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## PROGRAMME-AIMED MANAGEMENT IN THE AGRARIAN SECTOR OF ECONOMICS

### ПРОГРАМА ВЛУЧНИМ УПРАВЛІННЯ В АГРАРНОМУ СЕКТОРІ ЕКОНОМІКИ

#### ANNOTATION

Methodological instruments of the programme-aimed management of the regional agrarian sector of economics basing on imitational modeling of production-economic and social processes were worked out. It was developed the algorithm of process in forecasting, planning and forming aimed complex programmes of AIC development which varies with the already known systematic complex approach to its construction, including broadening factors systems, strategies, mechanism of conversely-progressive modeling changeable conditions of environment and correcting tasks of programme-aimed management of regional AIC.

**Keywords:** strategic planning, programme-aimed management, balance-economic imitation modeling, national monitoring in AIC development, aimed complex programmes, strategy of planning agricultural development.

#### АНОТАЦІЯ

Визначено методичний інструментарій програмно-цільового управління аграрним сектором економіки регіону, який ґрунтується на імітаційному моделюванні виробничо-економічних і соціальних процесів. Розроблено алгоритм системи прогнозування, планування та формування цільових комплексних програм розвитку АПК, що відрізняється від вже відомих системним комплексним підходом до його побудови, та включає в себе розширений набір факторів, стратегій, механізм зворотного-поступального моделювання змінних умов зовнішнього середовища і коригування завдань програмно-цільового управління АПК регіону.

**Ключові слова:** стратегічне планування, програмно-цільове управління, балансово-економічне імітаційне моделювання, моніторинг регіонального розвитку АПК, цільові комплексні програми, стратегія планування сільськогосподарського розвитку.

#### АННОТАЦИЯ

Определен методический инструментальный программно-целевое управления аграрным сектором экономики региона, базирующийся на имитационном моделировании производственно-экономических и социальных процессов. Разработан алгоритм системы прогнозирования, планирования и формирования целевых комплексных программ развития АПК, отличающийся от известных системным комплексным подходом к его построению и включающий в себя расширенный набор факторов, стратегий, механизм возвратно-поступательного моделирования меняющихся условий внешней среды и корректировки задач программно-целевого управления АПК региона.

**Ключевые слова:** стратегическое планирование, программно-целевое управление, балансово-экономическое имитационное моделирование, мониторинг регионального развития АПК, целевые комплексные программы, стратегия планирования сельскохозяйственного развития.

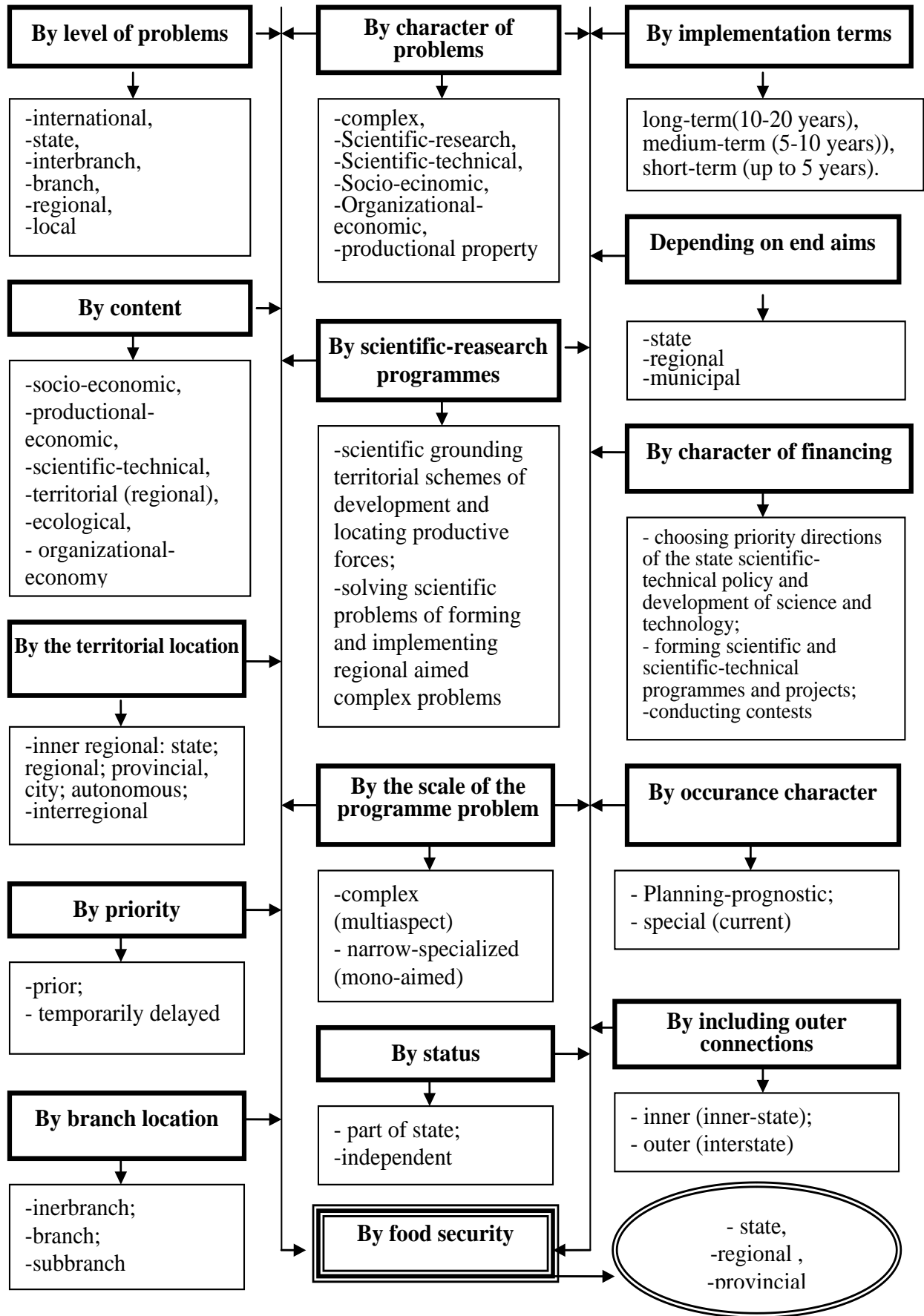
**Introduction.** One of the main peculiarities of the contemporary conducting agricultural production is its scholastic character. Misbalance in branch and inter-branch economics as the result of market reforms lead to the structural

