

THE POSSIBILITY OF ASSOCIATION OF WATER USERS IN IRRIGATION IN AGRICULTURE¹

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Abstract

There is no doubt that agriculture is an important factor of economic activity in the Republic of Serbia, taking into account the size and the quality of agricultural land. Therefore, the need for irrigation of agricultural land should be given appropriate significance, considering the uneven distribution of precipitation during the agricultural season, as well as the continuous climate changes in the country and in the region. Republic of Serbia is characterized by fragmentation of agricultural properties, a large number of land parcels with relatively small areas, that complicates and requires higher costs of irrigation of the plots and the construction of irrigation systems. A large number of plot holders (owners and users) of relatively small areas, usually do not have enough necessary financial resources nor has sufficient credit capacity to independently build an adequate irrigation system and thus contribute to a better yield in agricultural production, for themselves and on the state level. Financing of irrigation in crop production is insufficient to motivate agricultural producers to become seriously engaged in this activity. Considering all aforementioned, it is obvious that there is a need for normative and practical editing issues of irrigation in agriculture, organized by specific organizations, established by the owners or users of agricultural land, for the sole purpose of meeting the needs for irrigation of land in order to control the quality of production and the provision of better yields.

Keywords: *agriculture, public welfare, water users, water users association, irrigation system, lending irrigation.*

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Introduction

Considering the fact that agriculture is an important industry in the Republic of Serbia, and that to the agriculture, as to a branch of activity, is given priority in the strategic plans of the Republic of Serbia, thus the need for irrigation of agricultural land penetrates to the fore, considering the above-mentioned reasons. Lack of water in the vegetation period causes fall of agricultural production, which all reflects in the overall economic balance of the Republic of Serbia.

Because of the fragmented agricultural lands, and lack of necessary financial resources, area under irrigation in Serbia is still very small compared to other countries. Data from official records of the Republic of Serbia about the irrigated areas are incomplete and according to some estimates, it is officially recorded only a tenth part of the area under irrigation.

Situation in irrigation in Serbia

For the Republic of Serbia, as well as for all countries in which social and state capital was prevalent, it is characteristic that in the past period, activities of irrigation and construction of irrigation systems, were performed mainly by social and state companies, that cultivated as owners of their own properties, or users of state land, large areas of agricultural land.

After the ownership change of the social capital, or state capital in previous companies, and after the formation of new economic societies, this kind of a production structure in agriculture has been significantly changed, and the accent is now on agricultural producers, entrepreneurs or companies which are engaged in agricultural production, that results in devastation of previously constructed system, as well as in reducing the areas that once were covered by the irrigation system.

Construction of irrigation systems involves obtaining the proper licenses, in accordance with the regulations on construction, as well as the water acts issued by the ministry of agriculture and water management, or water administration in the Netherlands⁴, that all require the expenditure of significant resources, time and knowledge. From the standpoint of the owner or user of agricultural land which cultivates relatively small

⁴ Preliminary provisions of the Act of June 6.1991. which refers to water administration.

property, this often represents a significant barrier, and as a result of this, it is usual to meet in practice with an inadequate irrigation:

- the use of tap water,
- groundwater or surface waters without the necessary permits.

As the final result of this, it comes to irrational use of water as a good of general interest, environmental damage and other negative consequences, which includes the inability of the state to introduce these users into the system of paying compensation for use of water.

The standard solutions, legislative solutions and forms of association in the field of irrigation in the European Union and the possibility of the Republic of Serbia

In the whole world, the power of management and usage of water is closely related to environmental protection. The most important international legal framework of environmental protection make the UN Conference on the Humanitarian Environment held in Stockholm in 1972, the adoption of the report of Brutland commission by the UN in 1983. year, and the UN Conference on Environment and Development held in 1992 in Rio de Janeiro. Period of developing of international legal framework in the area of management and the usage of water takes about 40 years, because all the regulations governing the protection of the environment, are more or less directly related to management and use of water.

In accordance with these international regulations, in almost all countries of the European Union, with special normative acts is regulated the matter that provides the possibility and terms of irrigation in agriculture⁵, for which called. Common Agricultural Policy (Common Agriculture Policy - CAP) is allocated about 50% of the annual budget of the European Union and the agro food sector is generally of the utmost importance for the European Union.

