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THE USE OF EXPERIMENTS OF THE UZBEK IRRIGATORS IN THE IRRIGATION SYSTEMS OF FOREIGN COUNTRIES AND THEIR CONSEQUENCES (1951-1990)

Abstract: The article discusses the results of sending highly qualified Uzbek specialists in the irrigation system by the former Soviet regime to foreign countries and the use of their experiments in this field.

Key words: irrigation, irrigation and land reclamation personals, cotton monopoly, irrigation system, canals, water reservoirs, foreign countries, scientific-technical relations.

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During the former Soviet regime much attention was paid in Uzbekistan to training highly qualified specialists with a good potential and experience in the irrigation system of the country. Because the problem of permanent providing the parent state with raw materials of cotton was closely connected with training highly qualified specialists in this field.

It was a practice of colonial policy of the former regime for receiving cotton raw material as much as possible. Understanding the essence of this problem the officials of the former Soviet regime tried to do their best to develop the irrigation system in the country. As a result of this attempt a great number of qualified specialists of the irrigation system were prepared and they worked in different branches of agriculture. The results of their experiences were widely and effectively used in irrigation systems of different foreign countries.

In order to increase the resources of cotton former officials of the Soviet regime began to send the specialists in the irrigation system to some foreign countries. The main goal of this regime was to increase the amount of cotton and bring it to their own country. Thus with this purpose the Uzbek specialists were sent to such countries as Afghanistan, Iran, Syria, Yemen, and other African countries and they showed practical and technical assistance in the construction of irrigation systems of these countries. "A great number of irrigators of Uzbekistan and other Central Asian countries helped

the neighboring countries in the erection of the irrigational constructions and land processing fields, i.e. the specialists in land-reclamation and hydro-technicians showed technical and economic assistance in such countries as Cuba, Mongolian Peoples Republic, Bulgaria, Yemen, Syria, Algeria, Iraq, Afghanistan and other countries" [1, p.23].

Former Soviet officials gradually increased this policy. In 1951 and especially in 1954 the Soviet Union began to widen its economic and scientific-technical relations with Afghanistan permanently [2, p.172]. As has been mentioned in the Soviet-Afghan agreement adopted on January 28, 1956 "On the partnership of developing the economy of Afghanistan" and in accord with this agreement the Soviet credit was offered to the development of agriculture, irrigation system, and constructions of hydro-techniques and transport [3].

The main aim of these constructions was to develop cotton growing in Afghani land and this was closely connected with practice of the Soviet policy for increasing raw materials of cotton.

Development of relations between Uzbekistan and Afghanistan in the field of irrigation and land reclaiming was permanently in the center of attention of former Soviet regime, because the Uzbek peasants had a great amount of experience in cotton growing and irrigation and land reclaiming. Therefore during the reign of Soviet regime Uzbekistan was turned into a main cotton growing basis. As a result of this

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autocratic policy for cotton made the Uzbek peasants had to face much difficulties and had to work hard in the cotton fields day and night. Moreover the Soviet officials clearly understood that climate and other ecological conditions in Afghanistan could easily meet the requirements of cotton growing process.

At the same time it was necessary that in the development of economy especially agriculture the increase of the amount of cotton growing plantations and providing them with water supplies were of a great importance.

It should be pointed out that at that time irrigational constructions of Afghanistan were too primitive and undeveloped. The simplicity of technique and irrigational means led to a very poor water supply and low degree of development of cotton growing.

This idea may be supported by the following factors: There has never been a serious improvement in the development of agriculture of Afghanistan since 1956. During a decade cotton growing was increased only for 9.000 tons, i.e. 13,6 %. At the same period (1956-1966) cotton growing in Uzbekistan reached 1105 thousand tons [2, p.168].

Peasant and specialists of Uzbekistan showed a noticeable assistance to the colleagues in Afghanistan, particularly in 1958. "Scientists and engineers from Tashkent as well as the staff of the research institute "Sredazgiprovodklopok" made a project of Jalalabad irrigational complex which would serve to improve the land reclaiming and water supply of Afghanistan" [4, p.55].

