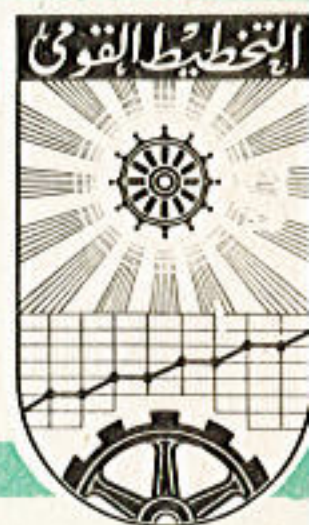


## THE INSTITUTE OF NATIONAL PLANNING



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Experiences Concerned with  
Preparation and Carrying-  
out of Investments

by

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## The Process of Preparation and Carrying-out of Investments

Investment problems are usually considered from the point of view of benefit or efficiency realized after finishing and going into operation. International publications deal, on first place, with problems of the criteria for investment decisions. The importance of this problem should not be underestimated, but without a good achievement in preparing and carrying-out of every single investment the calculated efficiency cannot be observed in current production. This is a very vital problem of each economy. Capital funds spent for investments will not be effective until the projects are finished. Hence, quality and timing of preparation and carrying-out of investments highly influence the growth rate. The investment process includes many reserves to be discovered and utilized by an efficient planning decision - making and implementation of investments. Since capital is scarce in developing countries going the path of industrialization and since there are not enough experiences in this field the state should apply a strong supervision of investments.

In this chapter these problems are envisaged that usually emerge in the investment process, and the experiences of the GDR are offered in this concern.

The process of preparation and carrying-out of investments can be subdivided in at least three stages:

- 1- Setting-up of technological and economic objectives.
- 2- Elaboration of and decision on the project.
- 3- Carrying out of a project.

The process with its three stages includes plenty of economic problems besides technological problems. It might happen that losses will arise coming from false or incomplete preparation of projects or from uncontinuous carrying-out of investments. Moreover, quality of preparation and carrying-out of an investment will effect the time of its finishing as well as its efficiency.

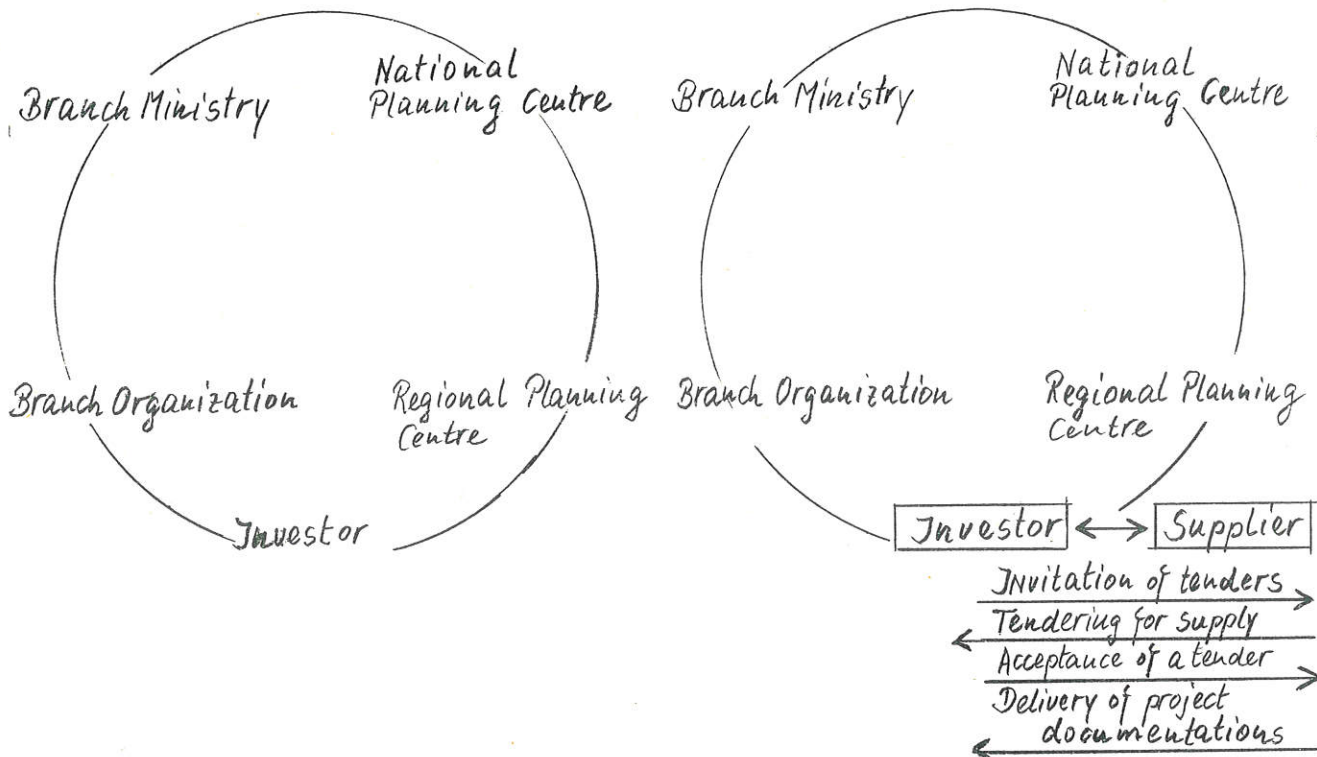
Therefore, the experiences with regard to each of these stages will be examined in the following paragraphs. The complete process is introduced by the following scheme in order to make sure that every problem can easily be placed and understood. The scheme introduces all partners which share the investment process. Furthermore, it is mentioned what should happen in every stage and which have to be the main results.