The main objective of the adoption of specific regulations that governing the possibility of association of water users is to create conditions for the development of irrigation and the development of private initiative in the construction of the irrigation system in a way that ensures the preservation of water and provides integrated water management and

⁵ Water user associations act of Bulgaria.

meet the needs of agriculture for water, with respect of restrictions imposed by the preservation of balance in nature.

Laws, placed on such principles, respect international practice and trends in the field of irrigation, agricultural production and water management⁶. These laws can also create conditions for the further involvement of private agricultural producers in the field of irrigation, as well as conditions for the development of democratic decision-making among water users, and provide evidence of the irrigation system that is built up in the organization of the association, in accordance with these laws. In this way it contributes to development of agriculture and irrigation, introduces a better evaluation of water resources and *property* and gives more importance to modern agriculture. Applying the principle "user pays" , which means that anyone who uses water resources, water facilities and water system, as a well of general interest, is obliged to pay for its use the real price, through the provision of resources by all users of water resources, and in this way, material conditions for the realization of the basic goal of the law are created, and which goal is- controlled use of water for irrigation.

The laws that in specific way regulate the possibility of association of water users also regulate the subject of regulation: establishment, entry in the register and the status of water users associations, membership, bodies and property of the association, the termination of the association, as well as other issues relevant to the work of the association with an aim of respecting the interests of all water users, as well as goods of general interest.

Almost all rules governing the legitimacy of founders in a unique way, so that the founders of an association⁷ may be **all business capable natural persons** and legal entities under the condition that they are owners or users of agricultural land⁸, but only in the boundaries of irrigation area for which the association is established. In this way, associations are defined as territorial organizations, with clearly defined irrigation area, or an area that would be irrigated with the system owned by the association. Territorial determination prevents membership of association of accessing persons with a purely speculative reasons, in order to allow that the

⁶ *Water Users Association in productivity in Northern China*, Lei Zhang, Nico Heering, Liesbeth Dries, Xiaoping Shi

⁷ How to establish a Water Users Association, IWMI International Water Management Institute; SICWC Scientific Information Center, Interstate Commission for water coordination.

⁸ Article 2. Water user associations act of Bulgaria, Draft Law of the Republic of Serbia on associations of water users in agriculture.

members of the association can only be people who have a genuine interest and the need for irrigation of agricultural land which they use.

Also, the regulations generally governing the minimum number of founding members. There is a widespread standpoint that minimum 3 founders are sufficient to form an association. This solution is prescribed by the current Law on associations of the Republic of Serbia, considering the fact that there is no specific legislation that regulates the possibility of joining of water users in agriculture, although the Republic of Serbia launched a legislative process in order to integrate similar law rules in its positive legislation. This law is prepared by the competent ministries, and it also underwent the procedure of public debate, but it still hasn't been adopted by the legislature.

It is obvious that the solution that provides mentioned minimum of founders of association, is liberal enough to allow all interested parties to create an association. Due to differences in the size of the estate and cultures that are grown on the property, we believe that we should not restrict too much the establishment of associations with prescribing a larger number of needed founders.

The regulatory framework of the Republic of Serbia and justification for the adoption of legislation on water users association

There are no regulations that in a comprehensive manner, and as the primary substance, regulate irrigation, nor private initiative of interested persons in this area, in Republic of Serbia. The aforementioned draft Law on associations of water users in irrigation in agriculture⁹, analog to the generally accepted rules of the European Union, defines the content of the draft law, addressing the necessary issues of the establishment, entry in the register and the status of water users associations, membership, authorities and property associations, termination associations, inspection supervision of associations of water users, so achieving of the desired goals, and effects that these laws have in the European countries is not possible without the adoption of a special law.

While it was preparing the draft law, Ministry responsible for agriculture and water management, as a promoter, used a number of scientific research and other professional knowledge and expertise of professionals

⁹ Draft Law of the Republic of Serbia on associations of water users in agriculture.

in the field of irrigation, within the domestic and foreign theories and practices. Extra attention is given to the domestic legislation and legal resources of foreign countries, which integrated similar legislation in its positive legislature. In addition, the literature of the World Bank was also used, and the bank also helped the development of irrigation in the Republic of Serbia and other countries through the finance, but the law has not been adopted, although the constitutional basis for the adoption of this law is contained in the Constitution of the Republic of Serbia which guarantees the freedom of association.