Construction of Jalalabad main water supplying canal and hydro-constructions were erected by the Afghani workers under the leadership of Afghani specialists. Consulting service and technical instructions for the construction of this unit were made by the specialists of the Ministry of Melioration and water supply of Uzbekistan. During 1961-1965 in the Jalalabad system of water supply of about 26 thousand hectares of undeveloped land were carried out by more than 6 thousand units of water pumping constructions [5, p.256].

It is to be noted that the construction of this complex by the joint support of Uzbek and Afghani irrigators led to great positive changes in the life of Nanhargar province of Afghanistan.

In accord with the directives of the former Soviet regime in the 60s of the XX th century by the Uzbek irrigators a number of water supplying constructions have been erected in the Afghani land. The research institute "Sredazgiprovodklopok" under the supervision of the Uzbek Ministry of Water Supplies which had good enough experience in this field rendered much assistance in the construction of Jalalabad water supplying canal and hydroelectric station along the river Kabul. Canal and electric station was put into use in 1963 [6].

About 600 Soviet specialists, among them 260 Uzbek specialists took part in the construction of Jalalabad complex. Headmaster of this construction was an experienced specialist a hydro-technician A. F. Michurin. He has also taken part in the construction of the big Farg'ona Canal and O'rta To'qay water reservoir. Such engineers as C. Gafurov, A. Denishenko, V. Bikov and other specialists took active part in the erection of this complex.

Due to the 'concern' of the Soviet regime at this very time sewage-farm lands began to widen in the country. According to the information provided by the Ministry of agriculture of Afghanistan sewage-farm land of the country reached 39 million jarib (1 jarib = 0,20 hectares) water supplying piece of this land was equal to 26,5 jarib (5,3 million hectares). In 1964 irrigative part of land was 1600 thousand hectares (30%)[2, p.167].

In 1964-1965 74 thousand hectares of Afghani land was covered with cotton and the harvest was 75 thousand tons. The average harvest was 10 centner per hectare [7, p.142]. In 1965 Jalalabad irrigation system including 50 cubic meter second water supply, of 70 kilometer length has been finished and put into use [2, p.142].

Several hydroelectric stations in the construction of which Uzbek specialists have taken active part have been erected in Afghanistan. "Several years ago under the partnership of Uzbek and Afghani specialists Jalalabad hydro-technical complex has been erected. It gives possibility of providing with water 25 thousand hectares of farm land which needed water. New mechanized state farms have been created. They are specialized in growing olive, citrus and producing meat and milk [8, p.62].

With the introduction of Jalalabad irrigation complex it became possible to water 31,5 thousand hectares of land, the length of hydroelectric station is equal to 70 kilometers, it also contains smaller hydroelectric stations, thus this complex is of complex importance.

Around 200 thousand hectares of land have newly been developed, in the area of 150 thousand hectares water supply has been improved. For this purpose water has been taken from the water reservoirs of Amudaryo, Panj, Ko'kcha, Qoondooz rivers [9, p.262].

With the partnership of Uzbek-Afghani specialists another important object - Sarde water reservoir in G'azna province of Afghanistan with water supply of 164 million cubic meters of water. Its project was made at the research institute "Sredazgiprovodklopok". This artificial water reservoir provides with water 17,6 thousand hectares of newly developed land, among the 1thousand hectares of irrigative lands. New measures have

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been taken in this area and new state farms have been created there.

Alongside with these measures a repair station, industrial base for production reinforced concrete with an ordnance yard and apartment houses electric and telephone line of 68 kilometers and other additional constructions have been erected. "Introduction of this irrigation system gave a lot of conveniences for Afghani people, mainly after the introduction of the irrigation system it became possible to water the area of 161,1 thousand hectares, water supply of 1,1 thousand hectares of farm land have been improved. As a result of these measures hundreds of Afghani families could have farm lands with a good water supply"[4, p.56].

Soviet officials were aware of the need of qualified specialists for this system and therefore they used to pay necessary attention to the training problems of qualified specialists. In order to meet this need they organized special schools for the individual preparation of cadres. Thus at the beginning of the construction of Sarde water reservoir in the Jilg'a river 1150 workers for construction sites and agriculture, 569 machine-operators, 80 engineers and technicians were prepared.