# PREPARATION AND

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

Setting-up of technical  
and economic objectives

Elaboration of and decision  
on the project



## Coordination of objectives

Results:

Investment programmes  
Decision on priorities  
Setting-up of targets after discussion  
with all bodies  
Standards and norms available  
given to the investor as a directive.

## Project appraisal

Results:

Selection of the best variant  
Decision on the chosen variant  
Delivery of project outline by the  
supplier or by a projecting agency  
ordered by the supplier, and approval of  
the outline and efficiency analysis.  
Delivery of the specified project docu-  
mentation.

### Setting-up of Technical and Economic Objectives

First it should be discussed the stage of setting-up of technical and economic objectives. This is a coordination process of objectives. All bodies representing different levels and responsibilities in planning should have approved the investment project required before it can be included in the prospective plan.

Investment decisions are closely connected with prospective planning. Investments require an estimation of market and of technological as well as economic processes in scope of a long term. Under the conditions of public sector in the industry of the developing countries the possibility of long-term planning arises.

The investment plan has to be a part of the general prospective plan, and it is one of the most important parts of prospective planning. Types of investment plans can be:

- 1- programmes for improving technology in existing plants prepared by enterprises and branch organizations;
- 2- programmes for bringing-out new products which will require additional equipments in existing plants prepared by enterprises and branch organizations;
- 3- industrialization programmes for a branch or a local district prepared by branch organizations and local planning bodies.



