

EXTENSION SERVICES MUST BE ORIENTED TOWARDS INNOVATIONS

V.M. Bautin

(RSAU-MTAA)

*Abstract: The necessity to clarify and adjust the functions of extension services, their additional focus on distributing innovative knowledge and assisting commodity producers to become acquainted and professional users of innovations during the transition of economy to the new rails of innovations. The informational unit of the extension service is to act as an intermediary between the subjects of innovative activities - holder of intellectual property rights and potential consumers of innovations.*

*Key words: information, information support, innovations, innovation-based economy, enterprising, exclusive rights, author, right holder, intangible assets.*

Russian agro-industrial complex is once again facing substantial reforms - in accordance with the State program for agrarian and rural development and regulation of agricultural produce markets in 2013-2020. The efforts realized through immediate actions elaborated by federal authorities, are directed towards creating a cutting-edge competitive agricultural production which will ensure food safety and security in main food products. Other aims are to meet the industry's demands for traditional raw commodities, convert all branches of production and processing into highly profitable ones, making sure there is a good possibility of extended reproduction; improve human wellbeing dramatically and provide conditions for multi-aspected and sustainable rural development.

As it is well-known, the urge for the search of new ways to increase the labour productivity and the efficiency of commodity production and services emerged in 1950s-1960s, when the Largest Economies (historian name six to eight countries without Russia) experienced the exhaustion of the industrial economy and faced the necessity to substantiate and implement a new (post-industrial) type of economy. The above assumed taking the real advances in science and technology into consideration. Therefore, informational, innovative creative and knowledge-based economies came to the fore in scientific and production-related literature. Other economies (economic scholars give at least 10 to 12 types), as we believe, do not have large-scale potentials.

The present paper has not been designed to be a terminological discussion of definitions: information and knowledge are necessary categories but they appear to be insufficient for building up a new economy. They just serve as advisory and intellectual resources for the society. The potential and prospective of post-industrial economy can only be guaranteed if the information and knowledge are transformed into innovations, i.e. they are the final result of scientific, technical or other creative kind of work, implemented in the market; or new or modernized technological process used practically. Innovations can ensure economic returns in case works and services aimed at their practical application (innovative activities) are fulfilled.

Let us remind you that, according to UNESCO's definition, knowledge is the information of no cost because, in compliance with the law, it is not an object of civil turnover. In this relation, hereinafter we will keep to the term "innovation-based economy".

In recent years, one can come across the word "modernization" - in scientific and production-related press, reports and presentations, public communications - more and more often. This term is advisable when it comes to describing the process of restructuring a branch economics in the country, however, when used with regard to agriculture, this definition sounds alerting. As we believe, something could be modernized only if the object of modernization is present. In contemporary agriculture, given the actual results of the real "renewal" of material and technical resources and facilities, social sphere and even the land - the basis and the ground of the world, technological modernization is not always possible. Therefore, our short-term objective should be twofold: a) technological modernization of the up-to-date industrial level achieved by certain establishments; b) rebuilding and recovery of the main assets and social sphere up to a standard which would allow to proceed to modernization in future.

Thus, the formation of innovation-based economy of socially-oriented type in the country assumes that problems both catching-up development and faster growth are being resolved simultaneously. This approach requires that a set of tangible measures, interconnected in terms of resources, timing and transformational stages, be realized. Upon that, any of general or specific tasks considers the leading, forward-looking role of accumulating human capital as opposed to the growing rate of accumulating physical capital.

Along with this, during transitional periods, the society tends to retain so-called traditional management and economic policy due to a number of reasons, both objective and subjective. In its essential meaning, this policy is oriented towards eliminating the economy's weaknesses and not the overall support to its strengths. There were times when this policy was aimed at "patching the holes", removing clogs and clearing jams. Unfortunately, a habit of being used to such actions has gradually been transferred to some structures and systems of the new era.

Innovation-based economy, given its true-to-life peculiarities, assumes that the conditions necessary and sufficient for relevant and coordinated efforts of all interested participants are provided. The involved ones include all parties to economic, legal, business, commercial, trading and managing relationships, innovative environment, creative potential of society members, contemporary human potential, faster growing level of professional education system with a transition to life-long learning, decent quality of life for every single citizen of the country (no exceptions), well-developed informational network. The age of slogans and battle-cries is not to come back - it is history - now they either fail to work completely, or can only produce a temporary effect with insignificant returns.