Under the autocratic policy of the central government during 1971-1975 Ministry of Melioration and Water supply of the UzSSR continued carrying out the tasks given by the center. The tasks included construction of the objects for Water supply for the countries of Near and Middle East. These tasks were charged on "Glavzarubejstroy" under the Ministry, which was the main provider of the Ministry. These tasks included the following:

- To prepare the contracts of projects and their attachments,
- To organize talks with the clients on conditions of contracts,
- To make contracts with the representatives of Afghanistan and Syria on providing them with necessary materials, instruments and spare parts [10, p.150]

Only in Afghanistan during the 8th five-year plan 12 thousand hectares of land (except farm lands) was prepared for land reclamation purposes and watering processes. Sarde watering complex which was able to water 17 thousand hectares of land was made ready.

In Syria in the zone of Yevfrat river hydro-electric station there began 3 construction objects, state farms covering thousand hectares, a united pumping station and an irrigation system covering 17 hectares of land.

In the valley of Darunta the main construction building of Jalalabad irrigation canal of 22 meters high which provides possibility of constructing a hydro-electric station with 11,4 kilowatt power and

water reservoir with amount of 50 million m³ capacity and a canal of 70 kilometers long were put into use.

On the basis of developing the undeveloped lands 24 thousand hectares of land have been developed and put into use and 6 thousand hectares of sewage farm land's were provided with better irrigation system, two state farms "Hadda" and "G'ozibod" were made mechanized agricultural farms.

State-farms were multi-branch mechanized units and were used to grow and produce citrus and olive. 3225 gardens were schemed there among which 2050 hectares of land were cover with citrus and 1280 hectares of land were covered with olive gardens.

During the construction of Jalalabad irrigation system former Soviet specialists prepared more than 11 thousand specialists: field-masters, builders and irrigators [10, p.151].

In the Northern part of Afghanistan the following construction sites were prepared:

1. A pumping station on the Ko'kcha river, a water-main canal and a water reservoir have been erected. This hydro-technical complex gave possibility of watering 9,4 thousand hectares of land in Ko'kcha tracts of land. Moreover water processing of 74 thousand hectares of land, and 2,72 thousand hectares of machine-watered area has improved its irrigation problems. In Nari-Orchin tracts of land 25,5 thousand hectares of naturally watered lands and 5,2 thousand hectares of machine-watered piece of lands have improved their irrigation systems.

2. Water reservoirs "Chashma" and "Shafo" have been erected. This irrigation system included a dam of 62 meters high with amount of 440 million m³ capacity.

3. "Kelagay" hydro-electric station and small dam erected from natural resources (stone, mud) with a 50thousand kilowatt power existed there [10, p.152].

Later attention of former Soviet officials were directed to problems of irrigation and cotton growing in Iran. Because climate and ecological conditions in this country were very suitable for cotton growing there and this factor could meet the requirements of the Soviet autocratic policy for cotton. If to take consideration the data about the irrigation here we'll have following:

Plan of economic development of Iran for the third seven-year plan was adopted for the term of 1962-1967. For the construction of irrigation system of the country was allotted 22 billion rial. It was noted that with this allotment the construction of irrigation branches of dams as "Shohbonu Farah", "Shoh Ismoil", Faracnoza Pahlaviy" should be finished. It was also planned to construct new dams "Shoh Abbos Kabir", and "Dariushe Kabir" which make possible to water the area of 217 thousand hectares [2, p.178].

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A new agreement has been signed between Iran and the former Soviet Union "On Economic and Technical cooperation". The agreement aimed at cooperative construction and use of dams, water reservoirs, hydro-constructions and other irrigation systems on the rivers along the borderline such as Arax, Atrek, Tajan (Herirood).

In June, 1969 The Minister of Agriculture of Iran visited Uzbekistan and got introduced irrigation systems in Mirzacho'l and highly appreciated the success of the republic in irrigation and land reclaiming in the country. He also acknowledged that in these fields Iran was on rather on backside than Uzbekistan [2, p.179].

