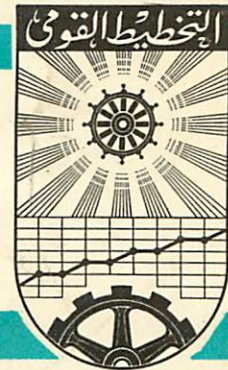


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SOME EXPERIENCE AND PROBL-  
EMS OF MANPOWER PLANNING.

by

Dr. E. Sachse

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## PROBLEMS OF ACCELERATED GROWTH & MANPOWER

### PLANNING IN DEVELOPING COUNTRIES

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#### ON SOME EXPERIENCE AND PROBLEMS OF MANPOWER PLANNING

by

Dr. Ekkehard Sachse  
Director, Institute of Economics of Labour  
Hochschule für Ökonomie,  
Berlin.

As representatives of a socialist country we fully support the statements of the Institute of National Planning, Cairo, made in their fundamental background paper, that the question of manpower planning has recently been gaining in importance in the countries with a developed planned economy and in such states that seriously undertake the step by step introduction of planning. This process will no doubt continue in the future as well, so it will induce both theoreticians and practitioners of economics to research and work more in this field.

It is true, according to experience planning starts with fixing some important index numbers as investments, production, national income etc., it is, however, bound to develop further. The planning and realization of accelerated economic growth presupposes the planning of all elements of a labour process; hence it includes the planning of the most important productive force of society, the planning of man as a productive force in the labour process. We must always bear in mind that man designs new machines, sets up new plants, runs and carries out production. So long-term planning and providing qualified manpower respectively is a fundamental prerequisite for accelerated economic growth.

The planned development of the national intelligentsia and of a staff of qualified manpower is also a major question of national sovereignty. A number of developing countries and my state, too, had to make the following experience: Certain imperialist states utilised their key positions in the training of qualified manpower and in filling qualified posts in order to disorganise the economies of developing countries, (e.g. Cuba,



Congo) by the organised withdrawal of specialists with the aim of exerting pressure on them. The broad and well-planned training and distribution of cadres considering the perspectives proves to be an inevitable basis of secure political and economic development.

Safeguarding the right to work for anybody willing to work is looked upon as a basic issue of progressive social development and freedom of man by us. Manpower planning can be a useful means to eliminate unemployment. To achieve this, there must, however, have been created a considerable state sector in economy which renders it possible to put manpower planning into practice. Should this not be the case the working people might doubt of the use of planned economy at all. For a long time life in the socialist countries has proved that these theses are correct. Lastly there is another aspect emphasising the special importance of manpower planning. Scientific-technical progress involves considerable structural changes in the manpower potential of a country or individual branches of economy. In the field of labour the realization of technical progress involves considering the new conditions. In principle this is a well-known statement. Another question connected with essential economic and political conclusions goes much further: What does man demand of technics? Bearing these aspects in mind manpower planning more and more turns out to be team work which has to be done by economists and technicians in order to turn the processes, effective in the field of manpower, into index numbers of planning. I shall make a few remarks about that a little later.

#### Manpower Planning Demands the Elaboration of a System of Special Balance Sheets and Plans

Accepting the theory and practice of planning in principle results in the conclusion that the system of planning has to be perfected continuously. Planning one field demands planning other fields of social life because all basic economic issues are closely connected with each other. If the national economy is to be planned this task has to be connected with planning in the factories. Short-term planning presupposes long-term planning in its turn and vice versa. As planning develops in breadth and depth a whole system of planning arises.

In principle this is also true in the field of manpower planning. Today the developing countries can plan some basic issues in the field of labour only, but the development will no doubt continue. Manpower planning with the aim of guiding the major processes in the field of labour by the state requires the step by step elaboration of a system of special balance sheets and plans for shorter or longer planning periods.

Now I would like to give an outline of such a system of manpower planning (Manpower planning in the sense of the number of people employed) which has proved good in the German Democratic Republic.



1. Balance sheets of the development of the population, the population in the working age and the working population with a corresponding subdivision according to sex, age, area, etc. Belonging to this, annual and perspective plans have to be worked out; in the G.D.R. in the framework of the so-called General Perspective Planning for a period of about 20 years.
2. Balance sheets of the development of working hours.
3. Balance sheets of the standard and development of the distribution of manpower according to branches of economy, industry respectively. Added to this, annual and perspective plans have to be worked out; furthermore, annual balance sheets, which contain the demand of manpower according to areas and the corresponding covering possibilities.
4. Balance sheets, which especially include the quality aspect of the manpower development: the development of the more important groups of employed in the different branches of economy (production workers, technical staff, economists, administrative personnel, other personnel).