In the late 20th and early 21st century, the world has been experiencing new knowledge accumulation on an unheard-of scale. This process is followed by the inevitable increase in the number of the personnel in charge of compiling, registering, arranging and assessing huge streams of scholastic attainments. According to experts' estimations, nowadays as much as 75% of world labour resources are connected with knowledge production and information processing. This torrent is going to grow further therefore eventually a class of relevant professionals will have to be formed. This accelerating growth will require the creation and further promotion of technical means for resolving a vast amount of specific problems in the business world.

The information support of the innovative activities is the key element for contemporary innovation-based economy; it is going to be equally important in future. It requires

that managing parties search for the newest information on a regular basis. This information is supposed to assist them in selecting the most effective capital investment directions, promoting and securing their goods in the markets for commodities and services, substantiating prospectives and sustainability of their businesses or production. The infoware is also essential in connection with the growing significance of intellectual property as the property of the highest degree. The latter is increasingly important for both domestic and international contractual relations.

Obtaining up-to-date, comprehensive and timely information seems to be of crucial importance for Russia's agro-industrial complex. Long distances between commodity producers and informational centers, decreasing volumes and quality of informational materials, high costs of periodicals and many other factors have led to an unacceptable gap between the need in information resources and their availability for professionals in rural areas. While the amount of promotional information about prices, sales volumes for specific kinds of produce, a lack of systematized producer's information about innovative products meant for agriculture must be noted. Getting this information to commodity producers is a primary task of the extension service.

Practically, the extension service (informational and consulting service) started to emerge and shape since 1993 within the system of the Ministry of Agriculture of the Russian Federation. This system comprised corresponding departments of authorities in agro-industrial complex in constituent entities of Russia and their district divisions as well as centers as autonomous legal entities in the legal form of unitary enterprises, consulting departments and groups within research institutes and educational establishments of higher professional education and advanced training, etc. Practical activities of extension services benefited from the involvement of certain computation facilities, press- and video-centers, libraries, training farms, exhibition and advertising structures.

Starting from the period of establishing, four major directions for development have been determined - educational, implementational, scientific and informational. Later on, the priority was given to the latter - informational direction, integrated with trading and supplying activities of commodity producers, intermediary and wholesale / retail units.

As stated in Federal laws, regulations of Russian Government and orders by the Ministry of Agriculture, management bodies and commodity producers are eligible to be given timely and free of charge consulting and advisory services on the present situation in branches of industry, social rural development and alternative employment for rural population, prices for agricultural commodities and raw materials, costs of manufactured goods and services and other information of similar kind. This information is of key importance for the executive power of all levels, producers, service providers and market entities; its systematization and free provision to interested user is doubtless.

The content of technological, scientific and technical, patent, production-related, economical, conjuncture and other information, ways and terms of its transfer to the user should be clarified. These clarifications are especially significant when a large mass of information, knowledge and skills is being incorporated into the basis of contemporary economics. At that, information users must be satisfied not only thanks to broadening their personal horizons and improving their educational level, but also due to the tangible material and other support and to how it is expressed in products and services.

Participants of the process of knowledge transfer to a commodity producer or an intermediary through a consultation, in our opinion, should distinguish various types, contents and methods of obtaining the information transferred. If the information is in open access (e.g., regulations for contractual relationships between the employer and employees,

requirements for labour records, job descriptions, commercial and trade secrets and responsibility for violating confidentiality and non-disclosure agreements, correctness of taxation, accounting and reporting, regulatory parameters for vehicles and machines, seeding and fertilizing rates, etc.) and the only reason of the transfer is low professional performance of worker with supposedly high qualification (according to his / her diploma) or when hiring a non-qualified person, the information can be provided without any confidentiality restrictions. Lately observed necessity to transfer the information on non-commercial basis is in part connected with a significant decrease in the number and circulation of professionally-oriented journals and other periodicals, their high costs and very limited availability of informational and specialized issues for rural population. A negative effect of high prices for advanced training programs as well as elimination of previously efficient network of institutions for advanced training can also be felt.