Next attention on the construction of irrigation systems was drawn to Birma. Much has been done in Birma in this field: 11 thousand hectares of land were to be watered. With this purpose a dam of 35 meters high, a water reservoir of 90 million cubic meters capacity, the system of canals of 100 kilometers long and 350 hydro-technical constructions have been erected [9, p.262].

In accord with the autocratic policy of the former Soviet officials on increasing the amount of cotton in the country during the 70s of the XX th century attention was drawn to the construction of irrigation systems of some countries of Africa too. "Since 1973 Uzbekistan is showing assistance in the construction of irrigation systems of some African countries". For instance, in Uila province of Angola irrigators of our republic a new farm specialized in growing corn has been organized.

Soviet specialists studied the agricultural climate of the country and made schemes of watering and dispatching the agricultural plants. Much has been done in the field of teaching local specialists different agricultural professions. During the last two years 150 specialists - mechanics, excavator drivers, combine operators have been prepared [8, p.62]. These measures and practical activities were closely connected with colonial policy of the Soviet regime mentioned above.

At that time in 9 provinces Angola (out of 12) cotton was grown. "Delta pain-16" and "Karolina-kuen" sorts of cotton was grown mainly and the harvest was no more than 10 centner per hectare.

In 28 kilometers distance from Luanda, the capital city of Angola, there is a province Uila specialists from Uzbekistan had to clean the territory of 400 hectares from savanna and to grow cotton and corn. As a result of it "On May 9, 1979 in the republic of Angola on the experimental plantation "Onga-Zanga" Soviet specialists planted "Toshkent-1", "108-F" and "103-F" sorts of cotton. After 95 days cotton plants were flourishing with white cotton and the harvest was 42 centner per hectare"[11, p.62].

With the help of Uzbek specialists in "Onga-Zanga" state farm seeds of cotton were planted on

the area of 250 hectares and the harvest was very high. In all machines of agriculture - tractors, cultivators, cotton picking machines here had a mark of Tashkent. During the 1981-1985 five more state farms were founded here [12, p.2-3].

All the measures and activities in this field were laid on the autocratic policy of the Soviet officials on cotton. This practice increased and widened year by year.

In accord with the Soviet-Angolian agreement new state-farms which were aimed at cotton growing in Angola were created. In the creation of these forms Uzbek specialists took an active part.

With their help new irrigation systems and watering complexes were built, diesel pumping stations were erected. As a result of these activities "the harvest of cotton reached nearly 20 centners per hectare"[8, p.62].

Technical and economic cooperation between Uzbekistan and Syria developed and widened under the colonial policy of the former Soviet regime. For instance, Soviet specialists showed assistance to Syrian colleagues in the creation of the project and their construction in Maskene-Aleppo province in Syria".

Construction of objects of water supply in Maskene was carried out in accord with measures created by the small permanent commission on economic and technical cooperation of Soviet-Syrian agreement (1974).

In the construction of water objects in this province the Ministry of Water Supply of Uzbek SSR showed the following assistance to Syrian partners:

1. In the area of 40 thousand hectares state-farms have been created. Construction expenditures were made at the expense of the valley. The Soviet Union provided with construction technique, technological equipment and project-technical documents, as well as organized trips of specialists. Planning measure have been carried out in the area of 1195 hectares, construction of a watering canal of 3,6 kilometers long have been finished. Assembling the equipments for the construction of temporary water supply of the state farms have been finished.

2. The land area of 2.17 thousand hectares have been developed. Research works for creation of projects and schemes for the main canal of 8,5 kilometers long capacity have been carried out. Along the water main a new automobile road has been built.

3. In order to water 21 thousand hectares of land a new united pumping station has been erected. Land development acts were fully provided with working schemes and projects. Providing with reinforced concrete was carried in 80%.