Added to this long-term perspective plans have for the first time been worked out in the G.D.R.

On this basis the following annual and perspective plans are to be worked out:

- a) Plans for the vocational training of workers,
  - b) Plans for the training of a teaching staff with highschool and technical qualification,
  - c) Plans for the qualification of all groups of manpower.
5. Manpower plans for undertakings as foundation for state planning, for the realization of the state planning goals as well as for working organisation within the undertakings (as annual and perspective plans).

Now some comments to the problems of manpower planning.

#### The Basis of Manpower Planning

An efficient manpower planning takes for granted the knowledge of the direction of the economic and technical development; the more exact the knowledge is, the better is the plan.

The planning and organisation of the training of qualified manpower of all groups has to start from the technical necessities, otherwise there is the danger of wrongly conducted training.



As in the capitalist countries a real planning, for example of the vocational training is not possible, an unproductive change from profession to profession, additional time for the initial training, that means waste of social forces and means, are inevitable. In the G.D.R. the requirements for the training of qualified manpower within a period up to 7 years are planned by the undertaking together with a concrete nomenclature. These data are corrected, supplemented and summarized by national economic planning. Planning for longer terms is effected on a national economic level with global index numbers only.

In the developing countries these problems are naturally much more difficult to solve. The bases mentioned are in many cases not yet or only insufficiently existent. Consequently, qualified estimations must be used, taking advantage of corresponding auxiliary methods. These may be:

1. Coefficients of the quantitative and qualitative manpower demand out of the technological plans for industrial objects, provided such plans are existent.
2. Analysis of the empirical data of similar undertakings already existent in the country.
3. Transferring of the original structure of the required manpower according to the experience of foreign undertakings.

#### Planning and Organisation of the Training of Workers

In economic planning of vocational training the following index numbers must be the starting point:

1. The demand of qualified manpower,
2. The real possibilities for the training of qualified manpower - both in material respect and in respect of the actually existent manpower (also balanced as to areas),

The further detailed planning of vocational training of workers has to include:

1. The different kinds of professions on the basis of state nomenclature of the professions,
2. The term of training; that means, the required precourse for planning,
3. People leaving during training time,
4. Eventual compensation demand for qualified manpower already existent, but leaving the working process.



We in the G.D.R. have reached the point where all children have the chance to get 10 or 12 year education respectively in our polytechnical high school a vocational or high school training, respectively, or a training as a skilled worker.

The limited means and possibilities, which the developing countries are still disposing of, require a more rational use. In most of the advanced capitalist countries it is still a fact that the greater part of the future skilled workers get their training in craft undertakings or smaller undertakings. This training is not based on modern technique; this manpower when coming to greater factories has to acquire many new abilities and skills.

Before such relatively developed methods of planning can find application, elementary questions as to the contents - and this will concern most of the developing countries - must be decided.

On the conditions of the period of construction the present qualified manpower, respectively manpower, who can be trained currently, are often not sufficient to satisfy the demands of national economy. A distribution of manpower which is not organised depreciates economic effectiveness. The securing of an accelerated pace of increase requires the concentration of qualified manpower in such spheres of national economy which are most productive for economic development on the whole and for export.

Such a line which is enforced step by step requires the use of state means of manpower planning which is to be arranged with the free choice of the place of work of the citizens. We are working here on the basis of agreements which are signed before the vocational training and which guarantees a sufficient supply of manpower in the central spheres.

A further important question of planning and organization of vocational training is the following: Should we provide for a short-dated and very much specialized vocational training of workers for a relatively broad training of skilled workers with a longer time of training?

The answer to this important question depends upon the conditions. Workers trained in a short time can be trained mostly without special institutions of vocational training and are relatively quickly ready for service. But they can be installed only on the conditions of a corresponding strong division of labour in the plant.

For working in a new place of work there is necessary a new training. Such manpower are generally not able to solve unforeseen problems of production, respective tasks requiring a creative piece of work because of their insufficient qualification.



Qualified skilled workers need a longer time (2-3 years) before they can really be installed. We generally need proper institutions (vocational schools, workshops) for their vocational training. But such manpower can be employed for many kinds of works because of their broad vocational qualification, and they are able to get into their work in the scope of their vocation relatively quickly. They are also able i.g. to master the initial difficulties in new plants, to improvise, etc.