In accordance with the Constitution of the Republic of Serbia¹⁰, with the aforementioned law should be legislatively regulated issues of irrigation in the organization of specific associations, established by the owner or user of agricultural land for the sole purpose of meeting the needs of irrigation land, modeled on the regulations of the European Union.

Proposed solutions include that the water users associations are established only by persons who have a real interest in the construction of irrigation systems, or persons to whom the exploitation of systems will bring revenue, or additional income. The proposed draft law provides that the establishment and further financing of the association will take place solely through private initiative, while the administration and operation of the association will be informal and it would not require significant costs.

The idea was to create opportunities for associations to join together in alliances, as well as in the international associations of similar type. Freedom of association is guaranteed by the Constitution, and this provision represents a further concretization of the rights under the Constitution.

Analysis of the positive effects of association of water users

Solutions proposed in the regulations that specifically regulate the possibility of associations of water users undoubtedly have beneficial effects on agricultural producers, namely:

- **natural persons**, individual farmers who are owners or users of agricultural land,
- legal entities that realizing their activities in agriculture, and which are the owners or users of agricultural land
- State in the sociological sense.

¹⁰ Article 55. the Constitution of the Republic of Serbia.

The proposed solutions in the draft law allow mentioned persons the establishment of water users' associations only if they are owners or users of agricultural land, so it is possible to assume that the direct effects of the adoption of the law in a positive sense would feel primarily those persons.

Positive effects of the solution referred to the draft law would be manifested through improving irrigation, improving agricultural production and thereby increasing revenue, or standard of aforementioned persons, and as an indirect positive effects, though no less important, is an increase in the value of agricultural land covered by irrigation systems built on the initiative of the association which founding is enabled by this statute, the growth of standards and employment in agriculture, economic development leaning on agricultural production due to providing a safer raw material base, more secure agricultural production due to the lack of a result of drought, as well as safer prediction of price movements of agricultural crops that are irrigated, all of which reduces the pressure on inflation, in which formation prices of agricultural crops have a significant contribution.

Water Users Associations are, by proposed solutions from the new statut, defined as non-profit organizations that do not carry out activities on the market in order to make profit. Associations are funded by members and they provide their services to their members, so to the narrow range of users, not to all interested parties in the market. Also, considering the territorial nature of water users associations, their mutual competition in market is excluded.

Membership in the association of water users

In parallel legal jurisdictions is prevailing the view that a member of association can be any **business capable natural person**, entrepreneur or legal entity who is the owner or user of agricultural land¹¹ within the limits of the irrigation area. It is believed that the owner has the priority right to membership in relation to the users of the same agricultural land, so the membership in the association on the basis of one, or the same parcel, may realize the owner or user. In cases where it comes to the user, he has to have regulated property and legal relations with the owner of the land and approval, given in no uncertain terms from the owner, in order to become a founder or member of the association.

¹¹ Article 21. Water user associations act of Bulgaria.

All members are equal, obliged to adhere to the established objectives, principles and activities of the association, acts of associations, and to participate actively in the work of the association.

The point is that there is a unique irrigation system used in the way so that each member is in an equal position while using water, considering the size of the land, characteristics and culture that is grown, and available water is used rationally and economically, so as not to jeopardize the objectives of environmental protection, or the state in the sociological sense.

It is common that any interested person, as a new member of the association can access later, but if the specifications of a unified irrigation system allow that. Some countries allow the accession of new members who have the right of ownership or who use the land on which is the system of irrigation, with fulfillment of other requirements of the law and act of Water Users Association. In order to access the association, the interested person submits a request, which contains information about the person concerned, as well as data on agricultural land, and if it is about user of land, it must contain the proof that he arranged legal rights with the owner, and the owner's consent also. The decision about admission a new member usually make the competent authority, and it in general enters into force only when the new member of association pay proportionate share of the costs of construction, rehabilitation, or reconstruction of a unified system of irrigation on the subject irrigation **surface**. From the date of entry into force of the decision, a new member shall also bear costs of maintaining of a unified system for irrigation, and other costs in accordance with the law and acts of the Association, as well as other members.