The Ministry of Water supply of the Uzbek SSR provided with highly qualified specialist in different directions. In 1971 the number of engineers and

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technical assistants was 62 in number, in 1972 – 76, in 1973 – 78, in 1974 – 120, in 1975 – 287 [10, p.152-155]

The above mentioned measures in their turn helped to develop peasantry on the sewage-farm lands of Syria. We'll try to support our idea with the following facts: "In this tract of land we planned to develop 160 thousand hectares of land. In order to develop 17 thousand hectares of land we have finished projecting the pumping stations which are aimed at bringing water from the Yevfrat water reservoir. The first state farm has been created in Syria. Agricultural workers have grown a good harvest of cotton, corn, vegetables and fruit.

With the purpose of increasing the number of state farms in Syria we brought from Uzbekistan excavating machines agricultural machines, automobiles, mineral fertilizers, as well as highly qualified specialists in the construction of irrigational systems"[8, p.63].

The united pumping station built by the project of the former Soviet government became the main basis for watering the 21 thousand hectares of land. It provided undeveloped massif lands with 36 cubic meters of water per second.

In the construction of the pumping station the specialists of the Ministry of Water Supply of the Uzbek SSR carried out work of around 1 million cubic meters of excavation acts, and around 50 thousand cubic meters of concrete. Around 4 thousand tons of metal constructions have been installed and as a result more than 8 thousand hectares of fertile land in Maskene-Aleppo massif have been developed.

During the last years huge irrigational constructions have been built in the Syria Arab Republic. Since 1958 in accord with the agreement in valley of Oront river 100 thousand hectares of land have been developed and irrigation constructions were carried out.

Research works have been carried out in the field of development of lands in the oasis of Haboor river, a project has been conformed to develop irrigation systems of 80 thousand hectares of land. A new agreement has been approved in 1969 [9, p.261].

It is to be noted that with the help of the Uzbek specialists a new project of constructing irrigational systems in the oasis of Barada and Haboor watering 100 thousand hectares of land has been created.

According to primary accounts construction of hydro-complex in the Yevfrat oasis gives additional possibility watering some 600 thousand hectares of undeveloped land.

During the last years much attention is being paid to the development and construction of

irrigational systems but the amount of running waters is rather limited here. Engineers found the way out for pumping subsoil waters and thus to develop irrigation systems. The water taken from 30 wells built with the help of former Soviet Union was enough to satisfy the needs of agriculture and the population. 1200 hectares of land was watered and planted with seeds. A good harvest was received from cotton, maize, sesame, vegetables and other crops. (The harvest of cotton was 2 centners per hectare).

In accord with the agreement adopted between Yemen and former Soviet Union much has been done in improving irrigational systems, digging wells, hydro-geological and topographical researches were carried out. In 191 a group of scholars in this field got introduced with the area to be developed, and the plan work was adopted. This area was aimed at growing fine-fibred sort of cotton therefore more attention was paid to the possibilities of watering the area. For this purpose a number of irrigational complexes and dams have been erected.

Together with engineers and technical assistants of the former Soviet Union specialists from Yemen erected a new concrete dike in Lahedge. 8 more such dams were erected in 1973. With help of these constructions more than 8thousand hectares of land could be reconstructed [9, p.262].

A group of specialists working in "Dayshoo-Lampo" state farm in Mozambique under the leadership of associate professor of agriculture D. Mirzambetov had a great success in growing maize and rice.

In comparison with 1980 the harvest has grow twice or thrice, the harvest of wheat was 32-36 centners per hectare. Such a result has never been seen in the history of Mozambique [9, p.263].

All the above mentioned constructions of irrigational systems in foreign countries have been carried out in accord with the colonial policy of former Soviet regime for the autocratic aim for cotton.

In conclusion we may say that the aim of the former Soviet regime was to send the qualified specialists to foreign countries and thus to turn them into a colony. In this way the former Soviet Union planned to turn these foreign countries into main cotton base. Because, first of all, this situation could fully meet the requirements of autocratic policy for cotton raw materials, secondly, the officials of the Soviet regime were aware of the fact that climate and ecological conditions of these foreign countries were suitable for growing cotton. And this fact in its turn was closely connected with the essence of autocratic policy of the center for cotton growing.

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