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

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

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

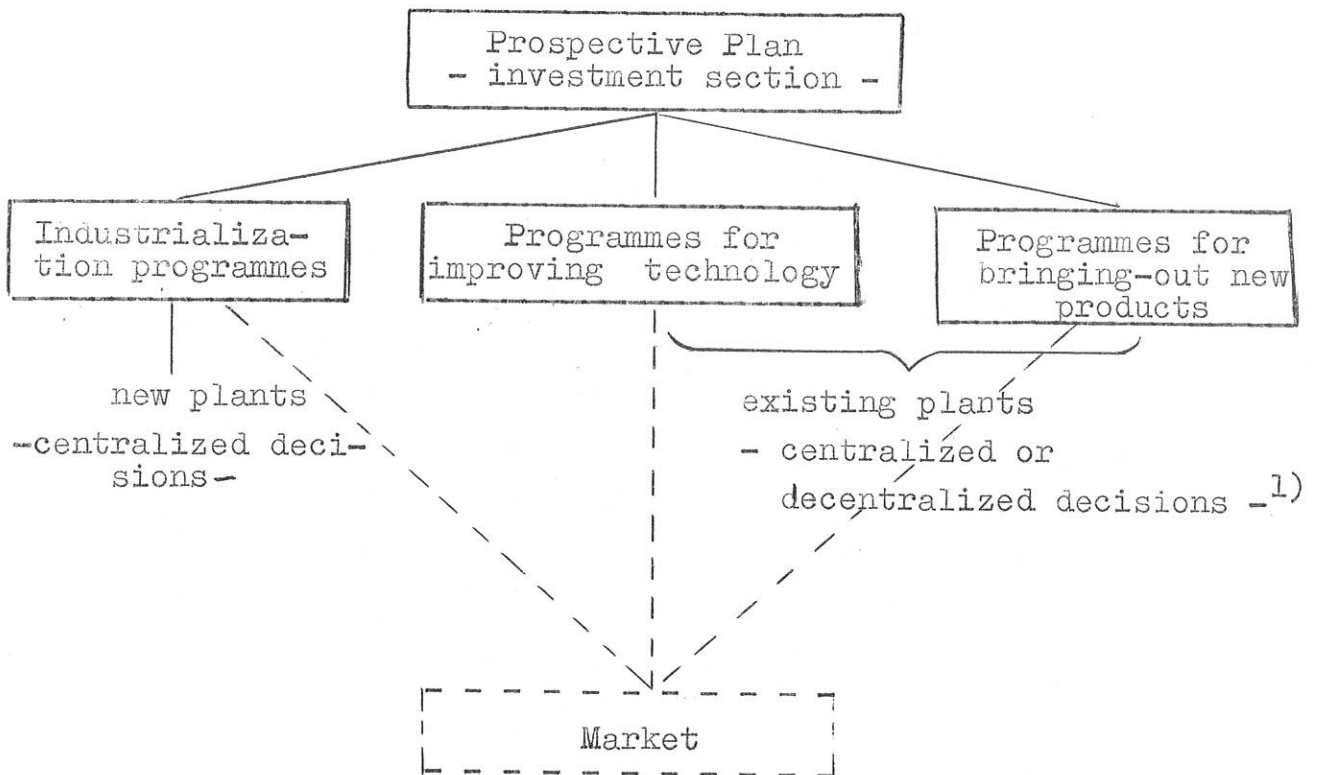
The second type of programmes mentioned above is concerned with enlargement of plants in order to bring out new products (or to substitute obsoleted products by new kinds of products). This type of programmes includes measures aimed to enlarge the scale of assortment and corresponds with purchase of licences. The programmes for bringing-out new products have to be considered as a running plan, too.

As 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 ones. These programmes usually require considerable physical and financial resources, and they may cover the greatest share of accumulation funds in a national economy though the number of projects is limited.

With respect to the interlacings between the branches the different industrialization programmes have to be coordinated with each other and priorities must be fixed. It is up to the government and its several bodies thoroughly to discuss the problems and tasks in this concern.

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

### Types of Prospective Investment Plans



1) In a developed industrial country with engineering and tool industries these decisions might be taken in a mainly decentralized way based upon some major prospective targets. In developing countries usually a central allocation of currencies for the import of equipments is in need.



Main objectives for outlining investment decisions regarded to single projects can be:

- 1- Setting-up of technical and economic objectives, that means:
  - needed additional capacity capable to cover expected output and demand,
  - aims for improvement of technique and assortment,
  - minimal initial expenditures,
  - expected level of technology,
  - expected level of labour productivity prime cost and profit.
  - recoupment period
- 2- Setting-up of time objectives (i.e. the deadlines for finishing).