changes in national agrarian and industrial complex. Rushing wave of liberalism in economics definitely presenting “great” achievement in developing market economics of regions as the result of no economic regulating levers, which lead to numerous programmes, which were more declarative than working, and which were fragile to changing outer economic environment. Transferal of ways of general-state programming to regional level, insufficient systematic character in development and adopting territorial programmes were admitted. The attempts of implementing the number of simultaneously actualized but not interconnected small and private programmes were not removed. They do not undergo the necessary appraisal; contain over-data in financial and logistics. The calculations as for the necessity providing implementation of assets programme are not conducted, the efficiency of their usage is not estimated. The projects are formed without regions’ source potential and real opportunities of the state support. There is no statistical analysis of programmes implementation. The problem of searching for particular sources of financing represents great difficulties.

A very important role both in regional and in social labour division belongs to Zhytomyr region. Taking into account its specific features, in particular, concentrating the number of big industrial centres, numerous village population etc., Zhytomyr region can build its concept of AIC programme-aimed management based on scientific-grounded regulatory basis.

Taking into account world experience of state interference into agrarian sector economics on purpose of its support and stable development, and also assessing modern condition of agriculture strategic planning, the task of optimization, equation and improving its elements becomes quite urgent and contemporary in terms of euro-integration processes. All this formed the basis for choosing the topic of this work.

**The analysis of the latest research and publications.** Theoretical and methodological ground for research comprised the works of the prominent native scientists and specialists-practitions: U.B. Berezyuk, P. Vakulych, M. Kultchytsky, E.A. Sagaydak, I. Stefanyuk,



Drawing 1. Classification of aimed programmes by criteria features

V.G. Shmatko, Y. Krupka, S.V. Kuzmenko, T. Kulinich, A. Peresada and many others.

The research of the mentioned authors are devoted, as a rule, to considering common problems of programme-aimed and strategic planning AIC, or separate aspects of economic leveraging agrarian and industrial production.

Under the contemporary conditions of the agrarian economics it is necessary to form complex system approach to solving the problem of optimization and raising efficiency of strategic planning methods and programme-aimed managing agricultural production. At the same time it is needed to modernize their elements and methods on the basis of all-round processes automation and system approach to them.

**Setting the task.** The main research objective – developing theoretic and methodological grounds, conceptual directions and practical recommendations of improving programme-aimed management in agrarian economics sector.

**Research results.** Programme-aimed management – management, directed to achievement of particular end result in solving particular problem, developing one or another branch or region in terms agreed beforehand.

The basis of the programme-aimed AIC management is formed by aimed pro-gram, and their classification is constantly changing: as different agricultural problems appear and new problems lose their importance. The characteristic features for agrarian and industrial complex are: state programmes for AIC development; regional aimed programmes; local aimed regional programmes; programmes of municipal units etc.

The main principles of programme-aimed management are: orientation to the end purpose, straight-through planning management object, regularity principle. Programme-aimed management is intended to solving complex problems of social production, which occur while implementing large-scale national economic, interbranch and interregional aims with strict directory terms.

The main stages of programme-aimed management are: 1) forming programme aim; 2) decomposition (dissection) of aim to separate tasks and events – forming the tree of aims and tasks and assessing its elements; 3) accounting for alternative directions (means) of achieving programme aims; 4) optimization of source division among separate branches of aim tree and financing tempo; 5) changing priority of separate programme aims and means of their implementation; 6) adapting aim part of the programme to changing environment [2].

Classification of aim programmes by criterion features underlines their multilateral and complex character, mostly directed to solving one global aim (Fig.1).

By their content aim programmes in the agrarian and industrial complex are always strategic and they are always interrelated which

is connected with the specific peculiarities of the agrarian production. But the main thing that unites contemporary classification of aim complex programmes is providing food security of regions.

In the transitive period of the economics' development forming the mechanism of production and reproduction of regional output was obligatory agreed with the strategy of region's development in order to correspond to production and resource potential for the moment of forming basic competitiveness and to allow to give its motivator development in accordance with balanced developing all aim programmes aimed at reaching balance, economic and social expedience, food security of region in the middle and further outlook.

