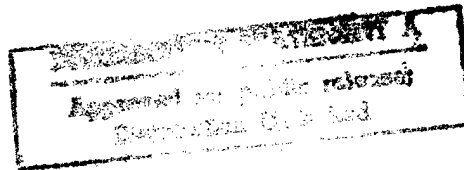


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USSR Report

HUMAN RESOURCES

No. 69



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LABOR

SELECTED ARTICLES ON AGRICULTURAL WAGES, BONUSES

Experimental Time-Rate Advances

Dushanbe SEL'SKOYE KHOZYAYSTVO TADZHIKISTANA in Russian No 5, May 82 pp 43-47

[Article by R. Rachkov, chief of the Administration for Organization of Norm Setting and Remuneration of the TaSSR Ministry of Agriculture, and A. Urunbayev and A. Rakhimov, candidates of economic sciences, TNIIZ [Tajik Scientific Research Institute of Cropping]: "Pay System With Advances Based on Time Rather Than Output"]

[Text] The decisions of the 26th CPSU Congress call for strengthening the dependence of every worker's wage and bonuses on his personal contribution and work and on the end results of the work of the collective, for increasing their role as incentives in raising labor productivity, in improving product quality and in conservation of all types of resources.

At the present time wage advances are made at piece rates in the payment for the job plus bonus system that is most widespread on Tajikistan's sovkhozes. By no means does this system always effectively arouse workers' motivation to increase the yield of farm crops and to improve the quality of the product. The reason for this is that combining remuneration for the job plus bonuses with advances based on piece rates incorporate serious contradictions: payment during the year for output encourages the quantitative aspect of the work, and payment for the product the qualitative aspect.

Since the incentives head in different directions, they sometimes contradict and detract from one another. As a result every worker must constantly solve the problem: which of them is to be given preference? On the one hand the worker is materially motivated to increase the quantitative indicators, since the wage is directly proportional to the volume of work done. On the other he knows that not uncommonly high output is achieved by a drop in the quality of work. Yet it is quality that is the pledge of high yields. But it is not the yield, but the volume of work done, that mostly affects the size of earnings. That is why piece rate remuneration to take into account individual output has a stronger effect on the worker's interest than the supplement paid for the product. Advances of wages made at piece rates for the amount of work done, which vigorously encourages increased output, not uncommonly promotes a drop in quality.

That is why one of the chief problems in agriculture at the present time is to strengthen the role of incentives in raising the quality of work and the motivation of workers to achieve a high yield.

In the present stage of economic development collective forms of the organization of work and of work incentives are becoming increasingly widespread.

The system of payment for the job plus bonus combined with advancement of wages for time worked (not for partial completion or output) most fully suits the task of strengthening the dependence [of earnings] on work related to the end results of agricultural production. The collegium of the TaSSR Ministry of Agriculture took up this question and recommended widespread introduction of this system on the republic's kolkhozes and sovkhozes.

In this system of remuneration and organization of work the principal criterion for determining the wage is the amount of the product obtained adjusted for its quality. During the entire period of field work field crop workers are paid on a time-rate basis, no daily records are kept on the amount of work done, but the final settlement is made at the end of the year on the basis of unit prices for the product obtained. Experience has shown that when workers are paid advances on a time basis they show greater concern for the quality of their work, since the principal opportunity for increasing their earnings is related to obtaining the largest possible yield. Thus by and large full correspondence is achieved between personal and collective interests.

As an experiment in 1981 work teams and units were organized with payment for the job plus bonus and wage advances based on time rate in raising cotton on the sovkhozes "Yavan-2" and "Yavan-5" in Yavanskiy Rayon; Sovkhoz imeni Kirov in Vakhshskiy Rayon, and Sovkhoz imeni Turdyev in Moskovskiy Rayon. The same system was introduced in a work team raising animal feed on the "Kyzyl-Yulduz" Sovkhoz in Khodzentskiy Rayon.

All the work teams receiving time-rate advances had higher economic indicators than the work teams receiving piece-rate advances. For instance, in the time-rate work team of Comrade K. Madzhikov on the "Yavan-2" Sovkhoz the yield was 4 percent higher than the conventional work team of B. Normatov, the work load per worker in terms of crop area was 3.28 and 2.38 hectares, respectively, average annual remuneration was 146 and 122 rubles, and the output of cotton per worker was 10.2 and 7.4 tons and 5,795 and 4,134 rubles, respectively.

We will illustrate the new system's effectiveness in more detail with the example of the Sovkhoz imeni Kirov in Vakhshskiy Rayon.

A unit of 16 persons was organized on the farm. It was assigned 43 hectares of cotton. The planned yield was 34.7 quintals per hectare, the value of gross output per hectare 3,416 rubles, the wage fund on the flowchart 360.4 rubles, in t.ch. [not further identified] in the preharvest period--190 rubles.

As the figures in the table show, all the economic indicators of M. Zul'fikarov's work team were higher than the average figures for the

sovkhoz, although before the transition to the time-rate system this work team had only average economic indicators.

Effectiveness of Time-Rate Remuneration in Cotton Growing on the Sovkhoz imeni Kirov in Vakhshskiy Rayon

<u>Indicator</u>	<u>Time-Rate Work Team (work team leader M. Zul'fikarov)</u>		<u>Average for Entire Sovkhoz</u>	
	<u>Plan</u>	<u>Actual</u>	<u>Plan</u>	<u>Actual</u>
Area, hectares	43.00	43.00	3,027.00	3,027.00
Yield, quintals/hectare	34.70	36.40	33.90	36.20
Gross harvest, tons	149.20	156.50	10,261.50	10,957.70
Work load per worker, area of cotton crop, hectares	2.69	2.69	1.86	1.55
Value of sales, thousands of rubles	146.90	148.40	9,760.20	10,167.40
Productivity (output per worker), rubles	9,181.00	9,275.00	5,988.00	5,227.00
Remuneration per quintal of raw cotton, rubles	19.40	19.10	21.50	22.50
Production cost per quintal of cotton, rubles (direct costs)	25.24	22.73	28.15	28.19
Cotton production per average annual worker, tons	9.32	9.78	6.29	5.63
Average monthly remuneration per worker, rubles	151.00	156.00	113.00	106.00

Adoption of time-rate remuneration sharply reduced the number of people brought in from outside to carry out farming operations. For instance, in the work team of M. Zul'fikarov all the work in the preharvest period was done by the team itself, whereas in the sovkhoz at large about 34 percent of the production operations are done by recruiting other workers.

The factors that had the greatest impact on the economic indicators of the time-rate work team were these: its comparatively small size, its high degree of independence in doing its work, the keeping of records of time worked for time-rate payment, the right of the work team's council to invoke material penalties and to set the rates for work and the right of the entire work team to distribute a portion of the saving on the wage fund for workers brought in from outside.

A study of experience in administering the pay system of remuneration by the job plus bonus combined with payment of time-rate advances afforded the possibility of stating certain general organizational principles.

Work teams or units are organized voluntarily on cost-accounting (khozraschet) principles so that they have a permanent membership of workers with the appropriate skills. The land and the necessary equipment depending on the technology for raising the crops and the amount of work are assigned to the work team (unit) for the entire cycle in cotton crop rotation.

The number of workers is determined on the basis of the standard work load. Workers' desires to work together must be taken into account in order to create an atmosphere of trust and mutual assistance in the units.

Collectives made up voluntarily can work successfully both as specialized work teams (units) raising one crop and also general-purpose work teams raising several crops.

As a rule the units are assigned only the basic production functions. All the auxiliary operations are done by other subdivisions. In rayons which have an interfarm association for mechanization and electrification of agricultural production, a request is regularly submitted for the supply of equipment by models.

In order to ensure a uniform load on the members of the work team or unit (with their consent) in a number of cases they are assigned duties outside the work team or unit in addition to their basic duties. And, conversely, in the "peak" period for performance of certain operations the necessary number of people are enlisted from outside.

A council is organized in the work team. Its members include specialists, the work team leader and production front rankers. The council has the right to determine the size of supplements and bonuses for the product on the basis of the unit member's actual contribution to the overall results and on the basis of adherence to work discipline and work rules. The council submits recommendations to the sovkhos management on raising or lowering the rating of particular workers in the unit.

If the work team is headed by a leader who continues to do his work as a member of the work team, he is paid a supplement ranging between 15 and 25 percent of the base wage. Irrigation workers in Classes I and II are paid premiums for their respective ratings in addition to the time-rate advance.

The question of using time-rate wage advances of workers in the course of the year is not a fundamentally new one. The standard regulation entitled "On Conditions for Remuneration of Workers of Sovkhozes and Other State Agricultural Enterprises" provides for the possibility of remunerating the work of sovkhos workers on a time basis for time worked according to pay-schedule rates (the respective wage-rate tables): for ratings III-IV in the case of tractor and machine operators and irrigation workers; for ratings III-V in the case of workers employed at unmechanized jobs depending on the average rating, the volume and quality of work done, the worker's skill, the types or models of agricultural machines and implements used.

The size of the time-rate advance is determined as follows: the work team or unit leader if he is not relieved of his principal job and is an irrigation worker is paid in rating VI. The total payment according to the rate schedule (4.65×30 days) would be 140 rubles, and the supplement for supervision at 15 percent would be 21 rubles. The entire monthly advance would be 161 rubles. The monthly advance for machine operators and workers is determined in the same way. In addition, a supplement is added to the advance for rating class,

for length of service, and so on. A worker is paid a quality incentive for excellent performance of his assignment. But the size of the supplement must not exceed the base wage for 1.5 months.

In the time-rate subdivisions 25-30 percent of the total wage fund determined according to the flowchart of the given work team or unit is set aside in the reserve fund of the work teams or units, which is used when necessary to remunerate the work of workers enlisted from outside according to the quotas and piece rates in effect on the farms.

If the work team or unit gets by on its own resources, then the reserve fund is distributed among its members at the end of the year in proportion to the time rate at which they are paid.

If the members of a time-rate work team or unit have been enlisted to work in other subdivisions of the farm, they receive a time-rate advance in the work team or unit, while the piece-rate earnings from the other subdivision are credited to the fund for remuneration of the time-rate work team (unit) and distributed at the end of the year among all the workers in proportion to their advance.

A work agreement is concluded between the management of the sovkhos and the work team or unit which indicates the obligations of both sides. The work team or unit commits itself to performing all the basic operations with its own resources, to fulfilling and overfulfilling assignments for the yield, for reduction of labor and material costs, for optimum use of the land and equipment assigned, and for thrifty and economical use of supplies. For its part the management commits itself to promptly supply the work team equipment, seed, chemicals and fertilizer, water for irrigation, etc., to allocate if necessary the necessary number of temporary workers, to guarantee preservation of the crop, to haul the entire harvest from the field in good time, and for that purpose to allocate the necessary number of vehicles during the hauling period.

The final calculations concerning output after the crop has been harvested are made in the work team or unit. The advance which has been paid and the wages of enlisted workers according to the wage schedule are subtracted from the total amount calculated from the planned unit crisis. At the end of the year the payment for the product and the total accruing amount of bonuses are distributed among the members of the work team or unit in proportion to the size of their time-rate advance.

The transition to remuneration on a time basis requires appropriate preparatory work. An indiscriminate large-scale transition to the payment of advances on a time basis, and especially a narrow administrative approach and failure to observe the necessary prerequisites for optimum solution of the aspects discussed above, could result in dissolution of the work team and could even discredit this progressive form of the organization of work and of remuneration.

Before the new type of work team or unit is created, an analysis must be made of the agricultural equipment to be used in raising the crop, the level of yield that has been attained and the output over the last 3-5 years, an output quotas, the standard size of crop area per worker for the various crops, the amount of equipment necessary and the number of workers should be reviewed.

Several units can be consolidated to form large work teams. In this case the units represent an organizational form of work within the work team and are directly subordinate to the leader of the field crop work team.

Widespread adoption of this form of the organization of work and of remuneration in agriculture contributes to the growth of labor productivity and links remuneration most closely to the end results of production.

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Sovkhoz Pay Changes Explained

Alma Ata SEL'SKOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 6, Jun 82 pp 44-45

[Text] Letters written by people who have questions about the new regulation on remuneration of sovkhoz personnel have been coming into the editors from many sovkhozes in various oblasts of Kazakhstan.

The questions of our readers K. Zhumabekov of Chimkent Oblast, T. Sadirbekov of Karaganda Oblast and Zh. Baygenzhenov of Taldy-Kurgan Oblast are answered by L. Neranova, chief economist of the Administration for the Organization of Work, Norm Setting and Remuneration of the KaSSR Ministry of Agriculture.

In November 1980 the CPSU Central Committee and USSR Council of Ministers adopted a decree entitled "On Improvement of Planning and Economic Stimulation of Production and Procurements of Agricultural Products" in order to further improve planning and economic stimulation of the development of agriculture, which are aimed at increasing the production and procurements of agricultural products and at strengthening the economic condition of kolkhozes and sovkhozes.

This decree has made important changes in the procedure in effect for remuneration and payment of bonuses to workers of sovkhozes and other state agricultural enterprises.

In connection with the changes envisaged by this decree the USSR State Committee for Labor and Social Problems and the AUCCTU Presidium approved in May 1981 new standard regulations on remuneration of workers and on remuneration of the work of supervisory personnel, specialists and employees of sovkhozes and other state agricultural enterprises.

The standard regulation on remuneration of sovkhoz workers has radically changed the procedure of the piece-rate plus bonus system for remuneration of workers employed in plant growing.

Workers are now remunerated as follows:

- a) for the volume of work done in the work team, detachment or unit--at piece-rate unit prices, which are determined from wage rates and output quotas;
- b) for the product obtained--at unit prices (in physical or value terms) per unit of the product, which is established on the basis of the output plan and 25 percent of the wage fund based on the rate schedule. Here the wage fund based on the rate schedule includes supplemental payment (incentives), higher remuneration for harvesting the crop, and the premium paid for skill rating class.

Workers are remunerated according to this system when the work team, detachment or unit fulfills the assigned annual production plan at a level of at least 80 percent or at a level of at least 50 percent on sovkhozes located in zones of insufficient or excess moisture (a list of which has been approved by the KaSSR Council of Ministers).

Up until 1981 farms located in areas of insufficient moisture, enumerated on a specific list approved by the government of the republic, were required to use the piece-rate plus bonus system of remuneration in remunerating workers employed in plant growing.

Beginning in 1981 every farm, including those on the list, may decide itself the question of selection of the system for remuneration of workers employed in field cropping (job-payment plus bonus or piece-rate plus bonus).

The payment of premiums for length of service has now been introduced for horse herdsman employed in horse breeding on sovkhozes using desert, semidesert and mountain pastures in the following proportions: 12 percent for those who have worked continuously on the given sovkhoz between 3 and 5 years; 15 for length of service from 5 to 10 years; 20 for length of service from 10 to 15 years; and 25 percent for over 15 years.

The union republic's council of ministers classifies pastures as desert, semi-desert and mountain. This premium is paid in a lump sum once a year.

Sovkhoz directors have been granted the right, with consent of the worker committee of the trade union, to award class ratings (classes I and II) to specialists heading work teams in plant growing and animal husbandry who have demonstrated their effectiveness and who have high qualification, in which case premiums are added to the wage in respective proportions of up to 50 percent and up to 30 percent of the salary or wage rate.

Sovkhoz directors have also been granted the right, with consent of worker committees, to pay workers a supplement for combining occupations, for expanding their service zones and for performing an assigned amount of work with fewer workers in the amount of up to 50 percent of the wage rate for the principal job depending on the complexity, character and amount of work done; the purpose of this was to increase the motivation of work collectives of sovkhozes to speed up the growth of labor productivity and to reduce personnel turnover.

The new standard regulation extends the right to sovkhos directors to introduce the awarding of bonuses to workers according to indicators worked out on the farm instead of the procedure in effect; this is to take into account the specific conditions of production and requires permission of the superior authority and consent of the respective trade union committee.