Further the development teaches that skilled workers are increasingly required for equipment on the level of the latest technics. Finally the experiences of the socialist states and in the last time also those of advanced capitalist countries show that an extreme division of labour in the plant and consequently an extreme one-sided vocational specialisation of manpower exerts a negative influence on the development of productivity.

In the first period of construction it is necessary to work with such methods of training which guarantee a start of production as quickly as possible.

Then we should endeavour step by step for such an optimal structure of manpower which is characterized by an important share of skilled workers. With a strong stock of skilled workers the changing demands of production, especially those of most modern technics can be solved also in the time to come.

Of course for such a politics of vocational training on a large scale we require the necessary means. But we must not regard this question too much limited economically, in the bad meaning of the word.

The experiences of the socialist countries teach us that such costs for vocational training, besides the human aspects represent unavoidable investments for a future accelerated increasing of economy. Of course, the number of qualified skilled workers, engineers, scientists, etc. has become a decisive scale of the present and future economic and political power of the country.

In our opinion this is a very irrational procedure which results from the impossibility of planning under capitalism. We concentrate training in those factories where the skilled workers will work later. We proceed in two ways:

1. Training is concentrated in a factory with the best and most recent training facilities.

This has to be guaranteed by planning. Agreements have to be concluded between a number of state factories and the factory doing the training stipulating which workers are to be trained and how they



will be distributed later on. Such a procedure guarantees the maximum utilisation of all resources. It is, however, necessary to re-distribute the workers after training.

2. Training of workers in the plant where they will work later on.

This way offers the advantage that the workers are trained under conditions of their future work. Because of the dispersal of training this way is not fully satisfactory.

We use both these methods, but emphasis lies on the first. I would also like to refer to some special ways of training. Newly set-up plants may recruit the qualified manpower required from existing plants. Planning has of course to provide for such measure well in advance. Worth mentioning is the training of skilled workers abroad.

Speedy Qualification of Manpower and Planning the Qualification

The term qualification is generally understood to comprise the acquiring of some vocational knowledge and abilities as well as the improvement and extending of existing knowledge and abilities in a short time.

In our opinion qualification is a major importance because the continuous development of production and technics requires continuous perfection and improvement of qualification. We have developed a system providing certain steps of qualification for all fields of work. Everybody is given the opportunity to qualify within this system - from unskilled worker to skilled worker, and further to foreman, civil engineer, etc. Here I would like to speak on two methods of speedy qualification of manpower which may also be of importance for developing countries.

If new factories are set up in areas where no or only few skilled workers are available, the following problem is bound to turn up: How is training to be organized so that they can start work after the factory has been completed?

In the German Democratic Republic for example we have recruited workers for an electrical plant; before it started the production, they were qualified outside the factory to do assembly-line jobs before signing the contract of employment.

Workers for more highly-skilled jobs were being trained as the construction of this factory was proceeding.

Another system has proved well, it is the method of the mutual



qualification of workers while production goes on. A skilled worker gets the task to train another worker. Workers do this sometimes as an unpaid service, sometimes they get allowance after reaching certain targets.

At a certain level of economic development the necessity arises to set up plans for the qualification in the factories. We have been doing this planning for a number of years. In our factories the plans for the qualification have been set up according to the balance sheet method.

1. Technical changes and changes in production which will occur in the course of a certain planning period - changes with regards to vocation and qualification can be derived from these,
2. The current level of the qualification of manpower,
3. Measures to be taken with a view to qualification, subdivided into method, time etc.

We are setting up such plans for all fields and groups of manpower.

#### On Some Questions Concerning the Planning of Graduates from High Schools and Technical Schools

It has to be admitted that the present level of planning methods in this field does not cope with the importance of this group of staff. Such planning provides great advantages in the socialist countries, plans concerning cadres, however, mostly give just estimates of the future development which have a certain justification, but on the other hand they are mostly based on past experience. It has not yet been possible to sufficiently utilise the future economic and technical development for the purpose of manpower planning.

In order to create a sound basis for the whole field of planning and distributing cadres we have worked out a nomenclature, covering what qualification is required for posts in the factories e.g. technical manager in a big chemical factory, he should be a graduated chemical engineer holding a diploma of the subject concerned - the commercial manager should hold a diploma of economics, etc.

In this way we have created a basis for estimating the supply and demand for cadres. On this foundation we plan the demand. The demand in the factories in its turn is in principle the basis for the planning of cadres by the educational authorities.

The number of cadres trained cannot meet the demand of the G.D.R. economy. Distribution is done like this. The graduates are to be distributed in such a concentrated and guided way as to ensure maximum benefit for economy.