Acts of associations mainly prescribes the duty of payment of membership fees by members within specified time limits, and the way of paying costs relating to the irrigation system. Thus is usually stipulated that construction costs, maintenance costs, renovation or reconstruction, as well as the operating costs of a single system irrigation are bored by all members of the association, in proportion to the size of their agricultural land within the irrigation area, in relation to the irrigation area. It is usually prescribed the sanction for a member who did not pay the costs of maintenance, rehabilitation or reconstruction, as well as the operating costs of a single irrigation system within a limit set by law, so they will not be taken into account while making a plan of water consumption and will not be allowed to use water irrigation as a member of the association for the current year.

In that way it is generally provided that a member is obliged to pay compensation for use of water for irrigation, usually in proportion to the size of its agricultural land, and if the association has the technical requirements for measuring the amount of water consumed, then the fees may be charged on the basis of actually consumed water.

Assets of Water Users Association

Water Users Association, as legal entity, has their own property which is used for performing the activity. The Association may acquire assets from membership fees, voluntary contributions, donations and gifts, subsidies, legacies, interest on deposits, rent and on the other legally permitted manner, and in order to achieve the statutory goals of the association¹². For its obligations, the association corresponds to the whole property. Asset of association, considering unprofitable character of association, can't be shared to members, nor to employees, and in the case of termination of the association, belonging of the property is regulated in various ways, starting with the fact that the property becomes joint property of association members, or it belongs to the property of another association in that territory¹³.

In a situation where it is necessary for the construction, rehabilitation or reconstruction of a single irrigation system, the association may request **the right of way over someone** else's property, or the right to use someone else's property. Association and the owner or holder of the right of disposal, or the right of use of immovable property, conclude a contract which shall specify the manner of performing easement, or the right of easement shall be established in accordance with the relevant law that regulates the mentioned area.

In addition, the rules define activities undertaken by the association. All activities are subordinated and they arise from the objectives of association. Of course, considering the overriding character of private associations, the activities of the association are given as an open list, and members of the association may decide to perform other activities related to the objectives of association. Also, in some legislation it is provided that an association may perform an economic activity for earning profit which solution is adopted in the current Law on Associations, which

¹² Article 46. Water user associations act of Bulgaria.

¹³ The Law on Associations of the Republic of Serbia.

stipulates that conditions for carrying out economic activities are the same as those prescribed for all other associations.

The question of editing rules related to adoption of annual work program for planning activities of the association for the year concerned is mainly left to acts of the association¹⁴, so that, among other things, in this way are determined the resources for implementation of the annual plan of the association.

The objectives achieved by pooling water users¹⁵

The EU countries regulations, that specifically regulate the association of water users for irrigation of agricultural land on which they have possession, which include conspiracy to irrigation development is mainly based on the following basic concepts:

- **Freedom** of association of water users, which is guaranteed by the Constitution, with the obligation to register all forms of association, in accordance with the regulations of the countries in which they perform activities
- Meet the needs of water users in the area of irrigated farmland and participation in the use of water as a natural resource, while respecting the interests of the state in the preservation of water resources;
realizing the interests of the association members and the interests of the state in the irrigation of agricultural land;
- realization of democratic decision-making through the participation of all members of the association in the establishment and operation of associations of water users, either directly or through elected bodies of the association;
- making decisions related to the operation of associations of users, taking into account primarily the size of the possessions of all the members of the association of water users and mainly on that basis, the acquisition of rights and obligations;
- ensuring the rational use of water, as well as the consecutive distribution to the customers;
- Protection of land from erosion, salinity and excessive humidity;

¹⁴ How to establish a Water Users Association, IWMI International Water Management Institute; SICWC Scientific Information Center, Interstate Commission for water coordination

¹⁵ Water Users Association for Sustainable Water Management, World Conference of Science contribution from International Hydrological Programme of UNESCO

- rational use and the use of available water resources, taking into account the interests of all users, while in most number of countries the water supply of the population and maintaining the ecosystem has a priority;
- Environmental Protection;
- Irrigation has an economic value that is significantly reflected in agricultural production;
- regulations that in specific way regulate the association of water users in irrigation does not prevent nor restrict the individual and other initiatives in the field of irrigation.
- Pooling water users on the basis of special regulations that governing the mentioned matter are provided by:
 - continuous and stable financing of the association of water users,
 - paying the price of water and services related to irrigation on the principle of "user pays" by end-users,
 - in addition, the state can have an incentive to finance the construction of water facilities and irrigation systems, ensuring balanced regional and agricultural development.