Broad rights have been granted to the councils of production work teams, detachments and units. These councils distribute among their members the payment (supplement) for the product and bonuses accruing to the subdivision so as to take into account the work team member's actual contribution to the overall results and his observance of work discipline and work rules.

Important changes have also been made in the procedure for remuneration of supervisory personnel, specialists and employees of sovkhoses.

Sovkhos directors have been granted the right to pay premiums from the saving on the wage fund achieved against the standard or planned wage fund on the basis of their high qualifications in an amount not to exceed 30 percent of the salary and within the limits of 1 percent of the sovkhos's wage fund.

A new procedure has been adopted for awarding bonuses to directors, deputy directors, shop chiefs who are chief specialists, chief bookkeepers and specialists.

The question of awarding bonuses on the basis of performance of the respective branches (shops) and production sections to shop chiefs who are also chief specialists is decided by the director of the superior organization, and in the case of other personnel it is decided by the sovkhos director.

In the bonus system for shop chiefs who are chief specialists based on the performance of the branch, the bonus is paid for the growth of the volume of production of farm products of that respective branch.

In accordance with §3.14 of the standard regulation, bonuses for the growth of profit and for profit earned are restricted on sovkhoses in virgin land areas to six monthly salaries, and on sovkhoses not classified among virgin land sovkhoses to five salaries, and all forms of bonuses, including bonuses for the growth of sales (§3.15) are respectively limited to 70 and 60 percent for supervisory personnel and for all other personnel to 40 percent of the planned wages calculated from monthly salaries.

Supervisory personnel and specialists of sovkhoses who have overspent the wage fund are deprived of bonuses for the growth of sales (output), for maintaining the previously attained level of sales (output), and for reduction of losses, and they are also deprived of bonuses under special bonus systems which are paid from the wage fund, during the period until the overexpenditure is made up, and the bonuses for profit (growth and profit earned) payable to these personnel are reduced by the sum total of overexpenditure allowed, but not by more than 50 percent.

If within a period of 6 months the sovkhos entirely reimburses overexpenditure of the wage fund, these personnel are paid up to 50 percent of the bonus accruing to them but not paid in the previous period because of the overexpenditure.

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Machine Operators Issued Grain

Moscow SEL'SKAYA ZHIZN' in Russian 3 Aug 82 p 4

[Article* by V. Zhurikov, chief of the Main Administration for Labor and Social Problems of the USSR Ministry of Agriculture: "Grain for Successful Performance"]

[Text] Tractor-machine operators of sovkhoses, other state agricultural enterprises and harvesting-transport complexes (detachments) of rayon associations of Goskomsel'khoztekhnika [State Committee for Supply of Production Equipment for Agriculture], and also tractor-machine operators and other machine operators assigned to bring in the harvest and to work on combines and other harvesting units harvesting grain and legume crops, potatoes, seed of perennial grasses, long-stable flax fiber, and silage and fodder crops are issued from 2 to 4 quintals of grain without payment for fulfilling the seasonal quota established on the farm when the crop is harvested at a good level of quality and without losses.

Other personnel working on combines and other harvesting units are issued grain as follows: a tractor-machine operator working on a tractor in the proportion of 80 percent, an assistant tractor-machine operator working on a combine and a truck driver in the amount of 70 percent each of the amount of grain accruing to the tractor-machine operator working on a combine or other harvesting unit, and the master adjuster serving the harvesting units in the proportion of 50 percent of the amount of grain accruing on the average to tractor-machine operators working on these units.

Moreover, should the tractor-machine operators and other personnel so desire, payment in kind may be replaced by money payment at the value of the grain to which they are entitled on the basis of purchase prices.

Tractor-machine operators working on reapers when the grain is mowed into windrows on farms of the Nonchernozem Zone of RSFSR, Siberia, the Urals, the Far East and virgin-land areas of Kazakhstan during the first 7 days, and in other regions during the first 5 days of the large-scale harvesting of every crop, shall be issued up to 0.5 kg of grain depending on the yield and conditions of the harvest, and when they are mowing buckwheat--up to 1.5 kg of grain, for each hectare harvested.

* This feature of the paper, which is entitled "We Consult a Lawyer," is furnished by the Legal Administration of the USSR Ministry of Agriculture.

The quotas and procedure for issuing the grain are established for the sovkhozes and other state agricultural enterprises within the limits of these proportions by councils of ministers of union republics.

The RSFSR Council of Ministers and KaSSR Council of Ministers have been extended the right to permit kolkhozes, sovkhozes and other state agricultural enterprises to sell grain for cash at state purchase prices to tractor-machine operators and assistant tractor-machine operators who have come to harvest the crop in virgin-land regions of RSFSR and KaSSR and who have fulfilled the seasonal output quota on combines in those regions--in an amount not to exceed 10 quintals, and to sell grain to tractor-machine operators and assistant tractor-machine operators who have not fulfilled the seasonal quota a smaller amount at the discretion of the sovkhoz director or kolkhoz board as a function of fulfillment of the seasonal output quota on combines.

The USSR Ministry of Procurements has been granted permission as an exception to accept in 1982 from tractor-machine operators, assistant tractor-machine operators and truck drivers coming to harvest the crop in virgin-land regions of RSFSR and KaSSR the grain they have earned at grain-receiving enterprises at stations and docks in an amount up to 14 quintals, and from those coming to other regions to bring in the harvest--up to 4 quintals from each provided they submit papers from farms on the amount of grain earned in harvesting the 1982 crop, and subsequently issue them an equal amount of grain at the place of their permanent residence.

Councils of ministers of union republics have been extended the right to allow sovkhozes and other state agricultural enterprises to sell to tractor-machine operators employed in doing early fall plowing up to 7 kg of grain at the purchase price for each shift output quota fulfilled during a period of 30 days from the beginning of the large-scale harvest of the relevant crop and up to 5 kg in the subsequent period provided a high standard is met in the quality of work.

Kolkhozes are recommended to apply this measure in awarding material incentives to tractor-machine operators performing the operations of fall and winter plowing.

In 1982 sovkhozes and other state agricultural enterprises have been granted permission to sell to tractor-machine operators employed in plowing the soil for planting winter crops and in planting winter crops up to 7 kg of grain (at the purchase price) for every shift output quota fulfilled in plowing during a period of 30 days from commencement of the large-scale harvest of the previous crop and during the first 10 days of planting winter crops, and up to 5 kg in the subsequent period of plowing and planting provided a high standard is met in the quality of work.

Incentives for New Technology

Moscow EKONOMICHESKAYA GAZETA in Russian No 19, May 82 p 16

[Article by M. Tikunov, senior scientific associate of the Scientific Research Financial Institute of the USSR Ministry of Finance: "They Are Forgetting About the Incentives"]

[Text] In accordance with the regulation, sovkhoz personnel of the system of the USSR Ministry of Agriculture and the USSR Ministry of Fruit and Vegetable Industry are now paid material incentives for all work in creating and applying new technology and progressive technological procedures, methods of organization of work and other measures aimed at increasing production efficiency and lowering costs. The bonuses are paid out of specific deductions in the proportion of 0.2 percent of the planned wage fund of the sovkhoz attributable to the production cost. The bonuses are awarded for measures envisaged in the plan and approved by the superior organization.

There are also quite a few sovkhozes in the system of the USSR Ministry of Food Industry. They number nearly 1,500. They are components of various agroindustrial associations. But the organization of the application of new technology and the awarding of bonuses for the results of that work have essentially been left to themselves in this case. Personnel of agroindustrial associations are paid incentives for application of new technology mainly for the sector "industry," and even then not for all the innovations applied by any means.

Of all the agroindustrial associations and committees only RSFSR State Committee for the Grapegrowing and Winemaking Industry has included on the report of fulfillment of the plan for application of new technology measures for the agricultural sector, where the results were a labor saving of 4,900 persons, and the economic benefit was 2.6 million rubles. In all, 22,000 rubles were spent for awarding bonuses on those sovkhozes for application of new technology; that is less than 1 percent of the total amount of the economic benefit. This amount cannot, of course, act as an effective incentive. The bonus fund for application of new technology is not created at all on many sovkhozes of the food industry. Perhaps this is one of the important reasons why 67,000 out of the 100,000 workers in plant growing are engaged at manual labor?

On the basis of the temporary regulation on the agroindustrial association approved by the USSR Ministry of Food Industry in March 1979 one of the main tasks of these economic entities is assumed to be extensive introduction of the advances of science and technology and progressive know-how, as well as reduction of the time it takes to apply them to production. A specific bonus fund must be created in the associations for this purpose. But such a fund is not formed, for example, in the Vinnitsa production and farming association "Ukrsakharprom."

The regulation on bonuses for application of new technology provides that the size of bonuses be broken down to production collectives on the basis of prior calculations of the economic benefit. But this procedure is not adhered to.

Postponement of dates for payment of bonuses for application of new technology diminishes the motivation of work collectives to carry out these measures.

In 1970 the USSR State Committee for Labor and Social Problems allowed bonuses to be paid from the resources of the centralized ministry fund to workers of the production trusts of sovkhozes who took an active part in creating and applying new technology. But no mention was made of incentives for the personnel of other economic entities, for example, agroindustrial production associations with a separate management apparatus. Meanwhile their principal function consists of organizing the introduction of new equipment, technology, and efficient forms of work and management. Yet they have no motivation at all, and this is undoubtedly one of the reasons for slow application of new technology in agriculture and the related branches of agroindustrial associations. It would seem that this procedure needs to be changed.

In addition, by contrast with sovkhozes industrial enterprises of agroindustrial associations have been converted to the cost-accounting (khozraschet) system for the organization of work to create, put into production and apply new technology on the basis of job orders (contracts). Additional deductions are made to the material incentive fund from the profit achieved through the actual reduction of production cost (job cost) thanks to the use of progressive solutions so that bonuses can be paid to personnel who participate directly in measures to create and introduce new technology. In our opinion the cost-accounting principles for organization of efforts to apply new technology which are operative in industrial enterprises in the system of the Ministry of Food Industry should also be extended to their sovkhozes.

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LABOR

PROBLEM OF REDUCING LABOR INTENSIVENESS IN AGRICULTURE

Moscow IZVESTIYA AKADEMII NAUK SSSR: SERIYA EKONOMICHESKAYA in Russian No 4, Jul-Aug 82 pp 31-37

[Article by V. N. Orlov]

[Text] The article analyzes the principal trends in the change of the material and technical conditions and performance indicators of agricultural production--yield, productivity and labor expenditures per unit of area cultivated, per head of livestock tended, or per quintal of output. Reduction of the manpower shortage in the sector involves mobilizing the potential that exists for reducing the technological labor intensiveness of production by harmonizing technical, technological and organizational factors and by restricting the extensive directions for increasing the volume of output. An important place in performance of this task is given to improving the system of planning, recording and monitoring labor intensiveness at various organizational levels of management, along with the use of sound standards oriented toward the optimum organizational and technological solutions under the specific natural and technical conditions.

The problem of raising the general efficiency of agriculture is inseparably bound up with raising the efficiency of labor in that sector--with a faster rise of labor productivity and optimum utilization of labor resources.

The essence of the problem lies in the sizable differences in growth rates of the material and technical base of socialized agricultural production, of the rise of labor productivity and of the reduction of overall labor intensiveness, which at a time when reduction of the population and of labor resources is typical of rural localities, is increasing the strain on the labor balance, is worsening the seasonal manpower shortage and on a number of farms and in a number of regions is even aggravating the general manpower shortage.

The period since the March (1965) Plenum of the CPSU Central Committee, which drafted the foundation for the long-range comprehensive program for development of agricultural production, has been characterized by well-known advances:

the material and technical base of kolkhozes and sovkhozes has been strengthened, the volume of output has grown and become more stable, and important socioeconomic measures have been carried out.

By the beginning of 1980 the fixed capital of agricultural enterprises relative to land area had increased more than 2.7-fold, the power supply on the same basis 2.5-fold, and the amount of capital and power on a per worker basis increased 3.9- and 3-fold, respectively. The average annual volume of the gross output in the socialized sector of agriculture in the 10th Five-Year Plan was approximately 170 percent of the 1961-1965 level.

Along with an increase in the volume of output there was also a rise of labor productivity; at the present time 11 workers in the sector produce the same output previously produced by 20.

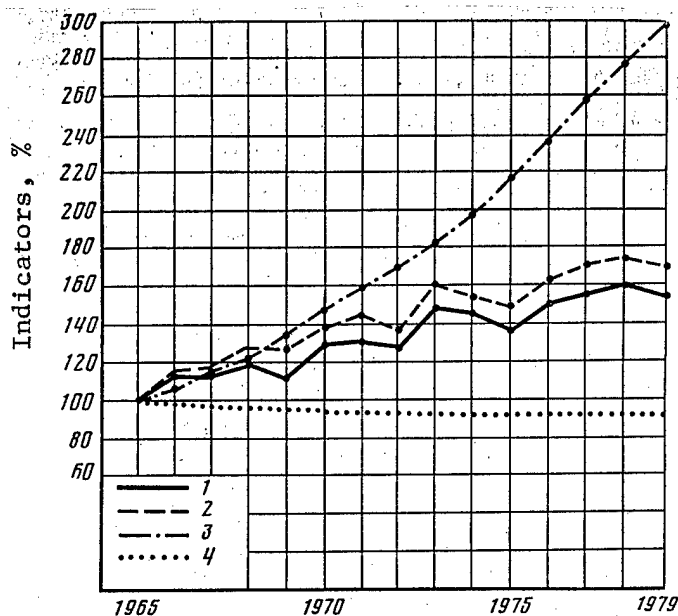
At the same time there are serious disproportions in the sector's development which need to be dealt with without delay.

The graph shows indicators characterizing the dynamic behavior of the volume of output, the power-worker ratio and labor productivity, as well as the size of the labor force of the country's agricultural enterprises over the period 1965-1979. We should first of all identify the very close and for all practical purposes functional relationship over the entire period under analysis between the labor productivity figures and those for the volume of agricultural output, whereas the a priori relationship between the power-worker and capital-worker ratios on the one hand and labor productivity on the other can be followed only as a tendency. Calculations indicate that over the 1966-1979 period for every 1-percent increase in the capital-worker and power-worker ratios of kolkhozes and sovkhozes the growth of labor productivity averaged 0.28 and 0.42 percent, with a certain drop in the middle of the period under analysis* and a rising tendency toward the end.

Serious attention deserves to be paid to the situation where the regular growth of the capital-worker and power-worker ratios is not at present accompanied by favorable qualitative shifts in the dynamic behavior of labor productivity: the average annual rates of its growth on a per-worker basis were 5.3 percent in the 8th, 4 percent in the 9th and only about 3 percent in the 10th Five-Year Plan, and they were still lower on the basis of 1 man-hour of labor expenditure.

* For the sake of comparison we should note that in the United States over the 1940-1970 period, when the average annual growth rates of fixed capital--production buildings, machines and machinery per worker--were 5.9 percent, the growth rates of labor productivity were 4.9 percent (average ratio--1:0.83--with a stable rise toward the end of the period). Similar relationships over a period of more than 20 years occurred in Canada; in West Germany over the 1956-1970 period the average annual growth of labor productivity was higher than the growth of the value of farm structures, machines and equipment, and productive livestock.

Dynamic Behavior of Principal Indicators of the Development of Agricultural Production on USSR Kolkhozes and Sovkhozes



[Legend: 1--Output; 2--Labor productivity; 3--Power-per-worker ratio; 4--Size of labor force]

A typical feature of the period under analysis is the extremely high variation of the dynamic indicators of labor productivity in agriculture from one region of the country to another though the rates of material and technical reequipping of the sector were comparable: in particular figures on the amount of fixed capital and the amount of power relative to land area and the size of the work force. On the whole over the 1966-1979 period average annual growth rates of labor productivity varied from 5.3 to 6.4 percent in BSSR and the Baltic union republics to 2.5-1.7 percent in the Central Asian union republics. If we note in the first group a rather stable tendency toward higher rates, in the latter group the average annual growth of labor productivity over the 1976-1979 period was as follows: 1 in TaSSR, 0.2 percent in KiSSR (there was no growth in TuSSR).