Rigorous advisory activities of national political and economical management entities have demonstrated their vital necessity in 1920s, when territorial (belonging to "zemstvo") professionals provided consulting services to rural population with no specific education. So-called "public agronomy" was surely playing a positive role those days.

In this relation, a noteworthy aspect should be given attention. In the past, pilot projects, completed and recommended for commercial production, sometimes were far away from meeting requirements that could possibly ensure their large-scale implementation amongst commodity producers. Largely it occurred due to problems with the reliability of pilot projects results, their contents, reference to specific conditions of use, standards, regulations, specifications and efficiency forecasting. Developing organizations sometimes would report just providing the number of completed pilot projects descriptions and spread the information about the effectiveness of their project through numerous periodicals. Later on, they would express how unhappy they were with the production industry's reluctance and even resistance to innovations, however what they would never show was an active search for interested consumers, setting up new business contacts of mutual benefit, or feeling responsible for the results of their projects implementation. It has never been considered obligatory to hold the consulting services of various levels liable for providing customers with unfair information and low-grade recommendations, and it is still the same.

Article 17 "The system of state informational support in agriculture" of the Federal law № 264-FZ dated December, 29th, 2006 (see edition of the Federal law № 209-FZ of July, 24th, 2009) includes compulsory information on the following: implementation of federal and branch-specific programs; current conditions of and progress in crop production and animal husbandry branches; amount and condition of agricultural machinery, fuel supply and energy use; other crucial factors of the condition and development of agriculture, food producing and processing industry. No information about indicators of the state and results of innovation-based activities are included in the compulsory section of the system. Neither can such indicators be found in the regulation of the Government of the Russian Federation № 157 "On the organization of the state informational support system in agriculture" dated March, 7th, 2008, nor in the order of the Ministry of Agriculture № 189 "On the regimen of information submission to the state informational support system in agriculture" of April, 2nd, 2008.

In the period when the innovative economy is being built and bases for its future operation are being set, the information support for the subjects of legal relations is becoming compulsory instead of just preferable. This activity must turn into an essential component of national innovation-based policy; without it the information on the innovations could never reach its target recipients - commodity producers. However, both parties - providing and receiving the information - must strictly follow the national legislation in the field

of intellectual property rights protection, avoid sharing with pilot project results of commercial value with commodity producers free of charge, consider the interests of authors, copyright and right holders.

Ignoring authors and right holders by consulting and extension services when transferring an innovation to an enterprise can sometimes lead to their activity being well advertized but useless in reality. Nobody knows the true value of this or that innovation offered to a commodity producer better than the author; who is an expert in the conditions for its productive marketing, pitfalls and hidden dangers of the process, required degree of proficiency and practical preparation for the staff. In actual practice, sometimes consultants and intermediaries would disclose pilot project content to a commodity producer (consumer) without preliminary approval of the author and the right holder as well without previously consulting the corresponding articles of Russian legislation.

It is becoming more and more important that researchers, top management and production manager clearly understand how agrarian industries are provided with the results of scientific and technological achievements and why this specific knowledge should be accessed on the commercial basis - especially in relation to the fact that aggressive and arrant propaganda still existing in printed mass media and scientific journals loudly proclaims that innovations should be given to business entities free of charge and of any control. Moreover, at times this kind of "knowledge transfer" - knowledge could easily mean the results obtained by authors or even entire working groups through many years of research and creative work - is given a status of "state policy", substantiated by a conceptual basis and even used as a plausible excuse for funding specialized regional centers and even federal managing bodies at public expense.

When reporting on their practices, extension service units state dozens and hundreds of thousands of consulting and advisory sessions provided in the field of farming techniques, livestock and poultry keeping, mechanization and automation of production processes, taxation aspects, accounting and many other issues. These reporting parameters are not subject to data reliability check because originally the extension service is operated on free-of-charge basis: the consultants obtain the information at no expense and thereafter provide it for free to any number of unspecified persons, i.e. to public at large. In these circumstances, any contractual relationships, financial, material or other obligations of the parties involved are out of the question.