In the stage of setting-up of technical and economic objectives some economic problems arise:

- 1- The state authorities have to follow up that concentration takes place upon such projects which are included in the prospective plan adequate to their priority. Enterprises often start investments which are not coordinated with the plan declaring them as "repairs". That requires additional demands for equipments and capital out of the balanced targets. 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 as suppliers. 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. This can be reached by setting-up of relatively short construction periods in order to prevent a distribution of capital into too much projects simultaneously being in realization.

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 branch organizations or leading bodies for a branch (decentralized investments).

The first fraction will consist of relatively few projects covering most of the financial means of every year. The second fraction will probably consist of the majority of projects, but those projects will require the smaller part of financial sources.

In the second fraction there is really a splitting-up of means caused by the great number of projects. Nevertheless, it is necessary that every branch organization and every enterprise is in the position to have decentralized investment funds for the purpose of carrying-out of small projects which are aimed to apply 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 regarded to the majority of means concentrated on the great projects.

- 2- 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 might happen that the targets can be fulfilled by using capacities more intensively without investments. In a national economy you can not pay enough attention to this experience. Saving investments by better use of existing capacities is the shortest and cheapest way to increase national income. Opportunities for increase of the productive capacity by better management are unlimited in principle. But it depends on quantity of additional demand whether it can be satisfied by better use of capacities only or to what extent investments are required in order to cover the expected output.
- 3- Another point to be considered is the repercussion on the payments balance caused by investments. In developing countries it is necessary to consider investments under this point of view from the very beginning because equipments have to be imported to a great extent. Current production may permanently require imports of raw-materials, fittings and spare parts 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 concern. It is recommendable to subdivide these calculations in currency blocs. In general we can state that investments strengthen independence and can create new dependence. Therefore, it is up to the policy-makers to outline the direction of investment policy.



- 4- A last idea in this context is that investments have to be balanced with the capacity of construction industry because investments are mostly carried out by help of national construction industry. Therefore investments largely depend on the capacity of construction industry and of building materials industry, too.

#### The Elaboration of and the Decision on a Project

The second stage is the elaboration of and the decision on 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, this means foreign suppliers as well as national suppliers are invited to make tenders. In developing countries 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 the field of equipments is impossible without having a national engineering and tool industry. All tenders received are considered as variants (alternative solutions).

Based upon the available data the appraisal of these different solutions has to take place, and the best or most appropriate variant should be accepted.

With the acceptance of a tender or offer the supplier is ordered to deliver an outline of the project documentation. 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. After this the supplier has to prepare a specified project documentation assisted by his projecting agency. 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. As a matter of experience especially foreign suppliers offer only the data for the equipments earmarking main processes 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. It is necessary to have criteria suitable for a given national economy in order to know whether a project is efficient or not.