The relationship between the growth rates of the volume of agricultural output and labor productivity predetermines the dynamic pattern of the size of the labor force employed in the sector. After a rather vigorous drop in both the total labor force and also the number of workers directly employed in agricultural production (1.2 and 1.8 million persons, respectively, in the 8th Five-Year Plan), at the beginning of the seventies the displacement of manpower in the sector of agriculture dropped back essentially. Moreover, in recent years the opposite process has been developing vigorously: the scale of employment in agriculture of the work of workers recruited from other sectors and spheres of the application of labor had by 1975 doubled over the 1966-1970 period, and by the end of the 10th Five-Year Plan it had tripled, reaching in absolute terms 1.5 million persons, which, when one takes into account the

peculiarities in the organization of this process, means that 18-20 million persons were taken away from other sectors of the economy for 1 month.

A comparative analysis of the dynamic behavior of the indicators (see the figure) also indicates a certain contradiction in their relationships: when the rise of labor productivity is faster than the growth rates of the volume of output and the size of the labor force remains practically stable, we do not expect there to be a shortage of manpower in the sector. All of this makes it necessary to examine in more detail the condition of labor productivity and its determining factors.

The economic essence of labor productivity is expressed by the quantitative relation between the volume of output and the expenditures of labor to producers ($P = O/T$). And that gives rise to the basic directions of the rise of labor productivity: a) predominant increase of the volume of production on the basis of a higher yield of agricultural crops and higher productivity of livestock; b) reduction of expenditures of labor to cultivate the unit of land area, to tend one head of livestock and poultry (reduction of the technological labor intensiveness of production).

In the first case the rise of labor productivity is expressed in a reduction of expenditures of labor per unit output: total labor intensiveness of production and corresponding need for manpower may even increase. In the latter case, when there is a drop in the technological labor intensiveness, the overall expenditures of labor also drop, that is, the labor saving is not only relative, but also absolute.

As a rule the two directions are pursued in the production activity of kolkhozes and sovkhozes, but their roles in forming the level and growth rates of labor productivity are uneven both from branch to branch and also from region to region. It is a general pattern for the significance of technological labor intensiveness to increase with a rise in the absolute level of the yield of agricultural crops and productive livestock.*

The figures in the table allow us to evaluate the situation that has come about both on a retrospective and prospective basis in the example of kolkhozes and sovkhozes in the country's largest region--RSFSR.

We should note first of all that the tendency of a substantial increase in the yield of principal farm crops and the productivity of livestock evident when we compare the 1966-1970 period to the previous period (a rise of 30-45 percent in the yield of grains, potatoes, sugar beets and vegetables, a rise of 16-19 percent of dairy cow production) has not developed over the past decade.

* In certain branches and farms even at the present time the drop in technological labor intensiveness of production is the main direction and essentially the only one in the rise of labor productivity. This applies, for example, to industrialized poultry raising as a whole, to farms with an annual milk production per dairy cow of 5,000-5,500 kg, and elsewhere the level of productivity and yield already attained is close to the biological--or, more accurately, the economically feasible--limit.

Moreover, the yield of potatoes, sugar beets and, on kolkhozes, even vegetable crops was lower in the 9th and 10th Five-Year Plans than in the 8th. For more than 10 years there has been no rise in the productivity of livestock in the most labor-intensive branch of agricultural production--dairying, nor in other branches except for poultry raising. Thus for the products identified the first way of raising labor productivity has hardly been used at all over the period under analysis.

Yield of Farm Crops, Productivity of Livestock and Labor Intensiveness of Production on RSFSR Kolkhozes and Sovkhozes

Agricultural Output								
Indicator	Grain	Pota- toes	Sugar Beets	Vege- tables	Milk	Weight		Wool
				Grown Outdoors		Gain of		
1	2	3	4	5	6	Cattle	Hogs	9
Kolkhozes								
Yield or produc- tivity*								
1966-1970	14.2	91.0	179.0	124.0	2,151.0	--	--	3.3
1971-1975	14.7	87.0	150.0	103.0	2,270.0	387.0	281.0	3.4
1976-1979	16.3	80.0	168.0	111.0	2,233.0	345.0	205.0	3.4
Direct expendi- tures of labor, man-hours								
Per hectare or per head of livestock								
1966-1970	33.0	346.0	340.0	1,243.0	322.0	--	--	--
1971-1975	24.0	305.0	255.0	948.0	250.0	79.0	44.0	15.0
1976-1979	21.0	248.0	252.0	766.0	223.0	69.0	35.0	15.0
Per quintal of output								
1966-1970	2.3	3.8	1.9	10.9	14.0	62.0	57.0	270.0
1971-1975	1.6	3.5	1.7	9.2	11.0	55.0	44.0	255.0
1976-1979	1.3	3.1	1.5	6.9	10.0	55.0	45.0	250.0
Average annual rates of reduc- tion of labor expenditures over 1971-1979 period, %								
Per hectare or per head								
	5.2	3.8	3.4	5.5	4.1	2.8	4.8	0.1
Per quintal	6.5	2.3	2.7	5.2	3.8	0.1	2.7	0.9

Table (continued)

1	2	3	4	5	6	7	8	9
Sovkhozes								
Yield or productivity*								
1966-1970	12.8	88.0	142.0	143.0	2,327.0	--	--	3.7
1971-1975	12.8	84.0	108.0	146.0	2,339.0	371.0	286.0	3.8
1976-1979	13.9	83.0	125.0	161.0	2,326.0	385.0	289.0	3.8
Direct expenditures of labor, man-hours								
Per hectare or per head of livestock								
1966-1970	17.0	246.0	298.0	829.0	248.0	--	--	--
1971-1975	15.0	260.0	238.0	701.0	210.0	59.0	22.0	12.0
1976-1979	15.0	232.0	250.0	644.0	186.0	54.0	19.0	11.0
Per quintal of output								
1966-1970	1.3	2.8	2.6	5.8	10.0	47.0	29.0	199.0
1971-1975	1.2	3.1	2.2	4.8	9.0	44.0	22.0	187.0
1976-1979	1.1	2.8	2.0	4.0	8.0	33.0	17.0	181.0
Average annual rates of reduction of labor expenditures over 1971-1979 period, %								
Per hectare or per head	1.4	0.7	1.9	2.8	3.2	1.8	3.4	0.8
Per quintal	1.9	--	0.6	4.2	2.5	2.1	6.0	1.0

* Yield in quintals per hectare; milk production per dairy cow and fleece per sheep in kilograms; average daily weight gain in grams.

Without entering into an analysis of the causes accounting for this dynamic pattern of the yield and productivity, since that is an independent problem of a predominantly agrotechnical and zootechnical nature, we should note that from the standpoint of labor productivity the absolute level attained of the indicators under consideration predetermines prospects for lower cost per unit output. The specific feature of both cropping and also animal husbandry is that a sizable share of the expenditures of labor of cultivating one unit of land and of tending one head of livestock or poultry is relatively constant in nature and has a limited correlation to the level of yield and productivity. That is why, for example, when 40-50 quintals of potatoes are harvested per hectare (which is by no means an exception when the average yield over many years has been about 80 quintals) high expenditures of labor per unit output are inevitable regardless of the level of equipment used in production. What

is more, in terms of the end result the expenditures of labor in this case prove to be inefficient, since essentially all that is reproduced is the material for planting.

The technological labor intensiveness of production, i.e., the expenditures of labor per unit area of the principal crops and per head of productive livestock, have also been dropping slowly on the whole over the period under analysis. Comparatively high rates of reduction of labor expenditures per hectare of grain and vegetable crops on kolkhozes (more than 5 percent on an average annual basis) resulted first of all from the extremely high initial level, since their ultimate absolute figures are still substantially higher than on sovkhozes.

Limited use of the directions we have examined for raising labor productivity results in low rates of reduction of labor intensiveness per unit output--which is the reciprocal of labor productivity and is equivalent in its economic meaning to the volume of output per unit of expenditures of labor. For RSFSR sovkhozes and the products referred to in the table, which have a share of about 80 percent in the total labor intensiveness of agricultural production, only in the production of vegetables grown outdoors and the weight gain of hogs do the average annual growth rates of labor productivity exceed 2.5 percent over the 1971-1979 period. A similar situation is in principle found on kolkhozes.

Calculations using data on the volume of output of the various products and expenditures of labor per quintal show that since the end of the sixties total expenditures, i.e., total labor intensiveness, and correspondingly the need for manpower, have become essentially stable in the socialized sector of agriculture in RSFSR. That is why even when there is a comparatively small outflow of manpower (and in certain regions, for example, in the republics Non-chernozem Zone, when it is sizable), the shortage of personnel becomes acute, compounded by disproportions in formation of the pattern of the work force with respect to skills and also by the seasonal nature of agricultural production, which has not been sufficiently studied under the new conditions of specialization, concentration and the labor supply.

The stabilization, and in a number of cases even increase, of total labor intensiveness of agricultural production has been intensified by the insufficiently sound regional shifts in the placement of particular crops and also by the increase in the volume of production of livestock products predominantly by increasing the number of head of livestock. For instance, in the sixties and seventies the gross production of potatoes in UzSSR, GSSR, AzSSR and TaSSR increased 2-4-fold, where in the regions of traditional potato growing--Belorussia, the Baltic republics, where the labor intensiveness per unit output is between one-fourth and one-fifth as high, there was no growth or even a reduction of production.

When 1980 is compared to 1965, the number of dairy cows on kolkhozes and sovkhozes in RSFSR had increased by almost 4.5 million and the number of young cattle by 12 million head. Given the limited impact toward increasing the volume of production because of the low productivity of the livestock, this

increase in the size of herds essentially meant an increase of more than 700,000 additional jobs, which unquestionably had an effect on the supply of stockmen.

Thus the problem of labor intensiveness and the labor supply to the socialized sector of agricultural production requires a comprehensive solution. Moreover, even performance of the measures called for in the USSR Food Program for the period up to 1990 aimed at performing tasks in increasing the volume of output has to be achieved so as to take into account the projected changes in labor resources. For the sector of agriculture this signifies that potential has to be sought out and used not only for a relative labor saving, but indeed for an absolute saving.

Solving the problem of guaranteeing high and stable growth rates of labor productivity and of reducing the total labor intensiveness in agricultural production have traditionally been related to faster development of its material and technical base and above all to mechanization of labor. But, as shown by the analysis of trends in the change of the capital and power ratios and the level of mechanization of production processes in cropping and animal husbandry, the quantitative growth and qualitative improvement of the technical means of labor have not always guaranteed the requisite rise of labor productivity. The branches of grain growing and dairying are a typical example.

The most laborious process in grain production is harvesting the crop. In the sixties and seventies the qualitative renewal of the fleet of combines doubled on the country's kolkhozes and sovkhoses, in addition to a substantial quantitative growth, which brought about a reduction in the seasonal load of the area to be harvested per machine. But no increase was achieved in the output of grain combines per unit time operated; labor expenditures per unit of area planted to grain crops have been dropping slowly; the huge potential capability of up-to-date equipment and the potential for labor savings, whose existence is convincingly indicated by the experience of individual workers, individual farms and even individual regions, have on the whole gone unutilized.

The process of faster mechanization of laborious processes in the dairying sector began in the mid-sixties. At the present time kolkhozes and sovkhoses in most of the country's regions have in principle solved the problems of mechanizing water supply, milking, cleaning barns and removing manure; there has been a substantial rise in the level of mechanization of the operations of feeding the livestock. But, as the figures given previously indicate, the rate of reduction of labor intensiveness in maintaining dairy cows are still low, and the absolute level of labor expenditures per head is very high. Direct annual expenditures of labor per dairy cow amount to about 180 man-hours on sovkhoses and more than 200 man-hours on kolkhozes, which is equivalent to a load of 8-10 head per basic worker in the branch and is almost equal to the load when the basic operations are done by hand. However, progressive experience indicates that in practically all regions there are dairy farms where with standard equipment the load per worker is 2-3-fold greater, and when one takes into account the higher level of productivity of the livestock, the differences in labor intensiveness per unit output is 3-5-fold.

In these and other branches the high absolute level of technological labor intensiveness of production and the slow rates of its reduction, which do not correspond to the change in the material and technical conditions, are related to uncoordinated utilization of the factors of higher labor productivity--technical, technological and organizational.

Achieving high and stable growth rates of labor productivity, reduction of total labor intensiveness of agriculture and reduction of the need for manpower will be determined in the future by the rise in the level of mechanization of laborious processes in basic production and in auxiliary and service production operations, and above all by full mechanization, including the system of machines and machinery classified as "small-scale" mechanization. This calls for an increase in the output not of individual machines, but of specialized sets of machines in combination with improvement of the system for distribution of the equipment on the farms and the supply of spare parts.

Widespread introduction of tested production technologies in cropping and livestock raising and of their individual elements that correspond to the present-day technical base, is taking on ever greater importance in utilizing the potential that exists for labor saving. The development, experimental verification and dissemination of labor-saving technologies is assuming a special role.

Present-day equipment and progressive technology guarantee the requisite benefit only when combined with the appropriate organizational forms of production and work and when there are incentives for the end results. Preservation of outdated organizational forms not uncommonly nullifies the advantages of the most recent equipment and machine technology.

Solving the problems we have touched upon calls for developing a system of measures to identify and use the potential for labor saving and for carrying out those measures at various organizational levels--the individual subdivision on the farm, the farm itself, the sector as a whole, and in a number of cases even at the intersector level. Among those measures emphasis should be put on improvement of the method and practice of evaluating the level of labor productivity that has been achieved, raising the degree of soundness of planning and monitoring labor productivity so as to take into account the specific conditions of production. This makes it a first necessity to create the appropriate base and introduce the normative method of planning the technological labor intensiveness of the production of agricultural products and the need to increase the economic content of work time--the principal unit by which work is measured.

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LABOR

PROVIDING WORKER INCENTIVE TO IMPROVE LABOR NORMS

Leningrad VESTNIK LENINGRADSKOGO UNIVERSITETA: EKONOMIKA, FILOSOFIYA, PRAVO
in Russian No 11, Jun 82 (manuscript received 9 Dec 81) pp 85-86

[Article by V. P. Solov'yev: "Ways of Increasing the Material Motivation of Workers and Work Collectives To Improve Work Norm Setting"]

[Text] The operation of the economic law of distribution according to work signifies that the principal criterion in determining each worker's share of the fund for personal consumption shall be his work contribution to social production. In order to establish that contribution we need a measure of labor, which K. Marx defined as follows: "The measure of labor is nothing other than some unit, some definite factor (Anzahl) which is an expression of the corresponding portions of labor."¹

Under the conditions of directly social socialist production work quotas are an important component of the measure of labor in connection with distribution according to work. They express the relations between society and the worker with respect to the amount of labor in the directly social concrete form which must be expended in social production by every worker in order to obtain a reward for that in the form of the wage rate or salary.

