

MAPS FOR PLANNING

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Abstract: The authors present the requirements for maps for planning from the users' view. The organisation of collecting the datas and presenting the maps is given by the example of the USSR, a country where the economic and social transformation is in urgent want of new and timely information including the adequate maps.

Great changes occurring in the world economy now necessitate the elaboration of a system of provision of information being capable of the satisfaction of all main demands from the management and planning by taking into consideration the daily dynamics of social and economic relationship, of its medium term and long term trends. The organisation of such an information provision is especially important in the USSR, where the restructuring of all links of the economy is happening. New relations between union and autonomous republics will form the full economic self-dependency, as well as the transition to the territorial cost accounting of regions, districts and cities of the country. This is accompanied by the breakdown of old economic connections, the decentralisation of the economic management of branches and territories, the revision of conditions, forms and directions of the economy. It happens against the background of the aggravation of economic, social, political, ecological, and national relations between republics as well as regions. The novelty and dynamism of the occurring processes, the complexity and amenability of the taken decision raise the interest of all organs of government and planning from the level of the union and union republics to the level of urban and rural Soviets for various, actual, and territorially specific information about natural surroundings and resources, the economic potential, the ecological situation, the social infrastructure and other features of the territory.

Taking this into account first of all one ought to heed the problem of the cartographic meeting of the planning needs of the economy whose role and functions increase under new conditions immensely. This is explained by unique

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properties of maps and by enormous possibilities of new cartographic methods for research, by the transition of cartography to automation and geoinformations, by the broad use of the data of the distance sounding, by the complex application of the system approach, by the rapid rise of elaboration of maps and the provision of users with them. But in practice, the compilation of maps for planning is used extremely insufficiently. The elaboration and systematic consistent realisation of a perspective programme of cartographic satisfaction for branch and territorial planning with regard to inquiries from all its links and level are necessary for a radical improvement of the state of arts. A special attention must be paid to a broad introduction of the scientific and technical progress in cartographic science and practice which will allow to go over to the systematic of genuine economic territorial complexes, to the allround and purposeful mathematic cartographic modelling of processes occurring in them, to the creation of a more objective and scientifically grounded evaluation, as well as prognostic and other cartographic models on the basis of the use of computer data bases and automated cartographic systems.

All this can only be organised on a new level of the information securing of the cartographic activities within the framework of geographic information systems, including cartographic, aerospace, statistic and other sources of information from data bases combined with automated cartographic systems. For the fulfilment of this there are considerable theoretical, methodological, and practical foundations in several scientific cartographic centres of the country, e.g. at the Moscow University where the automated cartographic system AOS-MGU tested in the case of the formation of data bases and of the automated cartography of the Moscow and other regions is operative.

Such an approach will save the necessity of a profound study of many questions concerning the information securing, the process of creating maps for the sake of planning.

The exhaustive information about the territory will accumulate within the framework of universal geographic information systems. Additionally separate information massifs with the data being necessary only when composing maps for planning can be created. The elaboration of such geographic information systems must precede within the framework of a united general state programme without fail. So the concordance of the structure and contents concerning the geographic information system on all territorial levels will be ensured.

The use of materials from aerospace surveys should be started, because its significance is rather large for investigating the territorial localisation and for the interaction of objects and phenomena of nature and economy. Their contemporary

state and change in space and time engenders a special problem while creating geographic information systems capable of ensuring the automated projecting and of compiling maps for the planning. The elaboration of such geographic information systems must proceed within the framework of the united general state programme without fail. This will ensure the concordance of the structure and contents concerning geographic information systems on all territorial levels.

Much work is to be done to touch the selection and classification of geographic information systems of specific indices capable of providing the process of mathematic-cartographic modelling with all initial parameters, and of saturating the maps for the planning with indispensable natural resources, ecological, social and other information.

Within the framework of geographic information systems all data are used by composing maps for planning form definite subject files in computer data bases. They are furnished with a special control system and packages of applied programmes for mathematic-cartographic modelling and automated cartography. Let us mention that the specificity of maps for planning and the methodology of their creation necessitates the elaboration of special solutions of many questions concerning the programming and automated cartography.

From this point of view it must be conjugated with the solution of arising methodological and practical questions of cartographic ensuring the planning of the economy, including the revision of subjects and contents of maps, the improvements of their types and kinds taking into consideration new inquiries from institutions of management and planning. Many organisational, legal, technical, commercial, and other aspects of cartography are liable to re-interpretation. Much work waits for the extension of the theoretical and methodological fundamentals of cartography including the specification of the used terms and nations, the selection of objects, units, indices and the foundation of map scales with regard to the perfection of methods for the creation and use of maps for planning.

