appraisal it is necessary to follow up the data contained in the offers in comparison with standards and norms. To know whether a project is efficient or not, it is necessary to have criteria suitable for a given national economy. In this context problems concerned with the selection of appropriate criteria are excluded. The question of criteria is so important that a separate chapter will be devoted to this problem.

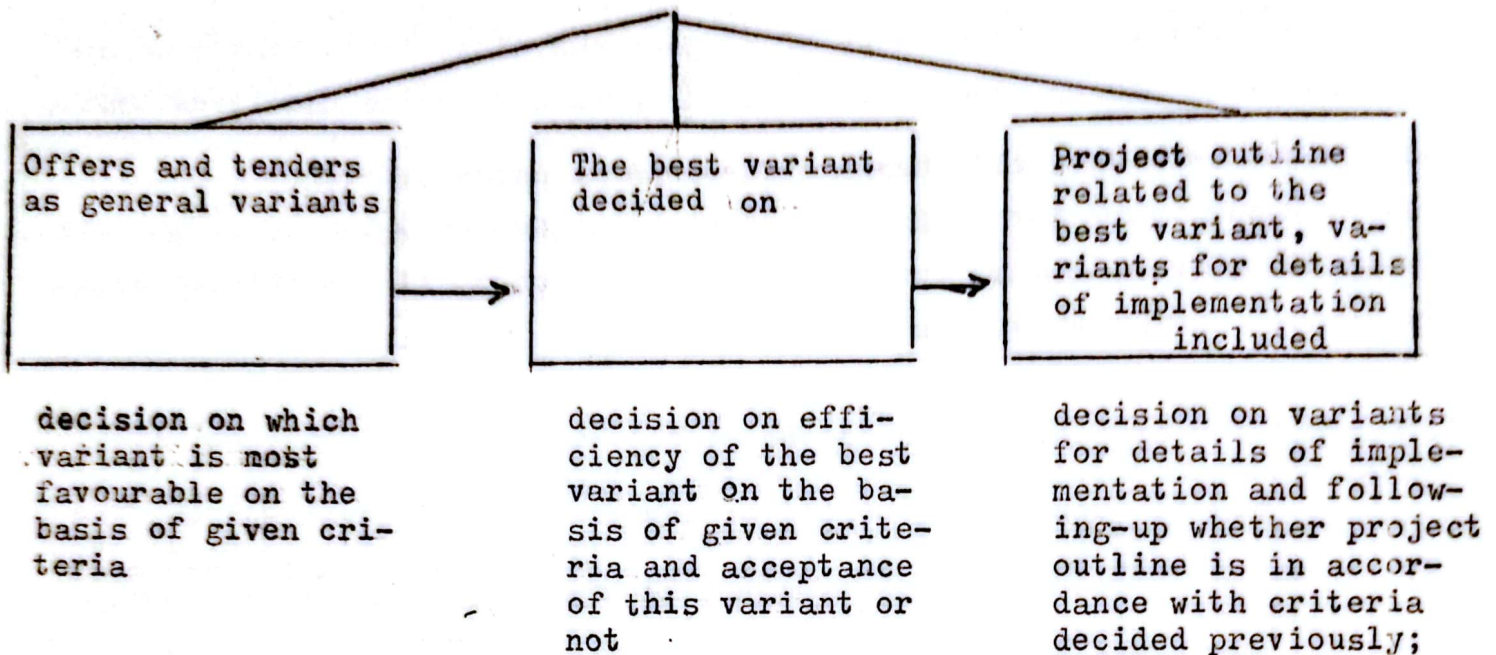
Let me add that there is a need for criteria in a threefold connection:

- appraisal of the tenders and offers (variants);
- appraisal of the best variant and
- appraisal of the project outline.

These three steps form the process of project appraisal as a whole.

This is shown by the following scheme:

Process of project appraisal



Criteria can be both, technological and economical ones.

3- The appraisal of a project outline can be qualified by organizing its public defence, in accordance with experiences in socialist countries. That means, a commission formed by all bodies which take part in project appraisal, headed by the investor or the General Organization of Industrialization, could order such a public defence. The bank responsible for financing the investment should take part in the defence in order to follow up the investment process from the very beginning.

The project outline should include variants showing different ways or variants for its carrying-out in order to reveal the most efficient solution in detail.

4-- A main problem in the process of project appraisal is to ensure an optimum level of labour productivity in the period of using the investments. There is no need of world standard level in all cases, but, labour productivity of new projects must be higher than the level achieved hitherto. It would be a loss for a national economy if investments would conserve obsolete methods of production.

V. Elaboration of a specified project.

Now we turn to the period of carrying out of investments. The next stage we have to discuss is the elaboration of a specified project.

The process that happens in this stage is very simple. The investor contracts a supplier to deliver an investment. The first result that has to be delivered is the specified project in the framework of a project outline which is approved before. Because, the supplier is not able to draw up the project by himself in every case, he has to contract a projecting agency which prepares the project.