If the quotas are to accurately reflect the amount of labor which each worker has given to society, and if they are to contribute to consistent implementation of the socialist principle of remuneration according to work, the system of work norm setting has to be constantly improved. In the seventies the quality of quotas was substantially improved, and application of technically sound work quotas was expanded. For instance, in October 1980 83.4 percent of the industrial production personnel proper in the industrial sector worked under work quotas, which is 15.4 percent more than 5 years previously. The relative share of workers and employees subject to technically sound quotas has risen 19.2 points since 1975 and reached 71.3 percent in 1980. But not all aspects of this important problem have been altogether solved. It is sufficient to say that there remain outside the sphere of work norm setting 5.5 million persons in the industrial sector and 2.2 million piece-rate workers, or 17.3 percent of their total number, who are subject to quotas based on statistics and experiment.²

It is no accident that the decisions of the 26th CPSU Congress, which define the basic directions of the country's economic and social development in the 11th Five-Year Plan and for the period up to the year 1990, points to the need for further improvement of work norm setting.³ One of the most important ways of improving work norm setting in the present stage is to organize effective material incentives to stimulate workers and work collectives in making the transition to work subject to strenuous work quotas. To that end progressive enterprises must make broader use in their practice of the experience of the Shchekino Chemical Combine, in which material incentives for combining occupations and for fulfillment of assigned planning targets with fewer personnel than required by allowances for work expenditures is a most important element.

Large opportunities for further use of the Shchekino method are being opened up in connection with the measures adopted to improve the economic mechanism. The decree of the CPSU Central Committee and USSR Council of Ministers adopted 12 July 1979 and entitled "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Work Quality" called for raising the maximum level of the premium (supplement) from 30 to 50 percent of the wage rate (salary) of all categories of workers for combining occupations and for fulfilling the assigned amount of work with fewer workers.

In addition, enterprises have been extended the right to credit to the material incentive fund the entire unused portion of the saving on the wage fund achieved by reducing the number of workers from the level allowed by intersector and sectorwide standards, so that they might subsequently use those funds to pay bonuses and lump-sum incentive payments.⁴

An important instrument in further improvement of work norm setting and in introduction of technically sound norms is use of the unit prices which have been raised as much as 20 percent in work on quotas calculated on the basis of intersector and sectorwide standard allowances of expenditures of labor. This form of incentive affords the possibility of applying progressive standards of work expenditures without reducing the worker's wage, i.e., of overcoming one of the principal obstacles to improving work norm setting.

Measures are now being taken to make application of the higher unit prices used in piece rates more effective. For instance, at the Minsk Refrigerator Plant the higher unit prices are set on a differentiated basis for that purpose depending on how much more strenuous the new quota is than the previous one. This use of the higher unit prices will promote both more proper differentiation of the wages of workers as a function of the results of their work and also the availability of definite material incentives for work subject to technically sound quotas.

Improvement of the material incentives of workers for revision of quotas at their initiative has great importance in the effort to improve work norm setting. At the end of 1975 the State Committee for Labor and Social Problems and the AUCCTU Presidium summarized and approved the experience of collectives of enterprises in Vladimir and Rostov in the review of quotas and their replacement by new progressive ones. In conformity with the decree of the CPSU

Central Committee and USSR Council of Ministers dated 12 July 1979, in order to encourage initiative for introduction of technically sound work quotas and for their timely review workers are to be paid lump-sum awards out of the saving achieved as a result of revision of those quotas.⁵ Moreover, provision has also been made for the workers to be paid a lump-sum award of at least 50 percent of the saving on the wage fund which can be obtained as a result of introducing or revising technically sound work quotas, and the specific amount of that award is made dependent on the size of the output quota's increase and on how much smaller the labor expenditures are under the new quotas than those envisaged by intersector, sectorwide and other technically sound norms.

Effective use of these forms of material incentives to put more strenuous quotas into effect is opening up broader opportunities for improving the soundness of remuneration in accordance with the quantity and quality of work expended and is making it possible to link that remuneration more closely to every worker's contribution to social production, which will contribute to further improvement of distribution according to work.

FOOTNOTES

1. K. Marx and F. Engels, "Sochineniya" [Works], 2nd edition, Vol 46, Part II, p 113.
2. Yu. Baryshnikov, "The Economic Mechanism and Management of Labor," EKONOMICHESKIYE NAUKI, No 6, 1981, p 90.
3. "Materialy XXVI s"yezda KPSS" [Materials of the 26th CPSU Congress], Moscow, 1981, p 177.
4. "Ob uluchshenii planirovaniya i usilenii vozdeystviya khozyaystvennogo mekhanizma na povysheniye effektivnosti proizvodstva i kachestva raboty," decree of the CPSU Central Committee and USSR Council of Ministers dated 12 July 1979, Moscow, 1979, pp 58-59.
5. Ibid.,

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LABOR

BOOKKEEPING PROFESSION UNJUSTLY MALIGNED

Moscow PRAVDA in Russian 3 Aug 82 p 3

[Article by A. Kolesnichenko entitled: "Profession--Bookkeeper"]

[Text] Approximately 3 million accounting and bookkeeping workers work in the national economy. During the past 20 years their number has almost doubled. Are there many other such mass professions? Does any other type of human activity have such a confident present and no less promising future? However, people become bookkeepers reluctantly and they frequently have a scornful attitude toward this occupation.

The letter of V. Zharov "Reward for the Bookkeeper" (PRAVDA, 12 January 1982) irritated the souls, naturally, above all of the representatives of this department. But the significance of the problem, which the readers continued to discuss, transcended the framework of "internal bookkeeping" interests and touches on questions which have a national economic, a public ring.

Let us remember that already after 12 years after the victory of the revolution V. I. Lenin called on the workers to introduced the strictest control over production and the registration of products. The laconic Leninist formula of "Socialism is accounting" expresses the most important principle of socialist management. To keep accurate and conscientious account of money, to manage economically, and to observe the strictest discipline in labor--only by carrying out these instructions of Ilyich can we attain impressive successes in the development of the Soviet economy.

But we want a great deal more and we can do much more. The intensification of the economy and the increase of its efficiency obligate us to become seriously concerned with accounting and control. At the May (1982) Plenum of the CPSU Central Committee, L. I. Brezhnev correctly demanded the creation of stable economic conditions for genuine, not formal, cost accounting. One of the main conditions of this sort is conscientious, practical accounting work without changes, well-organized bookkeeper's accounting. If this sector of work is neglected, it is difficult to undertake an economic analysis in good time and to control the course of the fulfillment of production tasks.

And is only the development of cost accounting relations connected with the state of accounting, of bookkeeping work? The good manager of an enterprise

understands this very well. Such a man always has time to seek the advice of the accounting service, for him the head bookkeeper is a true assistant.

In practice, unfortunately, one also meets the other. "There are still managers of enterprises and organizations for whom bookkeepers are troublesome people, they are tolerated as a necessity," notes I. Lyubkovskiy, chief of the control and auditing department of the oblast pharmaceutical administration (city of Chernovtsy). The sources of such disdain lie in the low level of management thinking of those who are ready to undertake a "cavalry attack" instead of a well-thought-out and economically well-founded operation. But, you know, already V. I. Lenin warned that in economics you do not attain much with a sudden attack.

The head bookkeeper of an enterprise is obliged to stop such an excessively self-confident manager in good time and to defend the interests of the state and society. For this are needed personal courage, the ability to defend his point of view, and not to be led by the director of the enterprise. But D. Sivakov, head bookkeeper of the Bryanskaya oblsel'khoshtekhnika [Oblast Association for the Sale of Agricultural Technical Equipment, Spare Parts, Mineral Fertilizers, the Organization of Repair and the Use of Machines in Kolkhozes and Sovkhozes], is right that only a well-trained experienced specialist can set himself up as an inspector of production and constantly be on guard for the nation's pennies. He writes: "Do you often find that engineering positions are filled with people without a higher or secondary specialized education? But they are glad to fill the positions of bookkeepers in the enterprises with anyone you like--there are no cadres."

Is this not an exaggeration? No, the situation is shown with the preciseness of a bookkeeper. Although 150 institutions of higher education and more than 750 institutions of secondary specialized education in the country train cadres in accounting, there is a shortage of skilled specialists. According to available data, only slightly more than 17 percent of the head bookkeepers of associations, enterprises, organizations and institutions have a higher specialized education. This indicator is even lower for the rank-and-file bookkeepers: For the national economy as a whole it amounts to 5.5 percent. So what is there to talk about bookkeepers of "a higher norm" when the demand is not met in regard to the workers which are trained in the numerous bookkeeping courses!

And by now the advertisements in the newspapers are already becoming customary which announce that "the enterprise seeks metal craftsmen and sanitary engineers, turners, storekeepers, loaders, bookkeepers. . . ." The shortage of bookkeepers, especially highly-skilled ones, is in part explained by the fact that the scales of their training fell behind the demands of the national economy. At present the USSR Ministry of Higher and Secondary Specialized Education is undertaking a number of measures to expand their output. However, this, too, is not enough. There must be a significant increase in the social status of the representatives of this profession, in its prestige, and the position of the bookkeeper in the factory must be changed.

. . . When the graduates of one of the Leningrad schools found out that their comrade had decided to become a bookkeeper, they were utterly surprised. How is that? One of the best students of the school? Why? And although, without

a doubt, the lad chose the profession consciously, and although it was known that it was a tradition in his family: His grandfather was a bookkeeper and his father is a bookkeeper, the decision of the classmate was difficult for the boys to believe. The teachers, too, openly regretted the choice of the young man.

Well, you know how it is: The profession which requires a thorough knowledge of economic theory and the practice of socialist management, broad learning, thanks to which, by the way, a good bookkeeper can, if necessary, cope successfully with the duties of the planner, economist, as well as the financial expert (the transposition is most often impossible), in public opinion it is pushed aside somewhere into the most out-of-the-way places. . . . A profession in which the scrupulous observance of definite instructions, norms and rules is combined with broad scope for creative work, held in such esteem today! Of course, not every bookkeeper enjoys all the possibilities of his profession. But can one, without playing the hypocrite, assert that every physician, scientific worker, and actor, finally, is a creative individual?

"During the past year bookkeepers numbering approximately 10 percent of the total number of accounting workers employed were trained in the VUZ's, technical schools and courses of our republic. But, as before, there is a shortage of them. One of the main reasons for this is the fact that many graduates and bookkeepers already working change profession. In so doing they turn out to be at a triple advantage: Material, morale, and in part with respect to responsibility." That is the diagnosis of A. Guseynov, the director of the academic combine of the TuSSR Central Statistical Administration. Let us look into the question from where the "advantage" is taken.

The readers write: "Very rarely are bookkeepers paid bonuses on holidays, and there is nothing to say about awards. On television they show leading weavers and milkmaids But have you heard even once a good word about a bookkeeper who made many calculations and more than once analyzed the work of that same weaver? In the factory, they note a diligent person. Look, he is already a leading worker, a shock worker, he is a moving force. But a diligent and competent bookkeeper? He demands the accurate and correct filling out of forms, and frequently people look at him as an obstacle in work. . . ." (From a letter by S. Borodina, city of Stakhanov).

By far not everything is being done to cause the bookkeeper to take interest. Here is information sent by the head bookkeeper of the Kavminselstroy [Caucasian Ministry of Rural Construction] Trust, K. Makhayev (Stavropol'skiy Kray): The average monthly income of the head of the technical department during the past year (including bonuses) was 345 rubles, the head of the planning department--270 rubles, the head of the department of labor and wages--265 rubles, the head bookkeeper--240 rubles. . . .

But, you know, according to the Statute on the Head Bookkeeper, he is not only obligated to guarantee a reliable record of the expenditures of production and distribution costs, compile economically substantiated calculations of the production costs or costs of work operations, carry out an economic analysis of the economic and financial activity of the enterprise, etc., etc., but is also

personally responsible to the executive and controlling organs. Neither the planning and economic workers nor the financial workers, whose work is paid at a higher rate, know that kind of responsibility. The actions of the USSR Ministry of Finance, as the organ responsible for the state of accounting, in the opinion of the head bookkeeper of the Crimean Trolley Bus Administration, I. Kovalenko, infringe upon the material interests of the bookkeepers in the expansion of the service zone.

Many head bookkeepers direct attention to the fact that supposedly in the interest of reducing expenditures for the administrative apparatus the staff norms of the accounting services are being violated. The number of workers is reduced and the minimum rates of wages are being used. "The [work] load of the bookkeeper is calculated taking mechanization into account, but in essence it does not exist," the workers of the centralized bookkeeping department of the Lyubetskiy prodtorg [food trade institution] (Moscow Oblast). "In the summer, when a minimum number of workers remain in the bookkeeping department--one is making hay, the other one is on vacation--it is very difficult to carry out real accounting and control of the movement of material values," it is stated in a collective letter of the bookkeepers of the Mars Plant (city of Torzhok, Kalinin Oblast).

Let us say directly, an additional work load for bookkeepers is not a rarity. But somebody needs time for further study, someone else has small children. Yes, and this contradicts our labor legislation: To impose on the worker the obligation of work above the volumes agreed upon in the labor agreement. And someone could take on additional work constantly, and he has no objection to "simply so". What is the solution?

First of all, of course, there is a need to further improve our accounting service, to practice the advantages of its centralization on a wide scale. In a centralized bookkeeping department there are more possibilities for the mechanization of accounting, and its quality is also higher. But centralization does not eliminate all problems. The solution, apparently, lies in disseminating at last the Shchekino method to the workers of the accounting service. "When the decree was published permitting the managers of enterprises to introduce additional payments of up to 30 percent of the salary for workers who combine duties, I was glad," writes P. Skoropad, the head bookkeeper of the Kharkov Yuvelirtorg [Office for the Trade in Jewelry, Watches, Rare Metals and Precious Stones].-- I thought that the cadre difficulties will disappear. But this did not happen." It turns out that in the enumeration of the duties of workers for whom additional payments may be established only one duty in the bookkeeping department--that of bookkeeper--is included and the mandatory condition for additional payment for a combination is a vacant position. But the bookkeeper is frequently a beginning accounting worker, he cannot combine anything. And as before, the problem of the payment of the work of those who do the work of the people on leave or who are ill is not solved.

Yes, the bread of the bookkeeper is not easy. And nevertheless, among those several dozens of letters which the editors received, and the majority came from bookkeepers who have given 20, 30 and even 40 years of their life to this profession, there was not a single one which did not express dedication to their

difficult and painstaking, but interesting and important work.

. . . When in 1939 a branch of the All-Union Correspondence Institute of Soviet Trade was opened in L'vov, M. Bakanov, Honored Scientist of the RSFSR, professor and chairman of the council of the bookkeepers' club, recalls, they allotted--by force of habit which had become established already at that time--a minimum of places for the training of bookkeepers. However, the greatest influx of graduates fell precisely on this division.

I called the accounting and economics faculty of the Institute of National Economy imeni G. V. Plekhanov, I wanted to find out how things are going at the present time. The competition now comes to approximately 4 people per place. The entrance number for bookkeepers last year was the highest in the Institute. Not as many youngsters are entering--a total of 20 percent. However, this is more than twice the number compared to the share of men among the bookkeepers working now. Is a turning-point in the making?

8970

CSO: 1828/9

LABOR

LATVIAN BUILDERS BLAME SHORTCOMINGS ON LABOR SHORTAGE

Riga SOVETSKAYA LATVIYA in Russian 13 Jul 82 p 2

[Article by A. Parshin entitled: "Lost Reserves"]

[Text] It is a well-known fact that during the past few years the demographic situation in the republic has become considerably more difficult. There is a shortage of manpower in almost all sectors of the national economy. And, perhaps, this shortage makes itself felt especially acutely in the construction organizations. There are many reasons for this situation. For one thing, there is the specific nature of the work of the construction workers, which brings with it that a person has "to wander" from project to project in the course of a year, there is a rather large share of manual labor, and at times its simply poor organization, which gives rise to idle time and is reflected in the wages of people.

Instead of analyzing all of this and taking measures to eliminate the difficulties that have arisen, some managers justify the breakdown of construction plans on the basis of the shortage of manpower. In the Balttransstroy [Baltic Transportation Construction] Trust (administered by comrade Naumenkov) and the Baltmorgidrostroy [Baltic Trust for Maritime Hydraulic Engineering Construction] (administered by comrade Kuleshov), people have no objection to citing this as well.