Ensuring the greatest efficiency of planning and foundation of the proposed plan, decisions necessitates the perfection of its scientific fundamentals, the modernisation of methods, and its fulfilment in conjugation with the solution of the problems in cartographic ensuring planning tasks. It is possible if the planning objects are regarded as complicated territorial systems and resorts to the principles of cartography. On all territorial levels of planning it is important to elaborate and to keep a certain work succession by clearing out and analysing the problems to be solved and after determining specific goals of research. By means of system analysis a target investigation of the territorial or branch system is to be studied. The exposure, modelling, and diagnosis of its elements as well as of their interrelation-

ship, the analysis and prognosis of the development of the systems in time and space are conducted. In particular: needs of resources are determined, conditions ensuring the development of the system are elaborated, planned conditions and scenarios of the development of the system are analysed, and most acceptable versions are chosen. The decisions reflected in series of maps are utilised for the selection and specification of the solutions concerning the development of the geosystem, realizing the fulfilment, and controlling the use of cartographic research methods.

Thus diverse maps including basic maps, research map-tools, map-decisions, and others are used in planning. They are made available on all levels of the territorial hierarchy of planning and they ensure the solution of the tasks of the current, short term, medium term, and long term planning and for prognoses. Depending on the direction of planning (the development of material production or of the non-productive sphere, the environmental protection or the use of natural resources aso.) the cartography covers certain elements and subsystems of the general territorial complex being integrated in structural or resource maps, maps of the ecological state, or the protection of the environment, maps of the conditions curtailing the development and functioning of the territorial complex, maps of the functional zoning of the territory, of the efficacy concerning the functioning of the complex within the territorial system of higher hierarchical ranks and others.

Sets of maps of the groups just mentioned, their subjects, contents, and ways of compilation will vary in proceeding from the specific natural economic complex and planning tasks.

The aggregate of basic maps renders a fundamental characteristic of the territory and therefore it serves as basic cartographic information while solving diverse tasks of planning and prognoses. Operative maps exist independently or as supplements to basic maps. They represent objects of planning and management according to data for a year and even shorter periodical time. First and foremost these maps are composed on the basis of current statistics, of materials from aerospace surveys, and of other information sources being steadily updated. Therefore the solution of the problem of the automated rapid creation, reproduction in quantity, and dissemination is especially important for them.

Although the subject of the basic and operative cartography is the same - the form or shape of a natural complex on a territory, based on the available social economic potential, the used kinds of resources, and formed or shaping connections - the approaches to its cartography are fairly different. For basic maps the cartography of stable and steady structures and connections of dynamic trends and

forecasts, of general and similar characteristics combined with the use of synthetic typologies and classifications attains the greatest importance. That is why information by such maps does not lose its actuality within several years. First of all the operative maps make use of monetary and current changes, therefore they are actual within a very short time, afterwards they already have historical significance.

Besides the necessity of ensuring the system mode of the scrutiny of the objects concerning cartography and automation of the process of creating maps it is important to take into consideration lots of other trends being particularly important for the modern situation of the social, economic, and political development of our country. With regard to the maps for the planning general emphasis is to be laid on people including the description of their health, social, and economic well-being, national traditions, their religious faith, and political conviction. Therefore the characteristics concerning the duration of life, of birth- and death-rates, of sick rates, of evaluating social tensions, and the criminal situation, of national strikes etc. are to be used in maps for planning. It is important to disclose the social economic, national, political causes of the observed destabilising phenomena and processes, especially in the regions of social economic calamities and ecological disasters.

Under the conditions of the rise of economic self-dependency in the republics and regions the elaboration of new principles of the economic and political organisations of the Soviet Union raises the problem of compilation of all-union and republican maps representing fundamental subjects of the economy and the social development in a generalising territorial (regions and districts) view. On this level it is important to show not only the placing, qualitative and quantitative indices of the natural and economic resources, favourable conditions of the economic mastering of the territory but the degree of the formation, the specialisation and the spatial structure of the territorial production complexes, the system of shaped social economic relations touching labour resources, raw materials, completing materials, and the final products as well.

With the transition of the cartography to great economic regions there increases the role of the characteristic of the reached level and of outlooks concerning the development of the intra-republican and interregional division and cooperation of labour, of the social and economic interrelationship within the all-union, interregional and international exchange, of trends in the transformation of economy and property, of the departmental and territorial organization of economic and social objects, of priorities in the location and development of the productive forces including the social reorientation of industry, agriculture, transport, and

services, of the limitation of the production requiring the expenditure of labour, land, or energy, of the reconstruction and modernisation of plants with ensuring a high environmental security and economic efficiency of the production.

Owing to the necessity of a study, account and full utilisation of any additional possibilities of the development and of resources of the economy, there is built up the need of information on resources and conditions of the social economic development of other republics and regions with which interrelations and interactions exist or may exist, including issues of environmental security, of relations between nations aso.

For the social economic cartography on the regional and local level, systems of maps will be required and they will have to represent urgent problems and tasks of the social and economic development of different settlements and plants, of administrative districts and other objects of management and economy. Among them let us mention the characteristics of the level of development, the peculiarities of the placing and efficacy of industry and agriculture, the demand for labour and natural resources, the technical maintenance and supply of raw materials, consumer goods, the level and specific positions being provided with local sources of raw materials, energy and other goods, and the necessity of purchase (exchange) from other regions, the participation of the region in the all-union division of labour, the pollution, and the ways of improving the environmental situation.

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