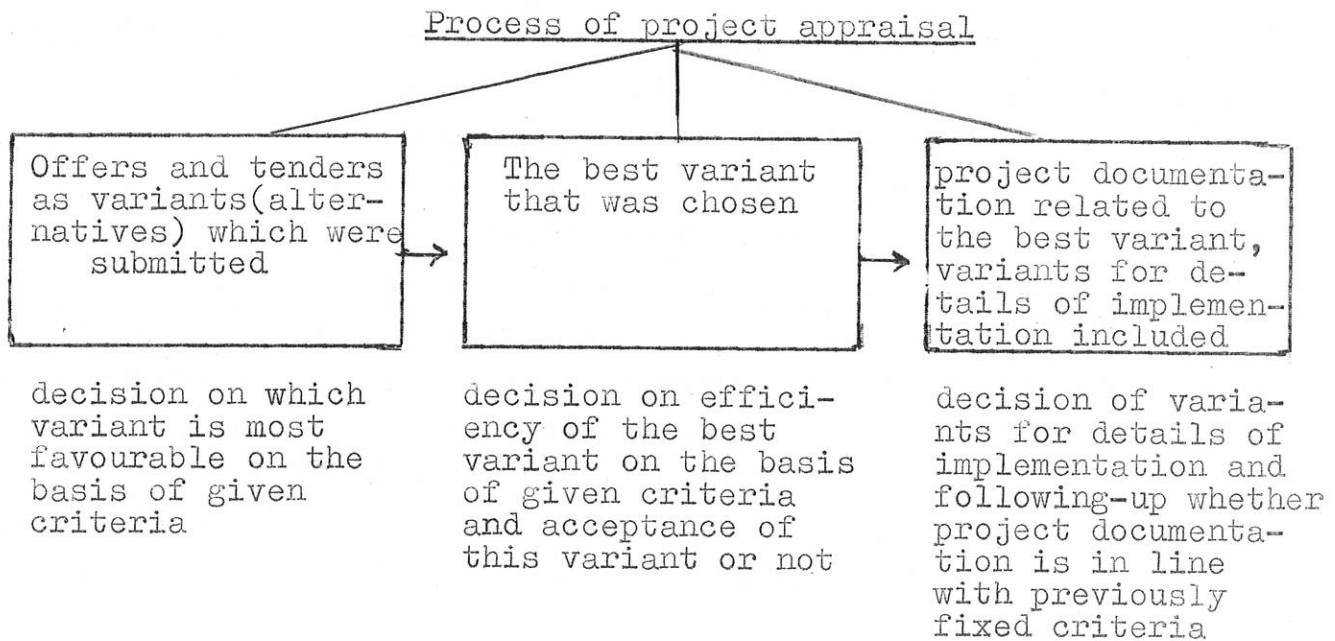
There is a need for criteria in a threefold connection:

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

Criteria can be both technical and economic ones.

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

This is shown by the following scheme:



3- The appraisal of a project can be qualified by organizing its public defence according to experiences in the GDR. That means the investor and the supplier have to defend the project as well as its efficiency and documentation against a committee of experts appointed by the ministry or branch organization. The bank responsible for financing of the investment should take part in the defence in order to follow up the investment process from the very beginning.

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 already achieved hitherto. It would



be a loss for a national economy if investments would conserve obsolete methods of production.

In the GDR, there exists an Office for Project Appraisal subordinated to the State Planning Commission in order to guarantee an optimal level of efficiency. This office operates with a staff of engineers and economists subdivided in branch-teams. The office acts in the process of project appraisal comparable to the activity of e.g. the Egyptian General Organization for Industrialization (but only as an advisor without responsibility for investments). In this body data are being collected. 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 politicians which have to decide on investments can consolidate their decisions by help of such data prepared by the experts.

5- Now we have to discuss the elaboration of a specified project documentation.

The process that happens is very simple. The investor contracts a supplier to deliver an investment. The specified project is coming into the picture in the framework of a project outline which was approved before. Because the supplier is not in every case able to draw up the project by himself he has to contract a projecting agency which prepares the project.

In the GDR there exist many projecting agencies in public sector organized on the branch principle. In every branch we can find public enterprises which deliver project outlines and specified projects for public investments. Furthermore, there are plenty of departments for drawing-up of projects in leading enterprises (main suppliers).

In the practice of developing countries, however, the matter is different. Capacities for drawing-up projects are very limited, and project outlines and projects are mostly 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, it is not recommended to develop national projecting agencies for a branch before 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 of such investments which can be covered by national supply (for instance construction industry) .

The expenditures for purchase of project outlines and specified projects are the first expenditures in an investment process. In the balance sheet of the investor they have to be considered as assets and have to be financed by planned sources kept ready for investment financing.

6. The investor should follow up the specified project documentation whether it is complete and qualified in order to shorten expenditures and time.