However, as was shown by an audit conducted by the people's control organs jointly with the Latvian Republic Trade Union Council, the LaSSR State Committee for Labor and the republic office of the USSR All-Union Bank for the Financing of Capital Investments, such justifications do not always rest on firm foundations. In these trusts important shortcomings were exposed with respect to the utilization of manpower resources and the expenditure of the wage fund.

Thus, for example, losses of work time in the Balttransstroy Trust per construction worker during the past year because of loafing and absence from work with permission of the administration came to 3.5 days. There is a high turnover of personnel here, there are many work stoppages of equipment due to poor organization of work, and there are substantial irrational expenditures from the wage fund and funds for the elimination of rejects in the work. The illegal signing of orders for payment of installation, painting, plastering, welding and other work that has not been carried out.

Similar shortcomings were also exposed in the Baltmorgidrostroy Trust. Here the composition and authorization of orders is also poorly controlled and little attention is given to the development and improvement of the brigade form of organization and payment of labor. As a result only 29 brigades remain out of the 35 which worked during the past year, the rest broke up. The losses of work time in this trust are also great. The tasks with respect to the introduction of new technology, integrated mechanization and automation of production are not being fulfilled.

The strengthening of labor discipline, the clear organization of work operations and the more efficient utilization of technical equipment--those are the ways of overcoming the difficulties which have arisen in both of these trusts and the organizations in their charge. Unfortunately, thus far little attention is being given to the solution of these questions.

For failure to secure the fulfillment of the tasks with respect to the increase of labor productivity and the poor control of the expenditures of the wage fund, the Committee of People's Control of the LaSSR has given a reprimand to comrade Naumenkov, the manager of the Balttransstroy Trust. The necessity of strengthening control of the execution of the tasks with respect to new technology and the development of the brigade contract was pointed out to comrade Kuleshov, the manager of the Baltmorgidrostroy Trust.

The committee issued a reprimand to the chief engineer of the construction and installation train No 722 of the Balttransstroy Trust, comrade Lagutin, for adding to the orders volumes of work that had not been carried out and charged him with a deficiency in the amount of two monthly salaries.

8970

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EDUCATION

STUDENT POLL DESCRIBES IDEAL 'FUTURE' SCHOOL

Moscow UCHITEL'SKAYA GAZETA in Russian 31 Aug 82 p 3

[Article by S. Solov'yev, scientific associate of the Scientific Research Institute for General Pedagogy of the USSR Academy of Pedagogic Sciences: "The School of the Future"]

[Text] People in every time have striven to look into the future. Dreams about the wonderful future have inspired creativity and exploration. Our century of science and technology has put forecasting on a scientific basis. What will the school be like in that future we are all working for today? Thought is being given to this today both by research scientists and creative working teachers. Several versions of the "school of the 21st century" have already been proposed.

But how is it imagined by our schoolchildren today? The laboratory of the Scientific Research Institute of General Pedagogy called upon 850 children in the upper grades at 8 Moscow and 4 rural schools in Yaroslav Oblast to answer the questions of a special survey. The scientific associates analyzed compositions on the topics "The School of the Year 2000," "How I Imagine the School of the Future," and conducted interviews and discussions. Here are some of the results.

Rural and city children are unanimous in one thing: the school building must fit organically into the landscape, and there must be as much green--trees and flowers--around it as possible. Nor did they forget their "little brothers"--dogs, cats, songbirds, turtles, which they would be able to visit at recess. Only 13 percent of the students in city schools remarked that they were indifferent to nature and to animals as though they did not notice them. This is a disturbing symptom, and it is no accident that many children in the upper grades propose that in the school of the future classroom-laboratories, biological stations and facilities for ecological education under natural conditions--for example, in a preserve or sanctuary--be created for more effective study of the biological disciplines. An experimental teaching facility with hothouses, a botanical garden, a dendrarium, a corner of life where it would be possible to engage in socially useful work, set up interesting experiments, and master the laws of biology in practice should become part of every school, they feel.

In all, 76 percent of the children in the upper grades wrote that an athletic facility is needed with a rifle range and swimming pool, motor pool and workshops where it would be possible to learn about cars. Dreams about a school micro-observatory equipped with up-to-date apparatus do not seem fantastical. The children expressed many serious proposals about broader introduction into school life of microfilming, xerox copying, and programmed learning by means of automatic control systems. They also want to see complicated computers and teaching machines in the school of the future.

What do contemporary schoolchildren think about what children their age will be studying in the 21st century and about how they will be studying? They believe (85 percent) that biology, chemistry, and geography will then be studied as part of a single subject--natural science. There will be specialization even in school depending on the inclinations of the students: a few compulsory subjects will be studied thoroughly, but the rest will become electives. Aside from those that exist now, there will be new disciplines--psychology, cybernetics, and methods of organizing and conducting scientific research. In rooms devoted to physics, chemistry and biology the children want to have specialized laboratories where they could conduct experiments and carry on scientific research under the supervision of teachers and also possibly with the involvement of scientific associates of scientific research institutes and design offices, production specialists and university teachers who would come as patrons.

In the opinion of the schoolchildren, field trips to where people work would be more frequent, as would meetings with people in various occupations, which would be based on the interests and desires of the pupils themselves. In calling for modernization of the teaching process, the children in the upper grades--and this is very important--emphasized that not even the most "intelligent" machine would replace live communication with the teacher, nor would there be a decline in the role of the teacher and educator of young people.

A majority supported the 5-day school week, feeling that 2 days off make it possible to help their parents more. The children in experimental schools in Moscow have been attending school 5 days a week for several years now, and when they filled out the questionnaire they unanimously noted this to be a constructive innovation.

The children in the upper grades also thought about the place that productive labor would have in the school of the future. Most of them responded well to classes in the practical arts in the school shop, in the multiservice apprentice school or experimental teaching section or summer work and recreation camp. But they also expressed criticism: as a rule the work is monotonous, there is little independence and creativity.

The children see school pupils in the 21st century as full-fledged members of a production collective. They should be given complete control over livestock farms, shops and up-to-date equipment. The results of socialist competition among Komsomol youth brigades in the schools and brigades of adults would be totaled up regularly. This is a natural desire on the part of young people to grow up more quickly and to become part of a production collective.

It would also seem that more could and should be done in that direction even now to honor the desire of many to acquire one or two work specialties while they are still students. The results of the survey indicate that rural students have better opportunities for choosing their occupation than city children.

The children in the upper grades also thought about better organization of summer work and recreation, proposed that they work the first half of the summer, for example, repairing and building various structures, and spend the second half on field trips, traveling, in an athletic or youth camp of the "Sputnik" type.

Unfortunately, the interviews with the children in the upper grades showed that a sizable portion of them still do not grasp or do not properly understand the meaning of student self-government. Another group complained that the teachers literally "impose" the organizational forms of self-government, and as a result almost everyone in the class has "duties" or is given orders, but in actuality they do nothing. Only 11 percent feel that student self-government helps to acquire an experience of life in a collective.

The results of the survey, the debatable, but frank opinions of the children, have given the pedagogic scientists and teachers much to think about. This will, of course, help in improving the school of the present and to forecast its future.

7045

CSO: 1828/209

DEMOGRAPHY

KVASHA, ASSOCIATE ANALYZE DEMOGRAPHIC TRENDS

Moscow EKONOMICHESKIYE NAUKI in Russian No 8, Aug 82 pp 63-70

[Article by A. Kvasha, professor and doctor of economic sciences, and I. Kalinyuk, candidate of economic sciences: "Long-Term Trends in the Reproduction of the Population"]

[Text] The determination of the long-range prospects for change in the size and composition of the population, and the identification of population reproduction patterns and development in general have ceased to be a purely theoretical task of demographic calculations; they have acquired top-priority practical significance. This results first of all from the realization that many long-range socio-economic programs in our country require not just one or two five-year plan periods, but a longer period instead. In addition a strategy for the resolution of certain global problems (let us say, the relation between the size and structure of the population, on the one hand, and the presence and state of natural resources, on the other) can be developed only from a long-range perspective. By itself a program for the development of the population and demographic policy measures may also be constructed on a scientific basis only if one proceeds from forecasts calculated for a significant period in the future: this kind of program must remain stable in its essential nature over a period of several decades because its goal in the final analysis is the establishment and maintenance of parameters for population reproduction which are in line with the long-term interests of society.

Of course, an evaluation of long-term trends should be approached from realistic positions. For example, it is clearly senseless to attempt to determine the size of a country's (or region's) population by the middle of the 21st century down to the exact number of individuals--that is impossible, and further more, it is unnecessary. In reality, this kind of evaluation must be developed from the determination of the [type of population reproduction and its principal characteristics] [in italics] (in particular, the relationship between the indicators for the birthrate, mortality rate and migration), which make it possible to calculate with a sufficiently high degree of approximation the alternatives for the future size and composition of the population. This kind of evaluation (and evaluations naturally can be of different types) should be viewed as equally probable hypotheses, and not as an exact (in a statistical sense) forecast.

One can delineate provisionally several boundaries of demographic forecasting which largely coincide with plan boundaries, including those related to directional influence on the population. The closest of them may be the boundaries of the five-year plan (in this case 1981-1985) within the limits of which a program of demographic policy measures has been developed. The year 1990 may be chosen, for example, as the next boundary. The years 2000-2010 are a more remote boundary for planning (mainly from the viewpoint of realizing long-term social and national economic development programs, i.e., a period in which the results of a complex of measures which are part of an effective demographic policy (now being determined) should be tangibly reflected.

In order to work out the general directions of a demographic policy and to determine the goals for that policy, it is important to know the long-term trends in population reproduction, i.e., those trends which are in effect over the life of two or three demographic generations.

General patterns of change in the nature of population reproduction processes over the course of this period, which encompasses five-eight decades, can be pictured even now, assuming that no fundamental discoveries in biology, medicine and genetics will be implemented. In the area of the birthrate this means the preservation of the typical small family (up to three children); it is true, however, that the average number of children which families have will depend on measures taken by society, and, mainly, on the general trends in its socio-economic development.

The reserves for increasing the life span (calculated according to the provisional generation method) in our country are still sufficiently great, even with the present developmental level of medicine. In particular, the example of Japan shows that economically developed countries which have difficult ecological conditions also have opportunities for increasing the life span of the population.¹

One can assume that in the future the intensity of migration will grow, the further development of the family's functions will continue, and the intensity and structure of the marriage and divorce processes will change. Clearly, all this should lead to the formation in the USSR of a type of population reproduction which is uniform in intensity; with one type of reproduction it will be easier to carry out a state-wide program of demographic policy measures. However, the variations in this type of reproduction can be (within the indicated limits of the generally small family) extremely great--from the growth of population to its decrease. One of the likely versions of change in the size and composition of the population which are discussed in the literature is a type of reproduction called "zero increase" or population "stabilization." It should be emphasized immediately that this version of population development is not inevitable, it is only one of the possible alternatives.

When considering this type of population development, it is essential to distinguish the concept of zero increase as a possible alternative for population reproduction, i.e., as a purely demographic concept from the interpretation of several bourgeois authors which follows certain

social goals. They attempt to present the matter in such a way as to suggest that changes in the rate of population growth can be used to resolve socio-economic problems which are tearing apart capitalism, problems such as growing unemployment and the persistently declining rate of economic growth, etc. A distinction should also be made between the concept of zero increase, on the one hand, and stabilization of the population growth rate, on the other. By the latter one can understand a stable rate of population increase or a constant (stable) lack of such growth, i.e., a stable population size. As for zero increase, it is understood to mean a very specific state of the population, in which population increase is lacking and population size does not change over an extended period of time. The following are conditions for the achievement of this state: birth and death rates which are basically identical; standards of demographic behavior and birth schedules which are stable over time, with the absence of any migration on a significant scale. For this reason this type of reproduction requires a great deal of time. For example, no fewer than two or three generations would be required to even out the age structure in our country. Consequently, this state is viewed only as something of the future; at the present time one can speak only of a trend toward its development.

When considering the population development alternative which is characterized as zero increase, it should be kept in mind that the cessation of population growth or an extremely low rate of increase does not mean population stagnation. Under conditions of zero population increase, which expresses only the quantitative aspect, intensive growth in quality is not excluded; moreover, one is justified in assuming that opportunities for qualitative improvement in the population will be significantly expanded.

At the present time an evaluation of the real trends in the dynamics of the population provides evidence that the zero increase alternative will cease to be purely theoretical. In recent years an extremely low natural population increase rate, close to the zero level, has been established in nearly 30 developed countries of the world. The true population increase factor (i.e., a figure from which the essentially situational influence of the population's age-sex structure has been removed), which serves as one of the characteristic features of this process, has already become stabilized practically at the zero level. Unfortunately, due to the lack of necessary information, the calculation of this indicator is impossible for many countries, and cruder indicators are being used in our work. We will use for these purposes the total birthrate coefficient, which characterizes quite fully the level for this factor in a country (but not the number of births in the population on a particular date), and which does not depend directly on the influence of the population's age structure. However, this indicator does not take into account the influence of the mortality rate. For a more accurate description of the process of natural population increase, it is obviously essential to take into account the degree of interchangeability of the generations, i.e., to keep both the birthrate and death rate in one's field of vision.

Mention should be made here of one of the most fundamental and unresolved problems of demographic analysis, which consists in the fact that nearly

all of the comprehensive characteristics of population reproduction are calculated on the basis of a stable age structure, although extremely significant differences exist between the real and stable states of population reproduction. For this reason it is quite complex to determine the degree to which the actual state of population reproduction approximates the stable state in terms of characteristics present at any given moment. The best alternative would be to calculate the reproduction characteristics for every generation, but this is related to a number of difficulties.²

The stable state, as already noted, can only be fully established when growth in the entire population is lacking over an extended period of time, given an age structure which is close to stable, and when there is no significant amount of external migration. Statistically this state for an extended period of time can be characterized by values in the net coefficients which are close to one.

From the viewpoint of future population development the trends toward a stable state are no less important; there is evidence of these trends in the lowering of the birthrate level under conditions of an uneven age structure. In this regard, the indicators for total birthrate and the indicators for rate of growth in the size of the population are of substantial interest.

In the postwar period the total birthrate coefficient (i.e., the average number of births per woman of child-bearing age) has been falling continuously in many countries of the world: the value of this indicator has dropped to nearly half the previous one (from 4.2 to 2.2 children) in many countries over a period of 25 years. However, in the past decade this indicator has hardly changed, remaining at the level of simple replacement of the generations, which, clearly, foreshadows a stabilization of population size.

In the period from 1966 through 1978 the average annual rate of population increase declined in the socialist countries of Europe: from 0.8 to 0.5 percent in Bulgaria, from 0.7 to 0.4 percent in Hungary, from 1.0 to 0.9 percent in Poland, from 1.2 to 1.0 percent in Rumania, and from 1.0 to 0.7 percent in Czechoslovakia.³

The size of the population does not change in countries which over an extended period of time have an unchanging total birthrate coefficient which corresponds to the level of simple reproduction. For example, in 1970 Austria had 7.4 million residents, and in 1979 it had 7.5 million; in Great Britain the size of the population changed from 55.6 million to 55.8 million during this same period; in Finland it changed from 4.6 to 4.8 million people in 1978.⁴ Of course, it should be kept in mind that in a majority of the developed capitalist countries the change in population size results mainly from external migration. In addition, the potential possibilities of the population's age structure, which may result in continued growth in population size or a short-term drop in the rate of natural increase (See Table 1), must be taken into account.