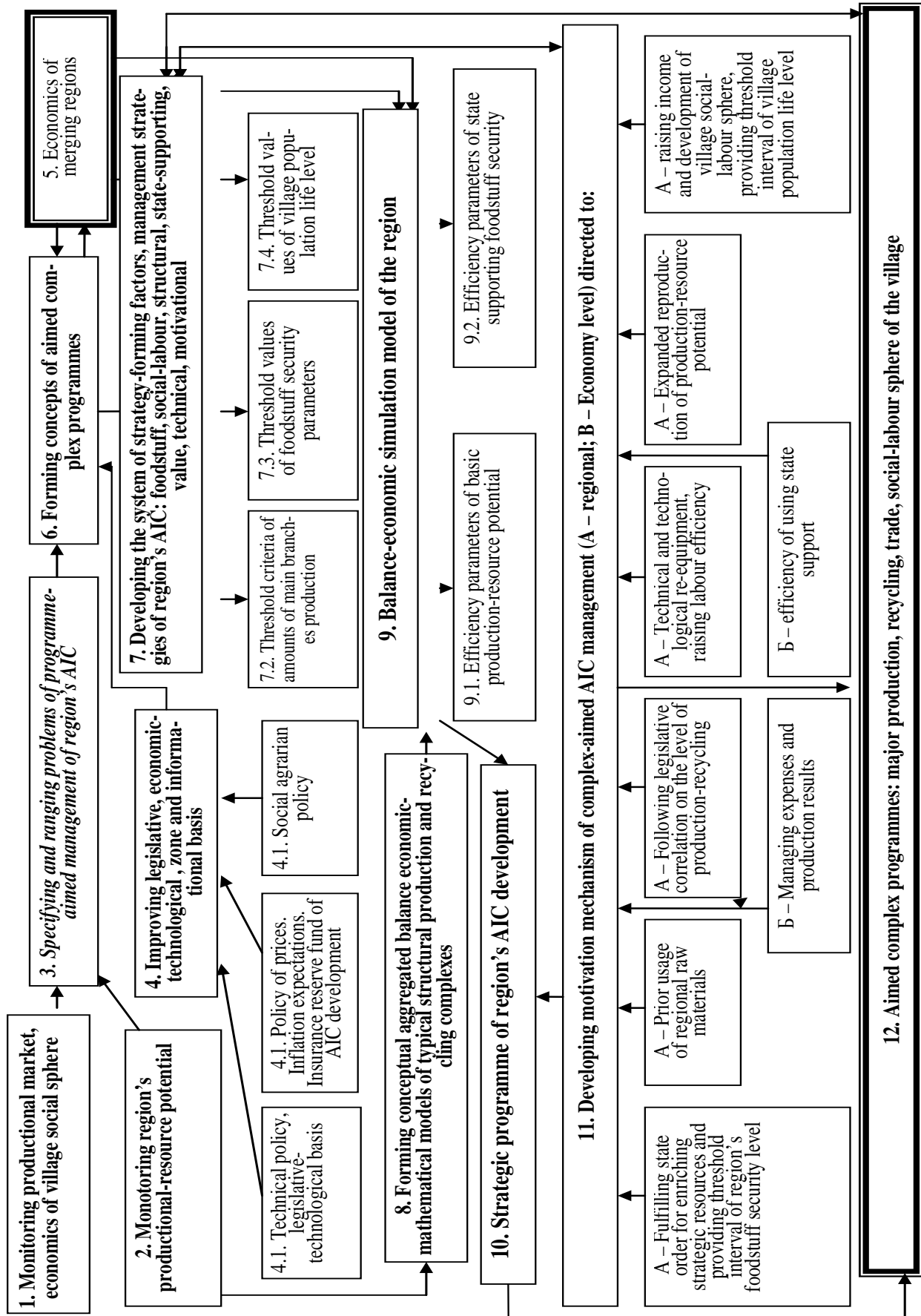
Contemporary economics shows new demands to programme-aimed management in production: poly-variants, regularity, speed and all-round covering variety inter-branch connections; the choice of optimal strategy and management tactics – forming methodology of system modeling technological, economic, social, juridical, financial processes in agrarian production.

The general disadvantage of the applied statistic, economic and mathematical modeling methods implies difficulty of used mathematical instrument; difficulties in preparing information about determining the character of the connection among the phenomena, and what is principal, in unsystematic character, non-complexity, private character of the solved tasks.

In our opinion, it is worth to mention the methods of modeling economic processes contributing balanced economic imitation modeling, based on calculating complexes, which allow finding out possible results by different composition of variables. Thus they give the researcher the necessary information for making optimal decision in the concrete situation.

Imitation modeling based on the standard approach to forming information environment and scientific-based approaches to determining effect from implementing various strategic decisions, may become the ground for determining objective sizes of the state support while developing both complex-aimed programmes and programmes of AIC development in major regions. Inter-branch economic connections, which are presupposed by the system, allow once a month to access all economic parameters of strategy-forming factors in any following period of the current year and reflect these changes in any following period which undergo the development forecast in the agrarian sphere of regional economics [4, p. 6].

The important peculiarity of common methodology of forming economic mechanism of programme-aimed managing AIC (EMPAM) which distinguishes it from the existing ways of forming aimed complex programmes of the region, was not “the common concept at first and private programmes then”, but “profound socio-economic monitoring at first, then basic concept,



Drawing 2. System of forming economic mechanism for programme-aimed management of region's AIC

and then private programmes simultaneously with correcting the whole complex within one year and prognostic period not less than 10n years (Drawing 2).

Remarkable is the fact that in the merging regions analogical methodology of forming EMPAM which inner mechanisms may differ with each other, may be formed; but entrances and exits, and also time composites should coincide. It will allow optimization of using production-resource potential of the whole group of regions in the interactive mode; it will also allow getting synergetic effect in the development its branches, it will raise competitiveness of the regional products, reduce budget burden and favour leveling socio-economic components of agrarian and industrial labour.

Under the existing conditions with resources deficiency, separate programmes are financed by the residual principle. The system stops being balanced. The suggested system by us has a more flexible character. It has no major subsystems. The subsystems are interconnected informationally and algorithmically: changes at least in the one of them cause changes in others.

Another important feature of EMPAM is its motivation component (Drawing 3). The structural transparent directions of the motivation impact of EMPAM may be referred the following:

- step-by-step economically and socially grounded reducing import of foodstuffs goods to the level of economically reasonable in terms of interregional interaction;
- implementing regulations of the imported products quality, raising competitiveness of regional products.

The trends providing support of improvement and technological development may be as following:

- priority funding purchase of regional agriculture crops seeds, reproductive material in animal husbandry, if they are not interior to imported resources by their grade and reproductive qualities;
- priority finding purchase of technological complexes, systems of fertilizers and protection of plants which provide raising efficiency of arable land and agricultural animals taking into account approved regional system of running agricultural production.