In the GDR. exist about 100 projecting agencies in public sector, organized on the branch principle. In every branch we can find a special public enterprise which is specified in delivering project outlines and specified projects for public investments. Furthermore, there are plenty of departments for drawing-up projects subordinated to leading enterprises.

In practice of developing countries, however, the matter is a little different.

Capacities for drawing-up projects are very limited and, project outlines and projects are in most of cases included in deliveries of equipments by foreign exporters. Caused by technology the supplier and the projecting agency must work hand in hand, because the items of a project

depend on the different kinds, types and trade marks of equipments. Therefore, I'm not able to recommend the development of national projecting agencies for a branch earlier than the relevant industries which are competent for supply, have been developed.

On the other hand, projecting capacities should be developed, as soon as possible, for preparation and carrying-out such investments which can be covered by national industry (for instance construction industry).

The investor's expenditure for purchase of project outlines and projects are the first expenditure in an investment process. In the balance sheet it has to be considered as assets and is to finance by planned sources, kept ready for investment financing.

Economical problems concerned with this stage are:

- 1- The investor should follow up the project whether it is complete and qualified in order to shorten expenditure and time.
- 2- The main point must be following-up the technological and economical data and normatives in comparison with the project outline. Experiences have shown that projecting agencies often change some items of the project under the headline of improvements. In practice it may happen that data of projects have been changed and targets have been decreased. The following-up of the identity of a project with the relevant project outline will prevent losses in time of carrying out and use of investments.

The question arises which staff is available to implement the follow-up. In the GDR, in every general organization managing a branch and in every great enterprise you can find departments considering the scientific and technological progress with economical and technological staff. Headed by the department on branch level data in field of technique and economical data become collected permanently.

The different investment programmes are based on this experiences.

On the other hand, there exists an office for project appraisal subordinated to the State Planning Commission. This office operates with a staff of 200 to 300 engineers and economists, subdivided in branch-teams. The office acts in the process of project appraisal comparable to the activity of the Egyptian General Organization for Industrialization (but only as an advisor without responsibility for investments). In this body data become collected, too. As a result, projects which are under appraisal can be compared to these data. In the course of years a treasure of experiences is available in order to ensure a great benefit of investments. The policy-makers which have to decide on investments, in general, can consolidate their decisions upon these data prepared by the experts.

- 3- In case of drawing-up projects by national projecting agencies the possibilities to develop type-projects and repetition of projects should be used.

VI. Carrying-out of investments.

The proper process of carrying-out of investments takes place as the fourth stage. The investor is contracted to the suppliers in order to carry out the investment in question.

In accordance with experiences in the GDR we can point out the following problems regarded to realization of investments:

- 1- A crucial point is the responsibility of suppliers. Extent and validity of responsibility depend on the contract and can be fixed in different ways.

First model: The investor contract a so-called general supplier which is responsible for delivering a constructed or reconstructed plant ready for operation.

Second model: The investor contracted plenty of suppliers each of them responsible for a limited field of realization. In this case the

investor needs a staff settled on the building ground, which is in charge of coordination and follow-up the process.

In general it will be more efficient to implement the first model. In the GDR, there exist special companies for construction plants completely. Examples are the Organization for Open-Cast Mining Equipment, Crave and Conveyor Plant Works, the Organization for Chemical Equipments, the Organization for Construction of Power Stations, several organizations in construction industry and, in the field of equipment-exports, the INEX-Company. In the engineering branches it is usual that one of the suppliers acts as general supplier and, consequently, as the partner of the investor.

The advantage of the first model is that there will be ensured a clear division of responsibility between current production and investment process.

The second model will lead to a situation that the investor gets the main place in managing the carrying out of an investment. In this case, the danger could arise that he is completely engaged in coordination the suppliers of capital goods and, therefore, he could have not enough power for managing current production. Experiences have shown that in case of the second model the total expenditures are higher than in the first one. If a special organization for delivering investments is in charge of them permanently, this organization is able to accumulate experiences and to rationalize the construction. An accordance with these experiences nowadays the GDR-economy is going with the first model.

- 2- The developing countries are recommended to modify the first model. These countries are bound to use foreign aid in an important extend in order, to push ahead in their industrialization. It is necessary to save foreign currency by carrying-out of investment programmes partly by national resources. The capacity of national construction industry can be used, as far as possible, in order to save foreign currency.

In addition it is possible to contribute to by-processes (secondary processes) based on national industry.

As a result, it is impossible to order only one general supplier in most of cases. The investor has to contract a main supplier for construction and perhaps, one or several main suppliers for equipments (i.e. foreign companies). As far as possible, the investor should contract several home suppliers for additional deliveries which make the investment complete, in accordance with home resources. In fact, the investor is bound to have a staff for coordination and, consequently, the danger for high initial expenditure is apparent. The additional staff and the problems tied to the coordination are the "input" necessary for getting the "output" in shape of saved foreign currency.