At the starting point of the development of innovation-based economy in the country, such activities and well-advertized efficiency of extension services do require additional attention.

In order to speed up the formation of an innovation-centered society and the transition to the innovation-based economy, we are convinced that the extension service must be focused on spreading innovations among commodity producers and enhancing their awareness and relevant skills.

The information unit should contain information on the rural social development, road construction, records on demographic and migration policies, putting new gas supply systems, hospitals, schools, culture and recreation facilities and other objects for improving rural population's wellbeing into operation. Advertizing materials could also be included in the unit upon the approval of relevant authorities but should not affect the basic content by decreasing its amount and should not go beyond the boundaries of commodity production innovative support.

The innovation unit should be oriented towards comprehensive and multi-aspected support for the buildup of innovation-based economy and innovation-centered society. It is crucial to base the unit on the Internet and e-mail system; all legally and practically signifi-

### Clarified functions of the extension service in Russia

Unit	Functions
Information unit	<p>Comprises information on:</p> <ul style="list-style-type: none"> <li>• Changes and alterations in legal acts and standards, branch-related methodological materials and recommendations;</li> <li>• Land use and development, cadastral register of settlements, private households and farmsteads, cooperatives, rural farms;</li> <li>• Architectural and planning solutions and landscape design;</li> <li>• The current situation in the production business and its branches, presence and use of mechanization, electric supply and automation means and facilities, measures to preserve and enhance soil fertility, melioration, irrigation and land reclamation, development of environmentally friendly technologies, etc.;</li> <li>• Prices for production and food products, raw materials, energy resources, operational costs, costs of works and services provided by related structures and branches;</li> <li>• Development of rural social base, records of the implementation of demographic and migration policies;</li> <li>• putting new gas supply systems, hospitals, schools, culture and recreation facilities and other objects for improving rural population's wellbeing into operation;</li> <li>• other information.</li> </ul>
Innovation unit	<p>Contains:</p> <ul style="list-style-type: none"> <li>• summaries of innovative products (without disclosing the entire content); right holders, protective measures, commercial secret regimens, terms of obtaining, methods of use should be indicated;</li> <li>• proposals on mutually beneficial introduction of innovations into the economic turnover (creating economic structures, contractual work, etc.). Terms and degrees of involvement, expected results;</li> <li>• search applications for innovative devices, methods, regulations and technologies; their purpose, terms of provision, details of future use, specific questions and expected answers as well as supposed (contractual) terms of obtaining should be indicated;</li> <li>• proposals for the approbation of intellectual assets, production secrets (know-how), technology testing, methodology or regulations, manufacture and testing of a trial sample. Terms of participation, expected results;</li> <li>• summaries of intellectual assets as per cooperation agreements with relevant authorities in CIS countries (Belarus, Kazakhstan, Ukraine, etc.), proposals for cooperation from these countries;</li> <li>• providing information to the authors of protectable intellectual assets about persons and organizations rendering lawful assistance in drawing up protective documentation and/or managing exclusive rights on a contractual basis;</li> <li>• information on the implementation of previously obtained innovations, their authors and right holders, references, reviews and suggestions for use, advisability of subsequent business contacts with the authors;</li> <li>• other information.</li> </ul>

cant actions must be performed only on the commercial basis. Phone consultations as well as advice provided via regular mail are, from our point of view, history now - they are no longer acceptable in the 21st century.

The necessity to clarify the functions of the extension services under the present-day conditions in which the innovation-based economy is being formed, is caused by the following aspects:

a) a persistent habit of commodity producers to get the scientific and technical research results for free and without any bearing obligation for launching them in their production process. This habit was cultivated in the socialist era and had lead to a state-dependency system, which is totally unacceptable in the competitive market conditions;

b) years of experience in informational and innovative spheres of Russian agro-industrial complex has proven the existing informational and consulting service to be hopeless. It is impossible to have a group of advisors centered at a certain territory being able to give adequate answers to numerous and unexpected questions of qualified practitioners, address the challenges of commodity production in the competitive conditions of present-day market. Moreover, modern innovative proposals are primarily of interdisciplinary origin; this fact could markedly complicate the process of knowledge transfer;