The major directions which provide raising efficiency of economics development are:

- giving the right to the regional state bodies to improve legislative regulation of integration processes, landed relations, property taking into account regional peculiarities of production;
- legislative strengthening participation of branch unions in forming branch complex programmes of AIC development;
- state support of investment projects of cooperation and integration in AIC [1, p.8];
- insurance of state guarantees of short-term, mid-term and long-term crediting, funding, insurance of risks against impossibility to obey

state declared guarantees of state support of financing regional AIC;

- using mechanisms of privileged taxation and crediting private business which support AIC including integrated formations;
- creating regional insurance supportive funds for leveling funds deficit and stimulating economics;
- using motivating factors in the chain of producing end product in integrated formation, creating unified funds of end production results for corporate management of expanded reproduction and consuming processes [5, p.65].

Improvement of the system forming economic mechanism of programme-aimed management of region's AIC and its transference from declarative to motivation-oriented direction will allow raising the effectiveness of regional agrarian policy and competitiveness of its products.

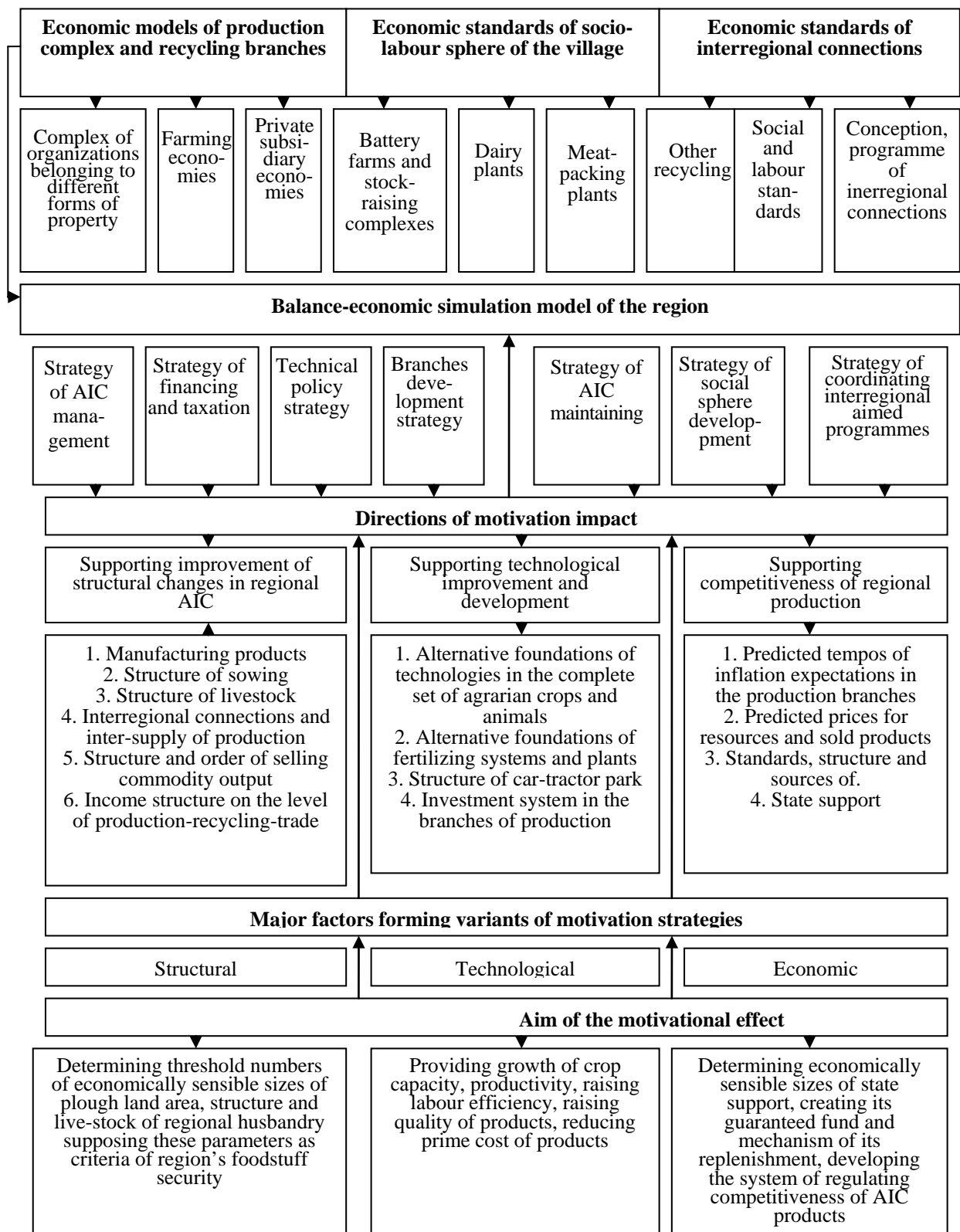
However, in spite of continuous development of management science, nowadays the efficiency of objects' strategic development goes on falling. Such thing takes place due to inability of the functioning system of management to conduct strategic management continuously and, what is more, to build programme-aimed management without taking into account interconnected strategic development of all the subsystems of agrarian-industrial production.

Determining economic strategy in terms of programme-aimed management in agrarian-industrial complex is considered by us like methodological system which allows to balance programme-aimed arrangements in the mid-term and long-term perspective in all the variety of relations between local and aimed programmes.

Practice indicates chronic essential divergences in the development forecasts of agrarian-industrial complex of Zhytomyr region, which are the errors of pro-gramme-aimed production management while reaching region's foodstuff security.

It can partially be explained by the fact that in the aimed programmes the lim-its of the analytical periods are narrowed, evaluation indexes are not considered enough, aims and expenses are not balances, end results are "insured", it is not presupposed to conduct deep analysis of organizational and technological questions, system of agricultural management, relations of property, problems of monopoly and price proportions in the link of production-recycling-trade, social problems are presented lop-sided, perspectives of developing small economy forms are not revealed, technological and technical policy is not grounded, policy of long-term state support of agrarian goods manufacturers is not given, organization-economic mechanism of selling is not specified etc.

These are only shallow questions and they need solutions and system approach to grounded development of the agrarian sphere of the regional agrarian and industrial complex.