Principles of association of water users

Regulations that governing irrigation by water users, govern the basic principles that the association should respect while undertaking the activities of the association. The application of these principles should ensure equality of members of the association, democratic decision-making of members, informing members, equitable allocation of available water, the implementation of good agricultural practice, participation in integrated management of water, and in relation to that, provision of the environment protection.

Most prescribed principles which should be adhered by water users association, associating owner, or user of agricultural land is based on the following principles:

- The principle of voluntariness - accession of members to the associations of water users, as well as the resignation from the association is based solely and exclusively on the decision of the interested persons;
- The principle of freedom of association - it is recommended the rule that to the associations of water users can access all natural persons,

entrepreneurs and legal entities interested in using the water irrigating their plots;

- principle of integrated water management - water users association are the subjects that participate in decision-making related to the use of available water resources together with other companies including the state in order to meet their own and the public interest;
- The principle of non-profit operation - water users association are established as non-profit organizations where the primary aim is not to carry out economic activities in order to acquire and distribute profits, but the satisfaction of its need for irrigation;
- The principle of legal personality - water users association are designed to operate as legal persons, business entities that in legal transaction act independently in the name and on behalf of associations and for its obligations corresponding to its property;
- the principle of respect of objectives of association - water users association was founded to achieve the objectives laid down by law, so in that sense, all activities of the association must be subordinated to the achievement of stated objectives;
- the principle of public participation - the public has a right to be informed about the work of associations of water users as a subject that participates in the use of natural resources, water as a resource of general interest to the people and the wider community;
- the principle of respect of best available techniques - for the organization of irrigation it is favored the application of best available techniques.

The current situation in the financing of irrigation in the Republic of Serbia and the Autonomous Province of Vojvodina (APV)

Although irrigation in Serbia is not legalized, state and APV (including national and provincial funds) are still allocated incentives for irrigation of land. Although national and provincial authorities paid incentives for this purpose, it can be said that the percentage of irrigated area in total arable land is very low. Data in Statistical Yearbook of the Republic of Serbia (2016) show that during 2015, the irrigated area was 54,714 hectare and makes 1.6% of total utilized agricultural area. The most common type of irrigation was artificial rain (sprinkling).

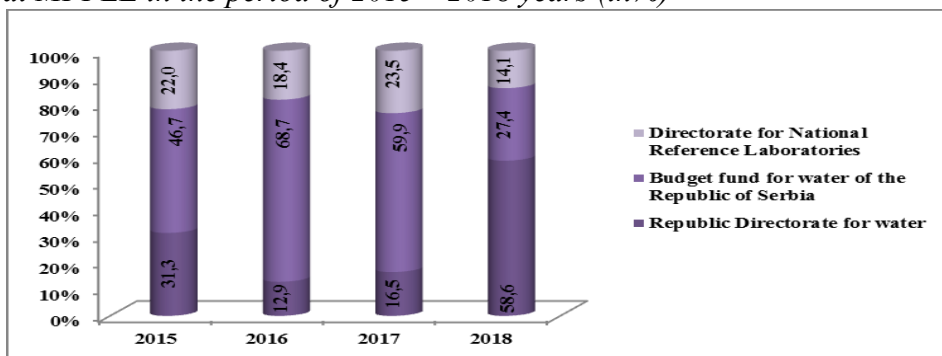
Subsidizing of irrigation in the Republic. An article 4, of the Rules on incentives for investments in agriculture for improving competitiveness and achieving quality standards through support in the primary production

of crops (Official Gazette of RS, no. 38/16) provides incentives for the purchase of new machinery and equipment for irrigation. Eligible investments include the following elements:

- irrigation pumps,
- generators that run the pumps, irrigation systems "drop by drop" with complete elements and parts, irrigation systems complete with artificial rain elements and parts, irrigation systems in order to protect from frost, irrigation systems with the possibility of fertilization and humidifying the space for micro greenhouses.

In 2016 expenditure planned budget users for water at the Ministry of agriculture and environmental protection (MPZŽS) decreased by 35.1% compared to 2015, and the planned expenditure of the Directorate for water decreased by 18.4 percentage points (Chart 1).

Chart 1. *The structure of the planned expenditure budget users for water at MPPL in the period of 2015 – 2018 years (in%)*



Source: *Law on Budget of the Republic of Serbia for the 2015 and the 2016, Official Gazette of RS, no. 94/2015 and 103/2015.*

The average share of the Directorate for Water in 2015-2018 amounts to 29.8%, percent of the Budget fund for water of the Republic of Serbia 50.7% and the Directorate for National Reference Laboratories 19.5%.