The main point should be following-up of the technical and economic 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 might 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 and the original tender will prevent losses in carrying-out and use of investments.

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

### Carrying-out of Investments

The proper process of carrying-out of investments takes place as the third stage. The investor is contracted to the suppliers which are to carry out the investments in question.

In accordance with experiences we can point out the following problems regarded to the carrying-out of investments:

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

First Model: The investor contracts a so-called general supplier which is responsible for the delivery of a constructed or reconstructed plant ready for operation.

Second Model: The investor contracts plenty of suppliers each of them responsible for a limited field of carrying-out. In this case the investor needs a staff settled on the building ground which is in charge of coordination and following-up of the process.



In general it will be more efficient to implement the first model. In the GDR there exist special companies that deliver complete plants. Examples are the Organization for Open-Cast Mining Equipments Crane 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 Invest-Export Company that delivers complete factories. In the engineering branches usually one of the suppliers acts as general supplier and, consequently, as the partner of the investor.

The first model is preferable because it ensures a clear-cut division of responsibility between current production and investment process.

The second model will effect that the investor gets the main place in managing the carrying-out of an investment. In this case the danger might arise that the investor is completely engaged in coordinating the suppliers of capital goods and, therefore, might have not enough power for managing the current production. Experiences showed that in case of the second model the total expenditures were higher than in the first one. If a special organization for delivering of complete investments is permanently in charge of investments it is able to accumulate experiences and to rationalize construction.

- 2- The developing countries are recommended to modify the first model. These countries are forced to use foreign aid to an important extent in order to push ahead in their initial stages of industrialization. It is necessary to save foreign currency by carrying-out of investment programmes 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 upon national industry.

As a result in most of the cases it is impossible to order only one general supplier. 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 complete the investment in accordance with home resources. As a matter of fact the investor is forced to have a staff for coordination in this case and, consequently, the danger for high initial expenditures 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 of investments effects the observance of planned initial expenditures and the time necessary for finishing as well.

If the preparation is not thoroughly done data might change in carrying-out of projects and drawing-up of improved projects becomes necessary. As a result construction stops and even finished segments must be pulled down again. Naturally, all these changes take time and money and hinder a speedy development of national economy. A thorough preparation and supervision

of carrying-out of investments is an important precondition for the observance of proportions laid down in prospective plan. Investments which are finished later than planned will lead to disproportions because the output is not available in time. On the other hand conceptional changes of specified projects during 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 documentation during its carrying-out require changes in quantity and assortment of current production in supplying industries. Because equipments have to be imported in a great range disproportions as a result of changes in carrying-out of investments are transferred to the national economy of the supplier country. In the interest of a successful business changes in this concern should be prevented. It is to take into consideration that the supplier and his sub-suppliers have to prepare their output in time (design and technology) especially in case of single construction of equipments.

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

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



These preconditions should be observed in order to avoid losses in the first period of current production in the new plant. This ensures full utilization of capacities from the very beginning. Connection of electric power and roads is a part of investment programmes that highly influences current production. 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 during the presence of foreign specialists. In this case losses caused by unskilled use of machinery can be avoided or limited.

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

These problems earmark the transition of an investment into current production. It is to avoid that the investor leaves the transition problems out of consideration and that he relies on the suppliers. Carrying-out of investments and preparation of current production based upon new plants have to go hand in hand. If these two processes are coordinated together annual planning of production can cover the full capacity from the very beginning. On the other hand, insufficient use of capacities earmarks a bad preparation of investments as well as of current production.

## Conclusions

It is not enough that a high benefit is promised with the calculation of efficiency. An efficient achievement depends on both thorough preparation 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 economic practice. This is by reason of the complexity of problems going with this process (Coordination of technical economic and political aims; the different stages and bodies included in the process).

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

- Capacity,
- market,
- initial expenditures and time required for carrying-out,
- conditions for supply of raw materials and fittings,
- location of the project,
- manpower
- line of technology that is recommended.

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

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