Drawing 3. Structure of balance-economic simulation model of the region and its motivation components

It is worth to mention that forming strategies of planning agriculture for managing subjects (for regions) occurs taking into account peculiarities variety of systems conducting agricultural production for each organization (region). Thus strategies may be subdivided by production-territorial principle into: *intra-*

*economy, strategies of various integrations, province strategies, regional strategies;* by the branch principle into: *strategies of direct and indirect content;* by time feature into: *current, mid-term, perspective* etc [3]. It is very important for all these strategies to be in commensurable information field, for providing continuity and

informational connection in the unified system of strategic planning and for correcting strategic plans of different levels (Drawing 4).

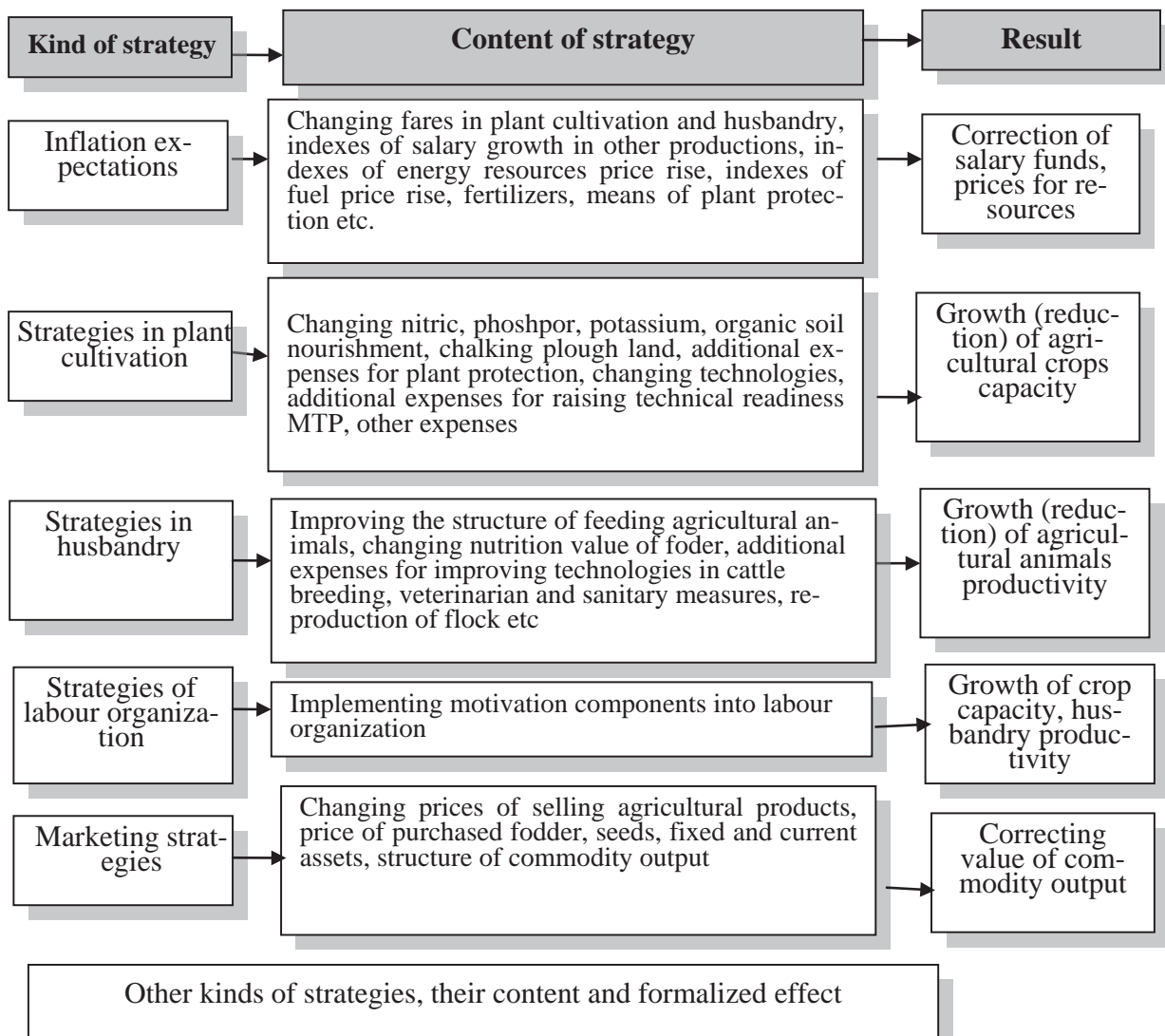
Evaluation of strategies may be conducted step-by-step. At the first stage of forming strategic plan of agricultural production development optimization model of enterprise's agricultural production is formed, for example, the groups of enterprises which belong to association, integration, holding.

For the second stage of strategic planning – developing system of strategic planning variants in the definitely first stage of range of allowed values, we elaborated simulation system which allows to reflect correctly processes of planning and analysis in the agrarian complex on the level of agricultural enterprise, different structural integrations, administrative regions, provinces, region (Drawing 5).

The advantages of the system over the applied methods of planning and analysis in organization:

combination of the individual approach to setting and developing system for each organization; keeping and updating database of organization in any time period; automated forming production-financial plan (business-plan); availability for any information block, and having completed core of the system, ability for the user to build additionally a broad range interrelated planning-analytical subsystems; forming complete set of cost-accounting tasks for production subdivisions with the automated formation of personal accounts; conducting variant analytical and plan strategic calculations.

Shifting the algorithm of balance economic simulation modeling from the organization level to the level of agrarian holding, agrarian enterprise, municipal agrarian formation, and organizing key information “entrance-exit” in any economic subject (as a rule, it is the necessity in monetary-pecuniary resources for enriching own resources for simple and expanded reproduction)



**Drawing 4. Structure of information block for correction economic model of developing agricultural production of enterprise (region)**

it is needed to approach to financial components of the system of aimed programmes for agrarian industrial complex development.