Table 1

Basic Indicators of Population Reproduction for Certain Countries in
1970-1976*

Countries	Years	Coefficient of Natural Increase, 0/00	Net Reproduc- tion Coeffi- cient	Total Birthrate Coeffi- cient
USA	1970	8.8	0.90	1.84
	1976	5.8	0.85	1.75
Austria	1970	1.8	1.07	2.24
	1976	-1.0	0.80	1.65
Belgium	1970	2.2	0.98**	2.03
	1976	0.2	0.81***	1.67
Denmark	1970	4.6	0.93	1.98
	1976	2.2	0.83	1.68
Finland	1970	4.4	0.87	1.78
	1976	4.7	0.80***	1.63
GDR	1970	-0.2	1.4	2.13
	1976	2.2	0.78	1.50
FRG	1970	1.3	0.94	1.96
	1976	-2.1	0.68	1.40
Sweden	1970	3.7	0.92	1.88
	1976	0.9	0.80	1.63
England and Wales	1970	4.5	1.13	2.30
	1976	-0.1	0.82	1.66

*Demographic Yearbook, N.Y., 1979, pp 121-394

** 1971

***1975

Thus, in a majority of the developed capitalist countries of the world, the postwar "demographic explosion" is ending in an obvious tendency toward stabilization in the growth of population size. This tendency is counteracted by the still existing potential for demographic growth. For example, in the USA (1970) the value of the gross potential for demographic growth amounted to 1.18, in Sweden (1976) it was 1.06, and in the FRG (1976) it was 1.01.⁵

The hypothesis concerning the possible stabilization of population growth in the USSR has been studied in the works of E.A. Arab-Ogly⁶ and A.G. Vishnevskiy.⁷ Even earlier Academician S.G. Strumilin wrote about "zero increase" as a possible alternative for population development.⁸ In their works a number of foreign researchers discuss the concept of the demographic transition, according to which the stage of stabilization is viewed as the final one in the development of the population.⁹ A monograph by A. Sarvy entitled "Zero Increase" and the works of UN experts should be singled out among these works.¹⁰ With consideration for the existing tendencies in the birthrate, works have appeared recently in which the stage of stabilization in population growth is viewed not as the concluding one, but as one which proceeds the new stage, which is marked by a consistently negative increase in population, i.e., a reduction in size as a result of the extremely low level of the birthrate. This extremely pessimistic alternative does not take into account the possibilities of a directed effect by society on demographic processes.

In order to evaluate the probabilities for the realization of the various alternatives for population development it is essential to study for a long time the existing demographic tendencies. In order to develop a complex of demographic policy measures it is no less important to analyze the socio-economic consequences of realizing the most likely alternatives for population development. From this viewpoint it is important to study the population growth trends in the USSR and the union republics.

In all the union republics of the USSR, except the Central Asian republics, a trend has been observed over the last 20 years toward a reduction in the values for population reproduction indicators, with a gradual decline, although at various rates, in the value for potential demographic growth; the massive shift to small families with a relatively low rate of change in the deathrate continues. In recent years the process of birthrate reduction has begun in the republics which are in the initial stage of the demographic shift--in the Uzbek and Turkmenian SSR's. An intensive process of birthrate reduction is being observed as well in the Azerbaijan and Armenian SSR's, moreover, the latter is approaching--in terms of the birthrate--the republics which are in the stage of demographic shift which precedes stabilization.

As studies have shown, the reduction in the birthrate, it is clear, will continue because small families are becoming a massive phenomenon even in those regions which at present still have quite a high birthrate (Azerbaijan, Armenia, Moldavia, Kazakhstan). The bulk of the USSR population (in the RSFSR, the Ukraine, Belorussia, Georgia and the Baltic republics)

has a birthrate which is now at an extremely low level, and because it is so low it cannot be reduced substantially. As the birthrate declines further, the differential within the country will disappear gradually. Moreover, one cannot completely exclude the alternative in which the bulk of the population shifts to a one-child (and in some degree to a childless) family; this undoubtedly increases the urgent need for the timely implementation of demographic policy measures.

A lowering of the birthrate, although to varying degrees, is not characteristic of all the major nationalities in our country. For example, the Latvians and Estonians have a birthrate which has stabilized at a low level with small fluctuations; the Russians and Ukrainians are approaching this level. The Belorussians and Lithuanians have a slightly higher birthrate, but the differences are not substantial. An average birthrate level is now characteristic of Armenians, Kazakhs, Moldavians and Azerbaijanis. However, among these nationalities one notices a stable trend toward a reduction in the birthrate and a gradual stabilization at the level of the two-child family.

The completion of the demographic shift assumes a restructuring not only of the birthrate processes, but also of the death rate processes, although to a lesser degree. The elimination or sharp decline in mortality from exogenous causes, especially from diseases caused by various infections, are characteristic of our times. With the completion of this stage in the struggle against mortality, the average life span for the entire population is reaching 74-75 years. In the 70's, however, nearly all the republics in our country experienced a trend toward some increase in the indicators for mortality as a result of its increase among children and men of working age. This trend (which is most likely temporary, given the adoption of emergency measures to reduce it) can speed up the transition to the zero increase type of population development in our country.

Despite the existing low reproduction indicators, which in a number of cases are below the level of simple reproduction, the population in all of the republics continues to increase. This applies first of all to the RSFSR, UkSSR, BSSR, Latvian and Estonian SSR's, which are in the final stage of the demographic shift. Population growth in these republics continues mainly as a result of the age structure, which is favorable to growth under the present conditions, and as a result of intensive immigration, which encompasses mainly young people; this is very important because it increases the potential for demographic growth in these republics (See Table 2). However, it should be kept in mind that the population of Latvia and Estonia has practically exhausted its reserves for growth due to the age structure; their growth potential is close to the figure one. In a number of other republics population growth takes place mainly due to the potential possibilities of the age structure, which ensures a population increase averaging up to 20 percent. Under closed population conditions (i.e., given a lack of migration) and a stable age structure the size of the population in these republics could decline.

And finally, the extremely high population increase due to the age structure (an increase of 60-80 percent) in the Central Asian republics provides

in the mean time a high rate of natural increase for the entire population of the USSR. It should be pointed out that on the whole the demographic potential of our country amounted to 1.28 in 1970, while in 1979 it was a little less.

Table 2

Gross Potential for Demographic Growth in the Republics of the USSR in 1970*

Republics	Gross Potential
USSR	1.28
RSFSR.....	1.22
UkSSR.....	1.14
BSSR.....	1.26
Uzbek SSR.....	1.75
Kazakh SSR.....	1.58
Georgian SSR.....	1.34
Azerbaijan SSR.....	1.71
Lithuanian SSR.....	1.23
Moldavian SSR.....	1.42
Latvian SSR.....	1.04
Kirghiz SSR.....	1.65
Tadzhik SSR	1.80
Armenian SSR.....	1.64
Turkmenian SSR.....	1.77
Estonian SSR.....	1.06

*The demographic potential (gross) is a demographic indicator which makes it possible to judge how much the population size can change due to features of the age structure alone, given stabilization in the intensity of birthrate and death rate processes and the absence of migration. For example, the figure of 1.22 for the RSFSR indicator in 1970 means that due to the specific features of the age composition of the female population, its size can increase by 22 percent (For more detail see S.I. Pirozhkov, "Demograficheskiye protsessy i vozrastnaya struktura naseleniya" /Demographic Processes and the Age Structure of the Population/, Moscow, 1975.

The population of the USSR republics can be classified in terms of the nature of population reproduction and in terms of the type of age structures. This kind of classification is essential because populations evaluations which are performed using only reproduction indicators frequently are excessively approximate in nature. The actual age structure of the population always differs from the structure of the hypothetical population constructed on the basis of birthrate and death rate indicators, i.e., from the structure of a stable population.

An analysis of the age structures of the population in the USSR republics shows that with a change in the population reproduction conditions, there is a change in the type of age structure. The entire population of the USSR republics, according to the 1970 census, can be divided into three groups depending on the nature of the age structure (See Table 3).

Table 3

Age Structure of the Population in the USSR Republics According to the 1970 Census, in percentages

Groups	Republics	Age, in years				
		0-4	5-9	0-14	15-59	60 and older
I	Uzbek SSR	16.0	15.8	45.1	46.2	8.7
	Tadzhik SSR	17.0	16.5	46.6	45.9	7.5
	Turkmenian SSR	16.1	15.8	44.9	47.9	7.2
	Kirghiz SSR	14.1	14.7	41.7	49.4	8.9
	Azerbaijan SSR	14.5	15.9	44.1	47.9	8.0
II	Armenian SSR	11.6	14.2	39.2	52.5	8.3
	Kazakh SSR	11.9	13.4	29.0	57.9	8.3
	Moldavian SSR	9.5	11.1	32.2	58.1	9.7
	Georgian SSR	9.2	11.0	30.6	57.5	11.2
III	Lithuanian SSR	8.6	9.5	27.0	58.0	15.0
	Belorussian SSR	8.3	10.1	29.0	57.9	13.1
	RSFSR	7.2	7.2	26.5	61.6	11.9
	Ukrainian SSR	7.3	8.7	24.9	61.2	13.9
	Estonian SSR	7.1	7.5	22.1	61.1	16.8
	Latvian SSR	6.8	7.5	21.6	61.1	17.3

*Source: "Itogi Vsesoyuznoy perepisi naseleniya 1970 g. /Results of the All-Union Population Census of 1970/, Moscow, 1972, Vol 2.

The first group includes the population of the Central Asian republics and Azerbaijan; as a result of a very high birthrate in the past, these republics have a very large proportion of children, who constitute on average 45 percent of the entire population. Among the entire population of this group the proportion of children in the 0-4 age group is practically equal to the proportion of children in the 5-9 age bracket. The proportion of children and the proportion of parents in a population of this type are very similar.

The population of the Trans-Caucasian republics, Moldavia and Kazakhstan can be included in the second group. A decline in the birthrate is noticeable in this group, the proportion of children is less than the

proportion of parents, while the proportion of old people is increased. As a result of the decline in the birthrate, these republics have a much smaller proportion of children in the 0-4 age bracket than they have in the 5-9 year group.

The third group includes those republics which have a population which is close to stationary in type. In their age structures, the proportion of children is nearly one-third the proportion of parents, and there is little difference in the 0-4 and 5-9 age groups. The RSFSR, UkSSR and the BSSR, in which the intensive demographic shift is coming to an end, constitute an exception.

These age structure groups which have been delineated for the population provide a sufficient idea concerning their future evolution.

From this viewpoint, the age structure in the population of the second group represents a population in a period of demographic transition, in the so-called unstable state. The third group includes a population, which is coming close to a stable state; it is completing the demographic transition.

Thus, while taking into account the demographic situation, it can be claimed that the problem of stabilization in the size of the population in our country is becoming ever more real. The difficulty consists only in the time periods for the achievement of stabilization conditions. Theoretically the conditions for stabilization have been fulfilled for a majority of the regions in the country inasmuch as 80 percent of the population is characterized by simple reproduction, which is typical for the start of stabilization.

Judging the time periods necessary for completion of the demographic transition in regions which are in its initial stages, i.e., in the republics of Central Asia and Azerbaijan, presents significant difficulty. All that is clear is the fact that, judging by the demographic development of a majority of countries in the world, the process of transition to a qualitatively new type of reproduction is inevitable for these republics as well.

However, the end of the demographic transition and the stationary state which the entire USSR population is approaching, should be considered at the present time only as a conditional forecast. Its accuracy is determined only by existing demographic tendencies. Under these conditions there is a growing need not only to determine the tendencies in USSR population development but also to develop and carry out measures for the active intervention in these processes in order to establish the desired type of population reproduction with appropriate consideration given to the basic tendencies in its development.

FOOTNOTES

1. Let us recall that in 1958 the life span for men in Japan was 65 years, and for women 70 years, in 1977 it was 73 and 78 years respectively (See "Narodonaseleniye stran mira" /Population in the Countries of the World/ Moscow, 1978, p 169.

2. R.I. Sifman and Ye.M. Andreyev attempted to solve this problem by calculating the number of births for the 1925-1929 generation (See "Dinamika rozhdayemosti v SSSR" [Dynamics of the Birthrate in the USSR], Moscow, 1979.
3. See V. Galetskaya, "The Present-Day Demographic Situation in the CEMA Countries," VOPROSY EKONOMIKI, No 4, 1980, p 110.
4. See: "Narodonaseleniye stran mira," 1978, p 19; Narodnoye khozyaystvo SSSR v 1979 g." [The USSR National Economy in the Year 1979], pp 578-579.
5. Calculation according to "Demographic Yearbook," New York, 1977, p 138. See the footnote to Table 2 for the essence of this indicator.
6. See E.A. Arab-Ogly, "Demograficheskiye i ekologicheskiye prognozy" [Demographic and Ecological Forecasts], Moscow, 1978, p 99.
7. See A.G. Vishnevskiy, "Demograficheskiy vsryv" [The Demographic Explosion], Moscow, 1980.
8. See S.G. Strumilin, "In Outer Space and at Home," NOVOYE VREMYA, No 7, 1961.
9. The essence of it lies in the fact that under the influence of the social and economic factors which are manifested specifically in every country, the demographic processes go through several stages in their development: a stage of high, unlimited birthrate and high mortality and a stage of low, consciously limited birthrate and low mortality; low rates of natural population increase are characteristic of both stages although at qualitatively different levels. Between these two basic stages there is a transitional stage from one to the other (See on this subject: A.G. Vishnevskiy, "Demograficheskaya revolyutsiya" [Demographic Revolution], Moscow, 1976; A. Ya. Kvasha, "Problemy ekonomiko-demograficheskogo ravitiya SSSR" [Problems of Economic and Demographic Development of the USSR], Moscow 1974).
10. See A. Souvy, "Croissance zero?", Paris, 1977.

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DEMOGRAPHY

MIGRATION PROBLEMS, YOUTH MOBILITY STUDIED

Moscow RABOCHIY KLASS I SOVREMENNYIY MIR in Russian No 1, Jan-Feb 82 pp 93-105

[Article by V. I. Perevedentsev: "Migration Problems and the Mobility of Young People"]

[Text] The migration of the population is one of the most massive and important social processes of the present day. One of the main results of migration is the territorial redistribution of manpower resources, their influx to some places and outflow from others. The territorial mobility of the population is closely connected with all other types of mobility: social, occupational and so on.

In the 1970's in the USSR 15-16 million resettlements occurred annually, that is, 6-7 percent of the population changed places of residence in a year.¹ Primarily young people take part in migrations. People from 15 to 25 years old, that is, at the ages of the choice of occupation, the completion of general education and the obtaining of a vocational education, the beginning of labor activity, the formation of one's own family--that is, the period of the arrangement of one's life--are the most mobile. Precisely the migration of young people determines for the most part the changes in the territorial distribution of the population and manpower resources.

The main migratory processes are stable in time. The dominant directions of the migrations of the population in the USSR are such: from the countryside to the city; from urban settlements of a smaller scale to larger ones; from old settlements to new ones; from old developed regions to regions of new economic development. The migration of the population reacts sensitively to economic and demographic changes occurring in the country. The cardinal changes in the increase of the manpower resources of the USSR in the 1980 as compared with the 1970's will inevitably affect the processes of the territorial redistribution of the population. It is necessary to take the new situation into account in the national economic and social plans and to take practical steps on the rationalization of migratory processes. The goal of the control of migratory processes from an economic point of view is the achievement of "the balance of the available workplaces and workplaces being created with manpower resources,"² the achievement of conformity between the distribution of manpower resources and the needs of the national economy for them. At present in some places a serious shortage of manpower resources is being felt, in others there is an appreciable surplus of them. This circumstance was noted in the Accountability Report of the CPSU Central Committee to the 26th party congress.³

In this article the migration problems of the 1980's, which are arising before the country in connection with the sharp changes in the situation with manpower resources, are covered and the processes of the movement of the rural population to cities and the settling of regions of new economic development are examined.

Up to now the constant and rapid increase of manpower resources (with the exception of the first half of the 1960's), which, moreover, was practically universal, was characteristic of the USSR. In the 1980's the situation is changing drastically.

The cardinal changes in the increase of manpower resources will inevitably have an enormous influence on the course of migratory processes and on the territorial redistribution of the population and manpower resources.