Subsidizing irrigation in the area of APV. According to data from the site¹⁶ intended for subsidies for co-financing the procurement of equipment for irrigation on the territory of APV in 2016. Year, funds were planned in the amount of 824.6 mln. RSD, whereby APV accounts for 235.6 mln. RSD or 28.6%. Whith investments, it is provided the irrigation of additional 5,387

¹⁶ <http://subvencije.rs/vesti/ap-vojvodina-produzen-rok-kraja-oktobra-po-konkursu-za-dodelu-bespovratnih-sredstava-za-navodnjavanje/>

ha of arable land and orchards. Total funds APV intended for co-financing of irrigation in crop production have the following structure:

- most stands out in the field of farming in the amount of 116.5 mln. RSD whereby a share of 49.4% is achieved;
- in the field of vegetable production is planned 67.8 mln. RSD whereby a share of 28.8%, is achieved, and finally
- in fruit growing are planned investments in the amount of 51.3 mln. RSD, a planned share was 21.8%.

According to contest of the Provincial Agricultural Development Fund APV for loans for the purchase of new systems and equipment for irrigation in 2016¹⁷, there are defined funds to **farms** - natural and legal persons from APV, which are subscribed in the Register of agricultural holdings. Loans will be granted on the basis of the Rules on the allocation of funds from the established criteria for the allocation of loans by the announced vacancies in 2016. Loans are granted at an interest rate of 1% per annum, with the application of the clause under the following conditions:

- The maximum loan amount is 40.000 EUR;
- Minimum loan amount 1,000 EUR;
- grace period for 12 months during the grace period is not calculated compound interest;
- repayment period of 30 months;
- the repayment shall be made in semi-annual installments, the first installment is to be paid after the expiry of a grace period (a total of 6 installments).

The loan will be implemented so by the Fund, that will pay the loan amount to the supplier whose core business is the production and sale of irrigation systems, and which is selected participant to the contest.

The Regional Fund for Agricultural Development APV is paid 2015 94,1 mln. RSD or 783,805 EUR on the basis of approved loans for irrigation, which makes 17.6% of the total funds disbursed Fund in 2015.

Conclusion

Taking into account the above-mentioned reasons, the need to improve the current situation in this area, as well as the need to improve agricultural

¹⁷ <http://subvencije.rs/vesti/ap-vojvodina-produzen-rok-kraja-oktobra-po-konkursu-za-dodelu-bespovratnih-sredstava-za-navodnjavanje/>

production, increasing the value of agricultural land as one of the most important resources of the Republic of Serbia, encouraging private initiative in this area, the legalization of irrigation is done by regulations and the constant need for drought prevention, we believe that the adoption of this law is justified and in accordance with the practice of other countries faced with the impact of drought on agricultural production.

The development in the field of irrigation through association owners or users of agricultural land in Serbia shall be subject to socio-economic developments, and will interact with the general economic development, relying on a clear commitment of the country to support and through appropriate legislative framework to enable the development of agriculture as one of the strategic industries. Establishing a legal framework, through the adoption of the new Law on water users, should provide the basis for the association of interested parties for the construction of new irrigation systems, as well as their subsequent successful functioning.

The proposed draft law with its positive effects which should be brought, certainly justify the cost that its implementation will create. The intention of the solutions contained in the proposed legislation means that any incurred costs shall be borne by people who recognize their economic interest in the establishment of these associations, who believe that such costs are justified because of their personal, business or economic interests. Irrigation development, which should enable the adoption of this law will certainly contribute to increasing the volume of agricultural production, and thus definitely and positively contribute to the budget of the Republic of Serbia. It is reduced the need for allocation of funds to cover the damage caused by drought, and final users need to enable the purchase of agricultural products at lower prices, which would contribute increasing the volume of their production. It also enables the development of modern agriculture, which involves the use of modern equipment.

Although there is support for the Republic of Serbia and the APV, it is concluded that irrigation is not sufficiently represented. Except the expensive equipment, the reason for lack of interest for this system to improve agricultural production lies in the fact that the rural population is mostly old, uneducated and without motivation to inject some new methods and technologies in their existing production system.

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