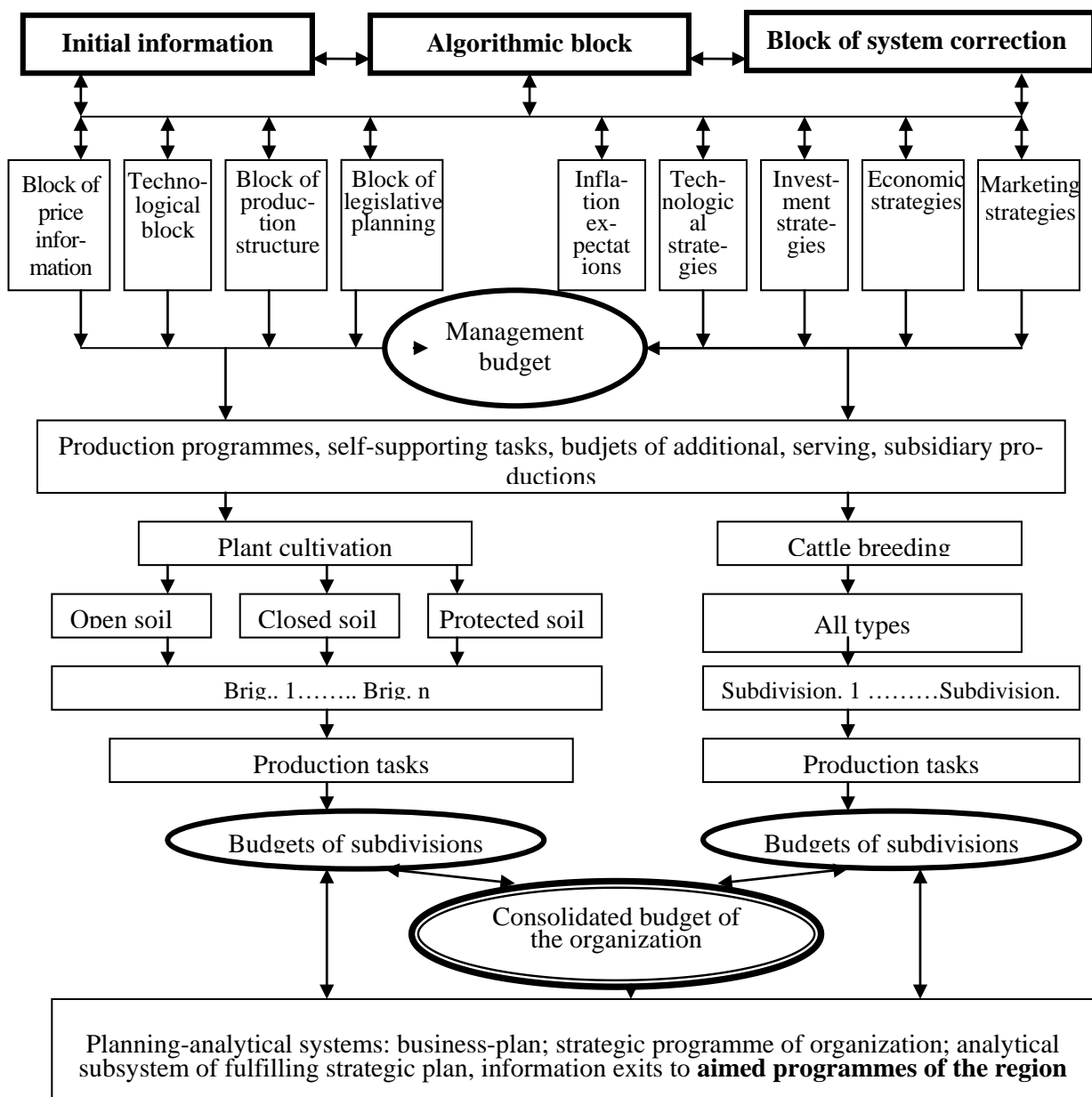
While orienting towards economic subjects there are two possible variants: all the organizations in the region will be introduced as real units of planning (it is possible on condition of having unified information system on the region), or, otherwise all the subjects will introduce aggregated systems of agrarian formation types with the general-regional total indexes of their production-resource potentials [4, p.10].

The connection of strategic programmes with the programme-aimed complex is introduced on Drawing 7.

In terms of the given scheme it becomes possible to organize interregional aimed programmes, due