Special commissions composed of representatives of the training institutions, the future field of employment and the State Planning Commission organise the employment of graduates on the basis of accordance of the individual and social interests the graduates sign contracts, in which they undertake to work in economically important branches for some years.

### On Some Regional Aspects of Manpower Planning

Tasks in the field of manpower planning are of strongly regional character. People live in one region and their ability to move to other places depends largely on this possibility. According to our experience the State here faces great tasks which must form a unit with other economic tasks in the field of planning investment, traffic and housing. This is particularly important if large labour reserves are available in a country.

Due to the regional importance of questions involving manpower, regional manpower balance sheets hold a significant place in the system of balance sheets for certain regions.

The system of regional manpower balance sheets comprises the following main issues:

1. Level and development of the population and of the population in working age within the region,
2. The demand for manpower in the region,
3. How to meet the demand, a demand or surplus of manpower can occur.

Such regional surveys of manpower are absolutely necessary in order for the state to exert some influence in the development of manpower within various regions. In principle it is of course imperative that planning includes all fields employing manpower. That is why in the G.D.R. all undertakings, state, semi-state, cooperatives and private undertakings send their proposals regarding manpower to the local government. On such a basis the state can pursue sound policies regarding manpower. So well-formed measures for directing manpower, for active employment policies etc. can be taken.

### Questions Concerning the Further Development of Long-Term Planning In the Field of Manpower

The socialist countries work out perspective plans for a twenty year period. This is a new field of planning. Some questions concerning long-term planning were discussed at a symposium of the High School for Economics in 1960 (See papers on "Volkswirtschaftsplanung", published by "Die Wirtschaft", Berlin.)



The central issue is to determine the future economic and technical development and to express it in relevant index numbers of manpower planning. Though such a far-reaching programme of perspective planning is not required for developing countries because of their specific conditions, the question of the inter-relationship of technical development and manpower planning is of significance.

In the framework of the work at the General Perspective Plan the following index numbers have been worked out for manpower planning on the basis of the development of the population, labour productivity, production and technics.

1. The perspective development of the total number of people employed, of industrial branches and regions;
2. The development of the various groups of manpower according to groups, workers engaged in production, technical staff, economists, administrative personnel, etc.; of special significance among these are;  
planning the structure of qualification of workers engaged in production (unskilled, trained, fully-skilled);  
planning the trend of the most important vocations of workers engaged in production;  
planning the share of graduates from high schools and technical schools per 1000 workers employed, subdivided according to their subjects.

We shall be busy on this work for a long time to come. We are just at the beginning and have to collect experience. I should, however, like to touch some problems.

A basic shortcoming of our manpower planning consisted in the insufficient links with the technical development. Now planning is given the task to determine the technical development (mechanisation, automation, new techniques, plastics, etc.) within the planning period both quantitatively and qualitatively as exactly as possible and to work out the manpower plan on the basis of these data.

In the first stage two methods were used:

1. Planning based on the data of representative factories. The starting point was the technical pattern of the branch concerned, then the changes in the manpower structure were estimated, and lastly the results were generalised for the entire branch.
2. Analysis of the level of production of technics in the branch concerned and an overall estimate of changes in the manpower structure on the basis of the future development of technics and production.



This procedure has provided the first useful results. But we want to go further and look for index numbers of technical development which can be turned either directly or by using mathematical procedures into index numbers of manpower planning. In this respect the effects of the future development on the qualification of manpower are particularly important. Let me illustrate these problems by quoting some examples.

The economic analysis for example shows that there is a particularly close link between the development of investments (essentially that part contributing to the further increase of labour productivity) and the structure of the qualification of workers engaged in production. The more rapid the technical development, the more rapidly grows the share of qualified skilled workers. This relationship supplies data suited for overall planning.

These data may be specified by:

1. Index numbers covering changes in the structure of machinery and equipment (share of universal machinery, semi-automatic and fully-automatic machines etc.)
2. Index numbers covering changes in the structure of ways of production (share of individual units, mass production, etc.) This provided conclusions for altering the division of labour within the factory.

Other important indications for manpower planning result from changes in the structure of the technological main trends in a branch of industry. These changes give direct information on changes in the structure of employment (e.g. transition from using wood and metal to the application of plastics and relevant changes in the demand required for the vocation concerned.)

This is the direction we shall follow to work out a system of technical index numbers which can be used as a basis for planning manpower.



THE INSTITUTE OF  
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J. MOHAMED MAZHAR ZAMALEK