c) existing system of financing research institutions and researchers' wages initiated a number of negative events, among which the outflux, or "brain drain", of highly qualified scientists (not only from research institutes but also from the branch as a whole) must be pointed out. Considering this and the fact that the consulting system is not commercialized, one must realize that the qualification of presently working consultants and advisors is not always up to our expectations and instructions;

d) if policies to emphasize the importance of innovation-based activities and reforms in vital service systems in rural areas are not approached in a systemic way in the directions implemented by federal and regional branch-related headquarters, qualified agricultural workers end up with a chronic, persistent impression of their professional worthlessness and absence of demand for their occupation;

e) transfer of science-based high-tech pilot projects free of charge and of any obligations created an entire stratum of individuals and organizations who base their activities on bearing no responsibility for their recommendations or other actions. Moral and material damage caused by them is still to be estimated.

The above given clarifications of extension service functions should be considered a proposal for future discussion. They can be amended or further clarified, but a number of basic principles should be set in stone:

- innovation-based direction;
- taking interests of all subject of scientific and innovation-based activities into account;
- operational efficiency and reliability of information;
- distinct and real responsibility of contractual parties.

With that being so, as we believe, the structures of the innovation unit should be registered only as NCOs, while the main and the only function of the unit must be intermediary services rendered in:

- the information search and provision to a potential customer (including information on an innovation, right holders, (preliminary) conditions for obtaining);
- distribution of business partnership proposals in innovation-based activities of science and technology;
- assistance in protecting pilot projects, their implementation and commercialization;
- outreach to CIS countries to distribute proposals and address inquires of scientists and practical workers from those countries;

- systematic arrangement and provision of reliable information on the results and consequences (including negative) of previously made deals and contracts to the subjects of innovation-based activities.

It would make sense to think through a statement popular in developed economies - a risk of losing a well-grounded idea is much more dangerous than losing any kind of investments. It has been proven that only one successfully realized idea out of ten proposed pays off the costs of all ten. Enhanced quality of research, education and production can be added to it as the contents and quality of all components of human capital.

The above said brings us to the following conclusion:

Informational support for the innovation-based activities requires that managing and economic entities perform extensive systemic search for various kinds of cutting-edge information, and their efforts in this quest are to be facilitated by branch-related extension service. However, in order to speed up the formation of innovation-based economy, the extension service must be additionally oriented towards distributing information among commodity producers and developing their awareness and skills for handling innovations. The innovation unit should serve as an intermediary between the subjects of innovation-based activities - holders of intellectual property rights and potential consumers of innovations.

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## ИНФОРМАЦИОННО-КОНСУЛЬТАЦИОННАЯ СЛУЖБА ДОЛЖНА ОРИЕНТИРОВАТЬСЯ НА ИННОВАЦИИ

В.М. Баутин

(РГАУ-МСХА имени К.А. Тимирязева)

*Аннотация: показана необходимость уточнения функций информационно-консультационной службы, ее дополнительной ориентации на распространение и освоение товаропроизводителями инноваций при переходе экономики отрасли на инновационные рельсы. Инновационный блок службы должен выполнять функции посредника между субъект ами инновационной деятельности-владельцами и правнारे результаты интеллектуальной деятельности и потенциальными потребителями инноваций (нововведений).*

*Ключевые слова: информация, информационное обеспечение, инновация, инновационная экономика, предпринимательство, исключительные права, автор, правообладатель, нематериальные активы.*

**Баутин Владимир Моисеевич** - д. э. н., проф., академик РАСХН, ректор РГАУ-МСХА имени К.А. Тимирязева (127550, г. Москва, ул. Тимирязевская, д. 49; e-mail: rector@timacad.ru)

Prof. Dr. **Vladimir Moiseevich Bautin** - Ph.D. in Economic Sciences, professor, academician of Russian Academy of Agricultural Sciences, Rector of Russian State Agrarian University - MSAА named in honour of K.A. Timiryazev (ul. Timiryazevskaya, bid. 49, Moscow 127550 Russian Federation; e-mail: rector@timacad.ru)