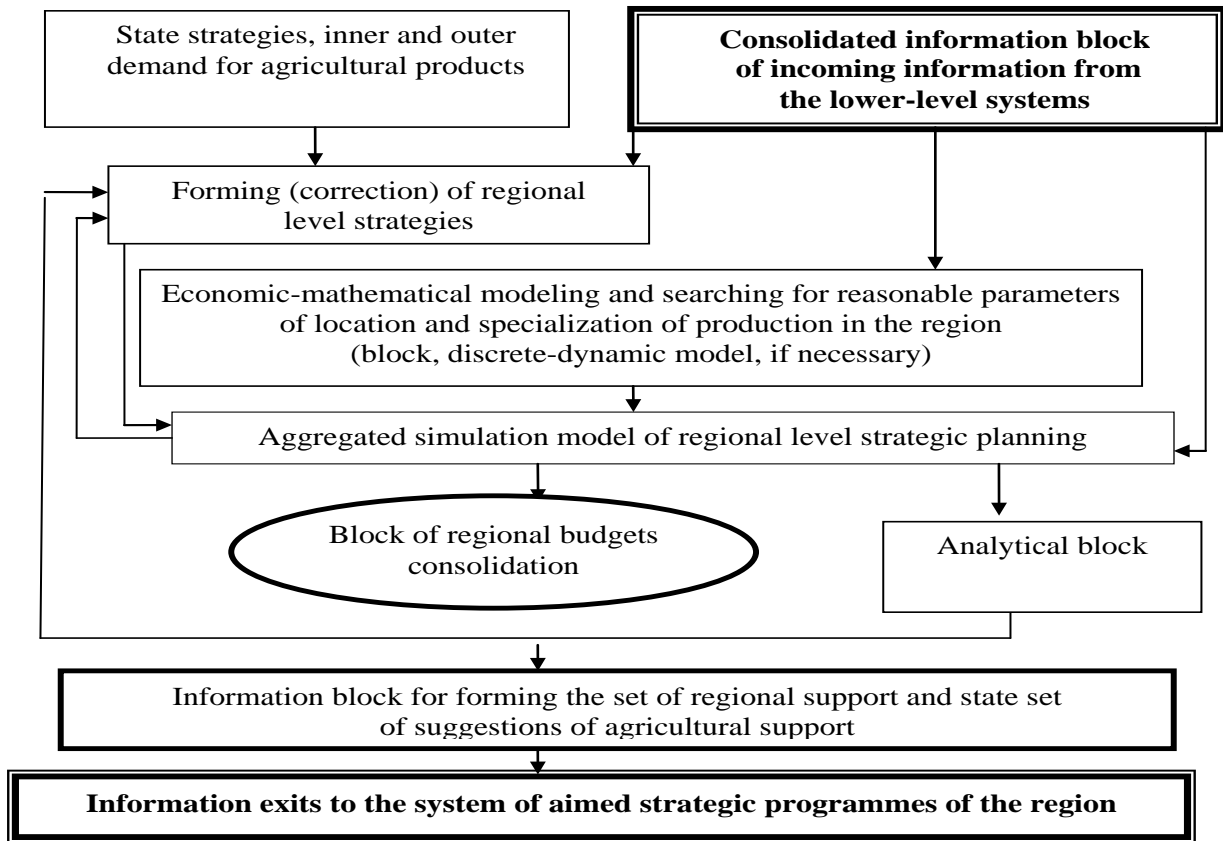
to which one can raise the efficiency of using economic agrarian potential of the merging regions.

Thus, in the basis of the new, scientific-grounded methodology of forming programme-aimed management of regional AIC, two main components should be present: system algorithm of programme-aimed management (Drawing 7) and organization-functional scheme of programme-aimed management and organization-functional scheme of programme-aimed management of region's AIC [5, p.72]. The aim of their creation – forming unified information policy, coordination of innovative, technological, staff, juridical-legislative and external economic agrarian policy; organization of consulting activity in AIC. The centre of strategic planning should form

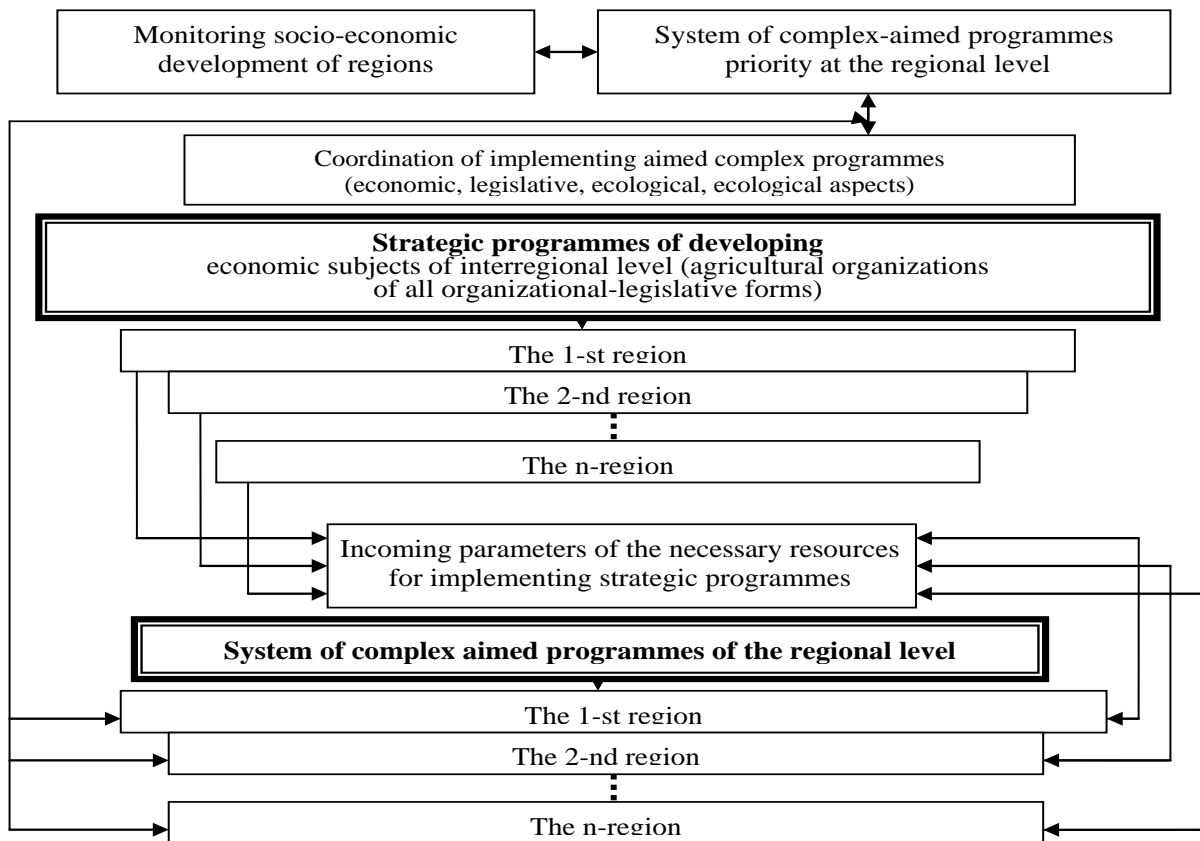


Drawing 5. Enlarged block-scheme of balance economic simulation model of strategic planning agricultural production on the level of agricultural organization