The Movement of the Rural Population to Cities

The clearly preferential growth of the urban population and the rapid increase of its proportion in the entire population, which are occurring due to the move of rural inhabitants to the cities, have been characteristic of the USSR since the 1st Five-Year Plan. These processes are inseparably connected with the industrialization of the country, the changes in the social class structure of the population and other important processes. The proportion of city dwellers in the population of the country increased from 18 percent in 1926 to 33 percent in 1940, 56 percent in 1970 and 63 percent in 1981. As we see, now the ratio between city dwellers and rural residents has become, as compared with prewar times, the reverse.

During the 9 years between the last censuses the countryside provided 15.6 million people of the growth of the urban population, which came to 57 percent of the total increase of the number of city dwellers during this period. It should be borne in mind that in general the growth of the urban population is being provided by migrants from the countryside--without the migration of the population from the countryside to the city there would be no natural growth in the cities, since the urban population has had narrow reproduction for a long time now, that is, there are not enough children for the simple quantitative replacement of the parental generation.

The net movement of rural inhabitants for the country as a whole (along with administrative reorganizations of villages into cities) for a long time has been practically equal to the natural growth of the rural population. In 1951 108.6 million people lived in the countryside, in 1966 108.5 million people did. However, in the second half of the 1960's the outflow of the population from the countryside became considerably greater than the natural growth of the rural population, and the number of village inhabitants began to decrease. By early 1981 it had decreased to 97.7 million, that is, by 10.8 percent, or by one-tenth as compared with 1966. The decrease of the rural population occurred unevenly. It decreased most rapidly in the first half of the 1970's. During 1971-1975 the number of rural inhabitants became 4.6 million fewer, during 1976-1980--only 2.7 million. Usually this decrease of the net outflow of the rural population is explained by the increase of the standard of living and the improvement of the living conditions of the rural population, as well as by the work on the attachment of rural young people, which is being performed by the school and public organizations. In our opinion, the main cause of these changes was the sharp decrease of the need of cities for additional manpower--inasmuch as in the second half of the 1970's the natural growth

of the number of city dwellers of working age was especially great. The fact that at the very end of the 1970's the outflow of the population from the countryside increased again as compared with the middle of the decade, testifies, in particular, to this.

An overwhelming number of the migrants from the countryside to the city are very young people. Especially intensive is the migration of those who are from 15 to 25 years old, among whom three main flows of young people from the countryside to the city stand out clearly:

- 1) 15-16 years old, after completing the incomplete secondary school; this flow is connected primarily with the enrollment of young people in vocational and technical schools, secondary specialized educational institutions, in part in general educational secondary schools, as apprentices in industry and other sectors of the national economy;
- 2) 17-18 years old, after graduating from secondary general educational schools; the young people enroll in higher educational institutions, secondary specialized educational institutions, technical schools, go to work in all the sectors of the economy of the city;
- 3) after service in the army, at the age of 20-21, the migrants of this age also go to various vocational educational institutions--from vocational and technical schools to higher educational institutions--and to work in all the sectors of the economy of the city.

Special studies have established that graduates of secondary school, members of the intelligentsia, machine operators of agriculture, that is, the most educated, skilled and enterprising people, leave the countryside most actively.

The migration of the population between the countryside and the city leads to the relative rejuvenation of the urban population and the aging of the rural population and to the redistribution of the economically and socially most valuable population in favor of the cities. The flow of the population from the countryside to the city for the country as a whole is approximately twofold greater than the reverse flow. Mainly recent rural inhabitants, who were not able to "fit in" well in the city, and those, for whom adaptation to the city, to urban types of labor and to the urban way of life proved especially difficult, move from the city to the countryside. But the flow of young intelligentsia--teachers, physicians, agronomists and so on--who are sent to the countryside after graduating from higher educational institutions and tekhnikums, is also significant. True, among the latter those people from the countryside, who lived in the city only during the years of study, once again predominate.

The migration of the population between the city and the countryside in different places of the country occurs very differently. As is evident from Table 1, in the intensity of the net outflow of the rural population the difference between the republics as a whole is sixfold: in the three republics of Central Asia the net migratory losses come to only 4 people per 1,000 inhabitants a year, while in the RSFSR, Belorussia and Lithuania they come to 24-25.

Table 1

Intensity of Rural Migration in 1974 (People)

Republic	Per 1,000 rural inhabitants		Balance for coun- tryside
	left country- side for city	came to country- side from city	
RSFSR.	34	17	-17
Ukraine.	30	15	-15
Belorussia.	38	13	-25
Uzbekistan.	9	5	-4
Kazakhstan.	32	15	-17
Georgia.	9	3	-6
Azerbaijan.	15	7	-8
Lithuania.	37	13	-24
Moldavia.	19	10	-9
Latvia.	35	19	-16
Kirghizia.	22	12	-10
Tajikistan.	10	6	-4
Armenia.	11	3	-8
Turkmenia.	8	4	-4
Estonia.	33	25	-8
USSR.	34	17	-17

Along with the great differences in the natural growth of the rural population this has the result that in some republics the number of rural inhabitants is increasing rapidly and in others is decreasing. Thus, in the 22 years since the 1959 census the size of the rural population of Tajikistan has doubled, while that of the RSFSR has decreased by 27 percent. However, the RSFSR is very large and diverse; in some places of it the rural population is increasing, in others it is decreasing rapidly. Let us take several oblasts of the Nonchernozem Zone and compare them with the republics of Central Asia. From Table 2 it is clear that in some places of the country the rural population in 22 years has doubled, in others it has decreased by one-half.

Table 2

Change of Size of Rural Population in 22 Years (Thousands of People)

Oblasts and republics	Number of rural inhabitants		1981 as a per- centage of 1959
	1959	1981	
Kalinin Oblast.	1019	519	51
Kostroma Oblast.	555	279	50
Kirov Oblast.	1182	571	48
Uzbekistan.	5228	9452	181
Turkmenia.	816	1512	185
Tajikistan.	1334	2663	197

In the places of a significant migratory outflow of the population the proportion of young people is decreasing significantly, due to which the number of births is declining and the population is aging rapidly. Let us compare the age structure of the rural population of Kalinin Oblast, which is typical of the RSFSR Nonchernozem

Zone, and of Andizhan Oblast of Uzbekistan, which is typical of Central Asia. The population of Andizhan Oblast is young, that of Kalinin Oblast is old. The structure of the rural population of Kalinin Oblast, which had formed by 1970, would have led to the further decrease of its manpower resources even in the case of the halt of migration. As is evident from Table 3, there were substantially fewer children up to the age of 10 in its population than people 40 to 50 years old. When the latter cease to be of working age (pass the 60-year-old boundary), the former enter this age (cross the 20-year-old boundary). Moreover, those who come of working age should also replace those who die at working age or become ill and disabled. But the age composition of the rural population of Andizhan Oblast ensures a long-term large growth of the population and manpower resources, since the large number of children today is a large number of parents in the not very distant future.

Table 3

Age Composition of Rural Population in 1970 (Proportion in Population in Percent)

Age, years	Kalinin Oblast	Andizhan Oblast
0-9.	12.9	35.0
10-19.	16.8	22.8
20-29.	7.7	9.4
30-39.	13.2	11.4
40-49.	15.6	6.9
50-59.	12.1	4.3
60 and older	21.7	10.3
Total	100.0	100.0

The formed migration of the rural population, which is very stable in time, is causing serious problems of a demographic, economic and social nature. In some places--the Nonchernozem Zone, Siberia, the Far East and so on--there are not enough manpower resources in the countryside and not enough manpower in agriculture. In others--first of all Central Asia and Transcaucasia--it is impossible to use the available manpower resources efficiently. In some places the land is being used inadequately. The volumes of agricultural production here are less than they would be in the case of the better supply of labor; in others labor is being under-utilized.

The main problem of the migration of the rural population of the USSR consists not in the fact that too many people are leaving the countryside, but in the fact that they are leaving primarily from where there is not enough manpower and are not leaving from where there are large surpluses of manpower resources.

The often repeated assertion that the countryside does not have enough workers has not been proven and, most likely, is incorrect. The agricultural population of the USSR at the beginning of 1981 came to 63.7 million, or 24 percent of the total population of the country.⁴ No other economically developed country has either a similar or even in any way close indicator. The economic gains of the country to a considerable extent will depend on the extent to which it is possible to decrease the proportion of the agricultural population. Let us note that the 26th CPSU Congress outlined the more rapid increase of labor productivity in the public sector

than of agricultural output. From this it follows that the number of those employed in agriculture should be decreased substantially, that is, the migration of the population should absorb not only the entire natural growth of the rural population (which is significant in contrast to the city), but also a portion of the manpower resources which for the present are employed in agriculture.⁵

From all this it follows that we must not only strive to attach young people wherever there are not enough manpower resources, but also stimulate the migration of rural young people from labor-abundant rural areas. The balances of manpower resources, which should be drawn up with respect to fractional territorial units, should show the surpluses of manpower resources. For the present they are being drawn up only by republics and oblasts and, moreover, in them there is no column "the need for manpower resources," that is, they are of little use from the point of view of the establishment of the labor abundance or labor shortage of specific regions, and especially for the establishment of the amounts of the shortages or surpluses.

It is quite well known that first of all the rural areas of Central Asia and Transcaucasia, as well as the Northern Caucasus, Moldavia, the Western Ukraine and a number of other oblasts have a very large labor surplus. In the Accountability Report of the CPSU Central Committee to the 26th party congress it is directly indicated: "In Central Asia, a number of regions of the Caucasus... there is a surplus of manpower, especially in the countryside. And hence it is necessary to involve the population of these areas more actively in the development of new territories of the country. And, finally, to develop here the industries needed by the national economy, to carry out more extensively the training of skilled workers of the indigenous nationality, first of all from among rural young people."⁶

Unfortunately, until recently even in the most labor-abundant rural areas of Central Asia they not only did not stimulate rural young people to resettle in cities, but, on the contrary, suggested to the graduates of secondary school an initiative such as "as an entire class to the kolkhoz," although at this kolkhoz there was a large surplus of manpower resources as it was.

The proportion of city dwellers in the population of the different union republics at present is extremely different and is increasing at very different rates, and in the most labor-abundant republics the proportion of city dwellers is the smallest of all and is increasing the slowest of all. Here is how the proportion of city dwellers in the population of the union republics changed in the 22 years since the 1959 census (Table 4).

As we see, in 1959 there were more city dwellers than rural inhabitants in only 3 of the 15 republics, in 1970--in 5, in 1981--in 10. Whereas in 1959 the proportion of the urban population was the greatest in Latvia and Estonia, now it is the largest in the RSFSR. During the last, 11-year period the differentiation of the republics in the growth rate of the proportion of city dwellers increased sharply. With an increase of this proportion for the country as a whole by 7 percentage points, for Belorussia it came to 14 points and for Lithuania 12 points. However, in Azerbaijan the increase was equal to only 3 points, in Kirghizia--2 points, in Turkmenia the proportion of city dwellers did not change, while in Tajikistan it even decreased by 3 points. The union republics of Central Asia became the least urbanized region of the country.

Table 4

Proportion of City Dwellers in Population of Union Republics (Percent)

Republic	1959	1970	1981
RSFSR.	52	62	71
Ukraine.	46	55	63
Belorussia	31	43	57
Uzbekistan	34	37	42
Kazakhstan	44	50	55
Georgia.	42	48	52
Azerbaijan	48	50	53
Lithuania.	39	50	63
Moldavia	22	32	41
Latvia	56	62	69
Kirghizia.	34	37	39
Tajikistan	33	37	34
Armenia.	50	59	66
Turkmenia.	46	48	48
Estonia.	56	65	70
USSR.	48	56	63

From the point of view of the migration of the population all parts of the country are something like a system of communicating vessels. The migratory processes in each part of the country taken individually depend on what is occurring in the other regions. Until recently Central Asia was one of the regions with a large net migratory influx. Thus, for example, in the 11 years between the 1959 and 1970 censuses the influx of population to this region came to 458,000.⁷ When getting work in the cities of Central Asia, the people from other regions of the country took the workplaces which the people from the villages of Central Asia itself could not longer take. While the city dwellers, who had moved to Central Asia from the Urals, Siberia, the Volga River area, the Center and other regions of the country, were replaced at workplaces by people from the countryside, usually from their own region.

It is possible to cite a clearer illustration of such processes and their migratory consequences. If, for example, a young female weaver was released from a textile combine of one of the cities of Ivanovo Oblast, moved to Tashkent and went to work at a textile combine there, it was no longer possible to appoint a rural Uzbek woman to the place held by her. In Ivanovo Oblast the following happened: a girl from a vocational and technical school was transferred to the place of the female weaver, a rural girl, who recently completed the eighth grade of a rural school, took the place of this girl; when a boy of the same age as this girl returned from the army, there was no marriageable girl for him in the countryside and he should also have migrated to the city.

On the other hand, if the female weaver from Central Asia were to have moved to Ivanovo, the same processes would have occurred in Central Asia.

All these relationships are extremely important from the point of view of the control of the migration of the rural population. When stimulating the outflow of

young people from labor-abundant rural places, we are in fact attaching approximately the same number of young people in labor-scare places as would leave labor-abundant places.

From the point of view of the migration of the population of the country as a whole Central Asia, which in this respect will be the "directing" region, is acquiring decisive importance. It will be possible to attach young people to the countryside, say, of the Nonchernozem Zone to the extent to which it will be possible to move to the cities millions of current and future surplus rural inhabitants of Central Asia. This is an extremely important thing which is often incomprehensible and even unknown to people who are far removed from the study of migration. Usually it is believed that it is possible and necessary to solve the problem of attaching young people to the rural areas of any region by changing the standard of living and living conditions of the population of precisely this region, so that a longing for the city would not arise among the young people. However, much time is needed to make the conditions of rural living equal to urban conditions. And, moreover, the migratory aims of young people also greatly depend on the sociopsychological climate which has been forming for decades, and it is not easy to master them. In any case, young people are also leaving the kolkhozes and sovkhoses, which are the leading ones in all respects, for the cities; good living and other conditions do not hold back young people. Special studies have shown that in the Kuban, which in the well-being of rural inhabitants for decades has led the Nonchernozem Zone, the rural young people are also oriented toward the city.

It is incorrect to believe that as many people move to cities as would like to resettle in them; there are many times more people who wish to move as there are who actually move. The total amounts of the net movement of the rural population to cities for the country as a whole are determined by what the need of the cities for additional manpower is and what number of people can obtain means of existence in the cities. But if this is the case, the more places people from the labor-abundant rural areas of Central Asia and Transcaucasia, the Northern Caucasus and the Western Ukraine, Moldavia will occupy in the cities and the fewer of these places will be left for people from the labor-scarce rural places of the Nonchernozem Zone and the Urals, Siberia and the Far East.

However, the population of labor-abundant rural areas is sluggish with respect to migration. They reluctantly migrate not only to cities, but also to neighboring rural areas, even within their own republics. It is easy to see this in the case of the settling of the lands of new irrigation at the oases of Central Asia.

During the 1970 census 6.7 percent of the Russian population, 6 percent of the Lithuanians, 5.8 percent of the Estonians, but only 1.3 percent of the Azerbaijanis and 1.4 percent of the Uzbeks and Turkmens had lived less than 2 years at the places of the census.

One of the main tasks of the rationalization of rural migration at present is the sharp increase of the migratory mobility of young people of labor-abundant rural areas. The role of the rural general educational school and of the educational system in general in this matter is exceedingly great.