We saw that the carrying-out of investments includes some difficulties. On the other hand there are reserves which should be exploited for the benefit of national economy.

- 3- A fundamental experience is that quality in preparation investments effects the observance of planned initial expenditure and the time necessary for finishing.

If the preparation is achieved not thoroughly, data will change in carrying out of projects, and drawing-up of improved projects becomes necessary. As a result, construction must stop and even finished segments must be pulled down again. In these cases it may happen that imported equipments are not suitable for the carrying-out of the improved project. Naturally, all these changes take time and money and will hinder a speedy development of national economy. Let me add that a thorough preparation and supervision of carrying-out of investments is an important precondition for the observance of proportions in prospective plan. It is relatively clear that finishing investments later than planned will lead to disproportions caused by the output that is not achieved in time. On the other hand, conceptual changes of specified projects meanwhile their carrying-out

will also lead to disproportions. The same activities which are considered as investments from the viewpoint of the investor are deliveries based on the output of construction and engineering industries. Consequently, changes in a specified project meanwhile its carrying-out will require changes in quantity and assortment of current production in supplying industries. But, these industries are preparing current production in accordance with the output laid down in prospective plan. That will appear especially regarded to national construction industry, which covers the first period of carrying-out of an investment. Because, equipments must be imported in a great range, disproportions as a result of changes in carrying-out of investments will be transferred to the supplier's national economy. In the interest of a successful business, changes in this field should be prevented and, last but not least, the investor can save additional expenditure which are caused by desires out of the contract with the supplier. It is to take into consideration that the supplier and its sub-suppliers have to prepare their output in time (design and technology), especially in case of individual production.

4- Another fundamental experience is concerned with the preparation of current production. The start of current production requires some preparations such as:

- making ready electric power,
- construction of solid roads which communicate the factory with the transport highways,
- qualification of manpower in time,
- purchase and preparation of raw materials.

These are preconditions to avoid losses in the first period the new plants are used. By the way, these are the main sources for making ready capacity for full use immediately after finishing the new plant.

Making ready electric power and roads is a part of investments programme that will influence current production on a high degree. We can call such investments concomitant investments and can include railway connections into the factory (industrial truck), water and gas supply, phone and sewage connection.

The preparation of workers is a very important task, indeed. It is recommended to train the staff meanwhile presence of foreign specialists. In this case losses caused by unskilled use of machinery can be avoided.

As to the preparation of raw materials there is to say that in some branches special preparations have to take place (for instance timber must be dry). If fittings are in need current production of the suppliers must increase or imports must be contracted in accordance with the plan.

These problems earmark the transition of an investment into current production. There is to avoid the situation the investor taking the transition problems out of consideration and, that he relies on the suppliers. Therefore, there is to sum-up: carrying-out of investments and preparation of current production based upon new equipments have to go hand in hand. If these two processes are coordinated together, annual planning of production can cover the whole capacity from the very beginning. On the other hand, insufficient use of capacities earmarks a bad preparation of investments as well as current production.

VII. Conclusions

As a result there is shown the process of preparation and carrying-out of investments includes many reserves in a national economy.

It is not enough that a high benefit is promised with the calculation of efficiency. An efficient achievement depends on both, thoroughly preparing and carrying out of investments and, profitable use of new plants.

Another conclusion is that management of investment processes should be considered as a special section of economics and economical practice. That is caused by the complexity of problems going with this process. (Coordination of technological economical and political aims; the different stages and bodies included in the process).

Finally, let me come back to prospective planning. The process of preparation and carrying out of investments has to be outlined by the prospective plan. The main tasks earmarked by the plan are:

- 1- The fulfilment of targets for increase of output and the aims for increase of consumption require investments.

Extent and tendency of investment policy is, therefore, outlined by setting up goals for output in quantity, quality and assortment as well as for consumption.

More specially speaking we can say that investments may be caused by

- the demands of internal market,
- the setting up of targets from an economical and political point of view,
- the results of research-work and technological development,
- the payments balance in order to save imports.

- 2- The preparation of single projects has to be in accordance with the prospective plan that is valid. Therefore, it is recommendable to register all important projects in prospective plan. The plan should include for every single project at least:

- Capacity required,
- marketing,
- initial expenditure and time required for carrying-out,
- conditions for supply of raw materials and fittings,
- location of the project,
- manpower available and, if possible,
- direction of technology which is recommended.

In practice it will be impossible to examine all projects thoroughly before inclusion in prospective plan. Therefore, the selection of the best variant takes place in the preparatory period. It is in this period that priorities may change and some of the projects will be substituted by others. In all these cases the repercussions on national economy have to be estimated and balanced.

- 3- Another point is the time of finishing investments. It is necessary to guarantee that input and output of the new plant is included in the annual plan in time of starting current production. The targets of prospective plan have to include the increase of production caused by investments.