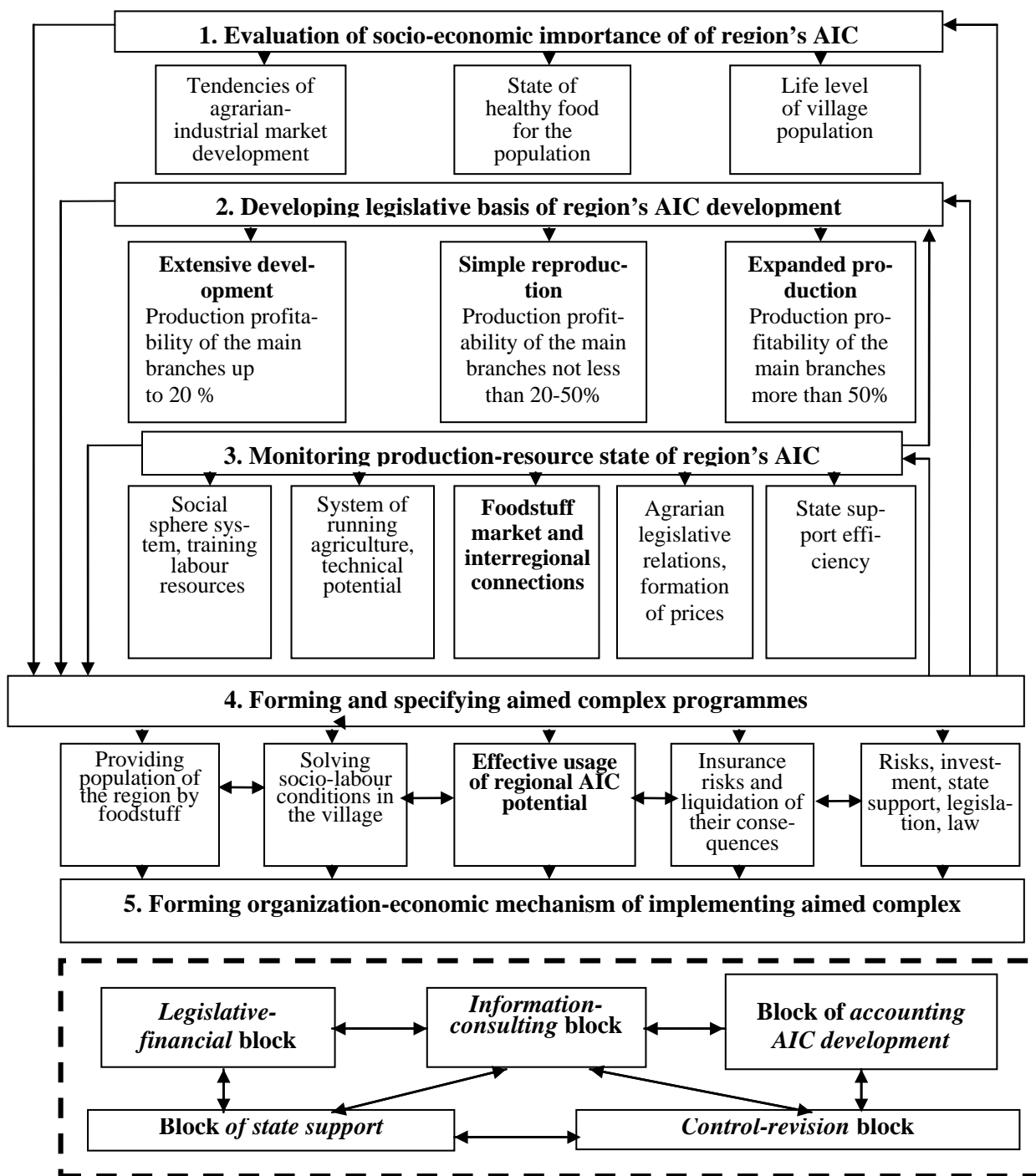




Drawing 6. Scheme of forming strategic plan of agriculture development on the regional level



Drawing 7. Scheme of strategy planning connection with the system of pro-programme-aimed managing agrarian-industrial complex of the region



Drawing 8. Algorithm of programme-aimed management of region's AIC

information-analytical systems, close in their content and form to already widely used practice of business-planning and strategic planning in the agrarian formations of Zhytomyr region.

The analysis of complex and regional programmes indicates the fact that not all developers of these important strategic documents follow the concept of effective developing agrarian-industrial complex on the innovation basis. Not all the programmes were elaborated taking into account bioclimatic potential, resource and technical abilities, staff provision of AIC. In the majority of programmes the mechanism

of programme document implementation was developed to a very poorly. Many programmes, implemented within Zhytomyr region, back up regional centre programmes, they lack regional aspect, local secular traditions and rural national colouring are not taken into account. The revealed drawbacks may be removed due to upper suggested mechanisms and instruments.

Conclusions. The basis of the new methodology of programme-aimed managing agrarian-industrial complex should be composed by methods of complex system-information analysis of monitoring research of all interrelated

subsystems of multifunctional, multi-branch, occurring at different times, multi-aimed system of AIC management. Methodology of PAMAIC of the contemporary level should be based on algorithmically commensurable, compatible calculating complexes and introduce multi-criteria, multi-variant probability system which allow finding economically reasonable solutions while changes of environment behavior and changes in possibilities of using production-resource potential of the region .

Methodology of PAMAIC should be grounded on motivation principles of agrarian production development and, in its turn, regenerate them for raising efficiency of implementing aimed programmes.

Strategic planning of all the variety of region's economic subjects forms should be algorithmically interrelated with the process of forming aimed programmes and compose the united mechanism. In terms of specific conditions of agrarian production, determining probability character of efficiency of using production-resource potential, instable competitiveness of agrarian branches at the interregional and interstate levels, strategic planning and programme-aimed management should be directed at each other and find the

reasonable variant of coordination. It will approach strategic programmes of economic subjects of all the levels to their objective implementation level, and the aimed AIC management will raise them on the more efficient level.

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