There is the need for an entire system of the preparation of rural young people of Central Asia for resettlement in cities and of assistance in the resettlement

itself and adaptation to the new living conditions, in which, in particular, the following measures can be included:

the substantial increase of the level of training of school children at general educational schools, especially in Russian, mathematics and physics; for this it is necessary, in particular, to cease the practice of the long-term enlistment of pupils of the upper grades in agricultural work during school hours;

the orientation of school children from an early age toward the city, urban occupations and the urban way of life;

the vocational training of the rural young people of Central Asia for urban types of labor directly in the countryside; many villages have a very large population, the author knows well a village in Fergana, in which there are 10 secondary general educational schools, at each of which there are more than 1,000 students; the villages with 5,000-10,000 inhabitants are numerous; many villages belong to very dense rural agglomerates, that is, the distances between them are very negligible; meanwhile in the villages there are almost no vocational and technical schools, while the Central Asian family cannot, as a rule, let its daughters go to urban vocational and technical schools;

organizational and economic assistance to young people in the matter of migrating from the countryside to the city; just as in the RSFSR migration to the countryside is being stimulated economically (traveling expenses, credits for a house, provision with housing and so on), so in Central Asia migration to the city must be stimulated;

assistance to new city dwellers in adapting to the city, the urban way of life; as experience shows, sociopsychological adaptation to the city and the personal transformation of yesterday's rural inhabitants into city dwellers are a lengthy and painful process which, unfortunately, has moreover been poorly studied.

Of course, in addition to influence on the rural population itself, a series of measures on the creation of the specific objective living conditions of migrants in the cities is also needed. It is expedient, in particular, to take more into account than at present, the local conditions in urban development (the types of houses and apartments, the layout, landscaping and so forth), the organization of daily life, the organization of labor (long work breaks during the hottest time of the day in the summer, in particular, are expedient) and so on.

Of course, the stimulation of the move of the rural population of labor-abundant areas to cities should be combined with work on the attachment of young people in the labor-scarce village. It is necessary to put the improvement of the objective living conditions of the rural population and the convergence of the countryside with the city in living conditions and the standard of living in first place in the matter of this attachment. The substantial improvement of the working and living conditions of rural inhabitants is necessary. As for labor in public agriculture, at present the significant proportion of difficult manual labor, the seasonal nature of the expenditures of labor (the lack of work for a significant proportion of the kolkhoz farmers and workers of the sovkhoz in the winter), the uninteresting nature of many types of labor and the sharp differentiation of labor into the labor of performers and managers are having an especially adverse effect. The current

rural way of life requires enormous expenditures of labor in the household and on the private plot. The rural woman, to whom the lion's share of housework falls, has practically no free time. Precisely the women who are mothers first of all influence their children in favor of the city and at times even "hustle out" their children to the cities against their will. The simplification of the rural way of life is one of the main tasks of the further development of the Soviet countryside. It is generally acknowledged that the main direction in this matter is the equipment of the rural home with utilities. Some time ago the creation of agricultural cities or urban-type settlements with a multistory housing system and underground mains, which are similar to those of the city, seemed to be the main means of rearranging the rural way of life. Now it is generally acknowledged that this means was incorrect. It is specified by decrees of the party and government that the well-appointed individual house of the farmstead type with outbuildings for livestock and vehicles should be the main type of rural home in the case of new construction. It seems to the author of this article that the main means of simplifying the current difficult rural way of life is the complete electrification of the rural house, up to heating and cooling (in the south).

The sociopsychological aims of rural inhabitants with respect to the countryside and the city are very stable. In the RSFSR rural young people are also actively leaving for the cities where very favorable living conditions have been created. In the best agricultural cities the local young people are actively migrating to the cities, while people coming from other places usually occupy the well-appointed urban-type apartments. Thus, many former city dwellers, including from the Donbass, the Urals, the North and so on, live in the settlement of Verkhnyaya Troitsa of Kalinin Oblast, where a splendid housing complex has been built. However, someone should replace these former city dwellers at the former workplaces. In the end former rural young people replace them; the move of urban inhabitants to the countryside is not changing substantially the overall picture of the redistribution of the population between the countryside and the city.

The rapid decline of the growth of manpower resources for the country as a whole will inevitably cause, other things being equal, a significant increase of the net transfer of rural inhabitants to cities. This may place the agriculture of a number of regions of the country, first of all the Nonchernozem Zone, in a very difficult position. So that this would not happen, it is necessary to take steps on the more economical use of the manpower resources of the city and on the rapid migration to cities of the surplus rural population of many southern regions of the country.

The Settling of Regions of New Development

The development of the north is of enormous and ever increasing importance for the economic development of the country as a whole. Nowhere in the world is the development of the north being carried out on such a large scale as in the Soviet Union. Especially great gains in this have been made in the last two decades.

From 1960 to 1979 the volume of industrial production of the north increased by 4.8-fold,⁸ several fold more than for the country as a whole. The development of the north is being carried out primarily for the sake of its raw material, fuel and energy resources. Here is how the production of some basic types of its industrial products in physical terms has increased (Table 5).

Table 5

Production of Industrial Products in the North

Type of products	1960	1970	1979
Electric power, billions of kWh.	9	44	102
Petroleum, millions of tons.	2	42	304
Natural gas, billions of m ³	1	18	145
Logging, millions of m ³	30	58	71
Canned fish, millions of conventional cans	162	264	805

Source: "Narodnoye khozyaystvo RSFSR v 1970 godu" [The RSFSR National Economy in 1970], p 40; "Narodnoye khozyaystvo RSFSR v 1979 godu" [The RSFSR National Economy in 1979], p 34.

In the 1970's the main fuel and energy base of the country was created in the Tyumen North. The north now provides more than half of the total production of petroleum in the country and the entire increase of this production. Many nonferrous rare and precious metals and much else are produced here.

The development of the north and the sharp increase of the production volumes were possible only with a rapid growth of its population. For the north as a whole it increased from 5.3 million in 1965 to 5.8 million in 1970, 6.8 million in 1975 and 7.7 million in 1979. As we see, the growth has been increasing sharply. In 14 years the population of the north increased by 2.4 million--by nearly one-half. This is an exceptionally high growth rate of the population for the vastest region as a whole (the north occupies one-half of the territory of the country). Its main component is the migratory influx of the population, in which young people clearly predominate. For individual parts of the north, where the economy developed most rapidly, the growth of the population took place much more rapidly. Thus, in the Khanti-Mansiysk Autonomous Okrug, in places along the middle course of the Ob River, which before this were very sparsely populated, in a decade and a half a large concentration of the population arose, an entire "constellation" of cities and urban-type settlements arose, and two of them--Surgut and Nizhnevartovsk--became large (137,000 and 134,000 inhabitants respectively at the beginning of 1981). This rapid growth was connected with the creation and rapid development here of the petroleum industry.

The industrial development of the north is spreading, as a rule, through "centers" which are small in territory and are separated by broad, practically uninhabited expanses, while the data on the size of the population are confined to vast territorial administrative units. This levels substantially the growth rates of the population in the main centers of development. However, for the autonomous okrugs, entire oblasts and republics of the north the growth rate of the population is frequently very significant (Table 6).

In many places of the north the growth rate of the population was significantly higher than in Center Asia. Let us recall that the population of the country as a whole in the 22 years since the 1959 census increased by less than 28 percent. As we see, the exceptionally active settlement of the north occurred, and young people played the main role in this. The proportion of those from 20 to 30 years old

in the population of the north is exceptionally large, especially in the regions of new economic development.

Table 6

Growth of the Population of Some Parts of the North

Administrative territorial unit	Size of population, thousands			1981 as a percentage of 1959
	1959	1970	1981	
Khanti-Mansiysk Autonomous Okrug.	124	271	672	542
Yamalo-Nenets Autonomous Okrug.	62	80	193	311
Magadan Oblast.	236	352	490	208
Kamchatka Oblast.	221	288	392	177
Yakutsk ASSR.	487	664	883	181

Source: "Itogi Vsesoyuznoy perepisi naseleniya 1970 godu" [Results of the 1970 All-Union Census], Vol 1, pp 12, 14; "Narodnoye khozyaystvo SSSR v 1980 godu" [The USSR National Economy in 1980], pp 12-14.

An effective system of the attraction of the population to the north was created (diverse and high wage coefficients, the increase of leave, the reservation of housing in the places from which people migrated to the north, the possibility of purchasing out of turn some scarce goods, for example, motor vehicles on the Baykal-Amur Railway Line and so on). There are many more who wish to come to the north, especially to the large new construction projects which are well known unionwide, than the north needs.

At the same time up to now, unfortunately, an effective system of the attachment of personnel to the north has not been created. Whereas it is possible to attract the population here by higher wages, it is possible to attach them only by good living conditions. Here the housing conditions are usually worse than in other places, there is an acute shortage of children's preschool institutions, in general the social infrastructure is relatively poorly developed, there are substantial shortcomings in the supply of foodstuffs, especially fresh milk, vegetables and fruits.

The social living conditions frequently not only do not offset the well-known difficulties created by the natural conditions (the long and harsh winter, the short summer, in the high latitudes the polar days and nights, the abundance of blood-sucking insects in the summer, swampiness, impassable roads and so on), but also aggravate them. Therefore a high turnover of personnel and migratory mobility of the population are characteristic of the majority of regions of the north.

At the same time the northern regions of new economic development in part are losing the most valuable personnel for them: young, but already skilled workers, who have received and greatly increased their skills in the north and have adapted well to the local natural conditions. Single young people, the proportion of whom is very large among those coming to the north, accept more easily the austere living conditions, including life in dormitories, trailers, ravines and other ersatz housing than married young people. Many young families are being created in the north; after the appearance of a child many aspire to move further south, to

relatively inhabited regions, with better natural and social living conditions. Women who are mothers especially strive for this, acting frequently as the main motive force of departure from the north.

New young enthusiasts, who frequently do not have the necessary specialties or with poor skills and are not adapted to the conditions of the north, succeed the skilled, adapted and seasoned northerners. And when after a few years they become skilled and adapted, families and children appear among them, they also leave, while young people from other regions come again to take their place. Such a cycle greatly affects the productivity and quality of labor. Due to the relatively low productivity more people are required, but populousness complicates the creation of better living conditions for the population of the north.

The processes of the formation of the population in regions of new economic development have been studied in detail by economists, sociologists, demographers and geographers of Siberia. The formation of the population of the Tyumen North has been studied especially well.

In particular, the studies showed that the main reasons for leaving the Tyumen North are the following: dissatisfaction with housing, supply and cultural and personal conditions. The dissatisfaction with wages and the climate is relatively low.⁹

In the Accountability Report of the CPSU Central Committee to the 26th party congress the following was said in this regard: "At times it is assumed that it is enough to increase the wage increments in Siberia, the Far East and northern regions, and people will not leave there. Increments, of course, are needed. However, this alone will not solve the problem. A person leaves, say, Siberia most often not because the climate did not suit him or the wage was too little, but because there it is more difficult to obtain housing, to get a place for a child in a kindergarten, there are few cultural centers."¹⁰

Inadequately good living conditions cause the "washing away" of skilled workers, while their replacement with less skilled workers increases the need for manpower, which leads to the inordinate growth of the population, while this complicates the increase of the standard of living and the improvement of living conditions. It is possible to break this closed circle only by the drastic improvement of the living conditions of the population of the north. The social living conditions here should be better than in other regions, in order to offset the drawbacks and difficulties of the natural conditions.

Another important cause of the relative populousness of the regions of new economic development is departmentalism, the aspiration of departments and organizations of various kinds to run a kind of "natural" economy, to have everything of "their own," to depend as little as possible on various kinds of contractors. Every, to the slightest extent significant enterprise strives to have its own housing, its own transportation, its own repair service, its own construction workers and so on. New cities and workers' settlements during the initial period of their existence are, as a rule, an agglomeration of departmental settlements, which it is subsequently unusually difficult to transform into a single city, and it is extremely expensive. Thus, the present large city of Surgut in the late 1960's was a chain of settlements along the Ob River many kilometers in length, in which there were:

the old settlement which was the rayon center, the settlements of the petroleum industry workers, geologists, geophysicists, construction workers, river transport workers, fishermen and foresters. In each such settlement there were its own workers' supply departments with their own warehouses, stores and dining rooms, their own mini-boiler houses, electric power stations, bathhouses and clubs. All this was small, poorly equipped and required a large amount of difficult, unproductive manual labor.

The intolerability of departmentalism in the development of new regions has been repeatedly indicated in party documents. In particular, in the Accountability Report of the CPSU Central Committee to the 25th party congress the following was said: "We have by right given a high rating to what has been done in Western Siberia. But with the better organization of the matter the achievements could have been more significant. Let us see what the result is. In Western Siberia, while working essentially on a single task, four departmental river fleets and a large number of construction and supply operations are in operation. In Moscow they look toward a good 10 ministries and departments. As you see, there are many nursemaids. But there are also enough shortcomings. Disunity and poor concentration are leading to unjustified expenditures and losses and are delaying the solution of major problems."¹¹

Unfortunately, neither the positive nor the negative experience of developing the petroleum regions of Western Siberia was properly taken into account during the initial stage of the economic development of the very vast (about 1.5 million km²) zone of the Baykal-Amur Railway Line. During the development here of the first new territorial production complex--the Southern Yakutsk Territorial Production Complex--the departmental trends appeared again with enormous force. Thus, in Neryungri they built the settlement of the power engineers apart from the city and initially wanted to make even the centralized heating from the electric power station only for this settlement.

Among researchers of the regions of new economic development the firm conviction has formed that the creation of special organs, which manage entirely the processes of the development of territorial production complexes and cities, is necessary for overcoming departmentalism and that designers, clients and general contractors, which are "common" for the cities and territorial production complexes, are needed. In the opinion of the majority, the organs of Soviet power should be the general clients for the cities.

The economic development of the north will assume in the future, undoubtedly, an even greater scale. However, it should be carried out by more economical methods, including in the demographic respect. The sharp decrease of manpower resources will not make it possible to increase the population of the north on the scale which was characteristic of the 1970's. Along with the supply of these regions with new, highly productive equipment of special "northern" design the creation here of a permanent population and permanent personnel of a high occupational level is necessary for a sharp increase of labor productivity. This requires a sharp decrease of the migratory mobility of newcomers and the increase of the "attachability" of migrants in the north. The most important prerequisite of this is the substantial improvement of the living conditions of the northern population.

A population, which is already local in origin and by education and which loves and values the local nature and local life with all its peculiarities, has formed in many places of the Soviet Union, which were uninhabited a few decades ago. These people are fervent patriots of their areas, they do not intend to exchange them for other, warmer and more improved ones. The same thing will also happen where for the present only migrants live.

The migration problems of the USSR at present are great and complex. The substantial rationalization of migratory processes is needed. This is an important reserve of the economic and social development of the country, and there is not doubt that these problems will be successfully solved.

FOOTNOTES

1. "Narodonaselniye stran mira. Spravochnik" [The Population of the Countries of the World. A Reference Book], edited by B. Ts. Urlanis, Moscow, 1978, p 457.
2. "Materialy XXVI s"yezda KPSS" [Materials of the 26th CPSU Congress], Moscow, 1981, p 141.
3. Ibid., p 54.
4. "Narodnoye khozyaystvo SSSR v 1980 godu" [The USSR National Economy in 1980], Moscow, 1981, p 7.
5. See "Materialy XXVI s"yezda KPSS," p 164.
6. Ibid., p 54.
7. "Narodonaseleniye stran mira. Spravochnik" [The Population of the Countries of the World. A Reference Book], Moscow, 1974, p 411.
8. "Narodnoye khozyaystvo RSFSR v 1970 godu" [The RSFSR National Economy in 1970], p 40; "Narodnoye khozyaystvo RSFSR v 1979 godu" [The RSFSR National Economy in 1979], p 34.
9. T. G. Gaponova, "The Formation of the Population of the Tyumen North," SOTSIOLOGICHESKIYE ISSLEDOVANIYA, No 2, 1976, p 63.
10. "Materialy XXVI s"yedza KPSS," p 54.
11. "Materialy XXV s"yezda KPSS" [Materials of the 25th CPSU Congress], Moscow, 1976, pp 60-61.

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