

FACTORS AFFECTING THE DEVELOPMENT OF IRRIGATED FARMING

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Annotatsiya: sug'orma dehqonchilik — qishloq xo'jaligida suv resurslaridan samarali foydalanishni ta'minlaydigan muhim jarayon bo'lib, u o'simliklar yetishtirishda unumdorlikni oshirishga xizmat qiladi. Ushbu soha rivojlanishiga ta'sir etuvchi omillar bir qator iqlimiy, iqtisodiy, texnologik va ijtimoiy faktorlarni o'z ichiga oladi. Iqlim sharoiti, jumladan, yomg'ir miqdori va harorat sug'orma dehqonchilikda asosiy rol o'ynaydi, chunki ular o'simliklarning o'sishi va rivojlanishiga bevosita ta'sir qiladi. Yer resurslari, tuproq unumdorligi va tuzilishi ham muhim ahamiyatga ega, chunki sifatli tuproq sog'lom o'simliklar uchun zarur shart-sharoitlarni yaratadi.

Kalit so'zlar: iqlim sharoiti, yomg'ir miqdori, harorat, tuproq unumdorligi, tuproq tuzilishi, investitsiyalar, iqtisodiy omillar, suv resurslari.

Аннотация: Развитие медицины на Древнем Востоке является одной из важнейших страниц в истории человечества. В этот период было накоплено много знаний об основах медицинской науки, причинах заболеваний и методах их лечения. Древние цивилизации, такие как Египет, Месопотамия, Индия и Китай, отличались своей врачебной практикой. В странах Древнего Востока медицина была тесно связана не только с научными знаниями, но и с религиозными верованиями и культурными традициями.

Ключевые слова: история медицины, диагностика, методы лечения, натуральные лекарства, психические и физические заболевания, религиозные верования, анатомия человека, врачебная практика.

Abstract: The development of medicine in the ancient East is one of the most important pages in the history of mankind. During this period, a lot of knowledge was accumulated about the foundations of medical science, the causes of diseases and methods of treatment. Ancient civilizations such as Egypt, Mesopotamia, India and China were distinguished by their medical practices. In the countries of the ancient East, medicine was closely connected not only with scientific knowledge, but also with religious beliefs and cultural traditions.

Key words: history of medicine, diagnostics, treatment methods, natural medicines, mental and physical diseases, religious beliefs, human anatomy, medical practice.

If we look at the history of irrigated agriculture, it has been known since the Neolithic era. Initially, the first centers of agricultural culture appeared in hot and dry countries, for

example, in Mesopotamia, Central Asia, and Egypt, where rivers overflowed and flooded every year. After the water receded, crops planted in the mud that remained gave very good yields. This is how the primitive form of irrigated agriculture, motiga (shovel on a stick), arose. The construction of large irrigation canals began in slave society. In Mexico, another method of irrigation was used to bring the land closer to the water: the plant was grown in special pots (chinampa) filled with soil. The development and territorial organization of agriculture are strongly influenced by natural, economic, social, organizational and legal factors. These factors exert their influence on the basis of socio-economic laws and regulations, based on the natural conditions of each region. These natural and socio-economic factors have an (indirect) absolutely territorial character, and they also directly influence subsequent factors (ITT, production volume, level of productivity, etc.). Among these, the influence of natural or climatic factors is studied first of all. Because, first of all, natural factors have a strong influence on the development and territorial organization of agro-economic sectors. Natural factors (geology and lithology of the region, relief, climate, land and water resources, soil types, etc.) can affect the location and development of agricultural sectors and accelerate or slow down this process. The development of agriculture, especially irrigated agriculture, is mainly influenced by four agroclimatic factors. This can be expressed in the form of a formula below.

$$Ds/d = M (T+N+Y+I)$$

Here:

Ds/d - Farming or irrigated farming;

M - labor;

T-soil (land resources);

N - moisture (water resources);

Y - light;

I - heat.

Each of these natural components has its own place and specific characteristics in the formation of irrigated agriculture. Here, by soil we mean the upper fertile layer of the earth. An important aspect of soil for agriculture is its fertility, which is measured as a percentage and is assessed in terms of bonite (100 points). Dark gray soil, which has the highest average fertility in our country, contains up to 2.5 percent humus and is considered to be 100 bonite. In addition, there are other methods of calculating soil fertility depending on crop yields (yielding 40 centners of cotton or 10 tons of potatoes from 1 ha of land, etc.).

Technical factors also significantly influence the development of irrigated agriculture. This is a process mainly related to irrigation, and today there are several different irrigation methods, the importance of which in agriculture differs from each other. Surface irrigation. In this case, water is distributed over the surface of the paddy field in the form of a layer of a certain thickness. This irrigation can be carried out as follows: short-term flooding of the irrigated area; releasing water into these strips when crops are planted along the rows; irrigation along the paddy fields - long-term flooding when growing rice or washing the soil; irrigation by

sending water from many wells. One of the most serious disadvantages of surface irrigation is the large amount of water consumed per unit of product produced. Subsurface irrigation. This type of irrigation is sometimes called the capillary method of irrigation, which is based on the fact that water is lifted from below to the roots of plants under the influence of capillary forces. In this case, the soil surface may remain dry. This method is a method of subsurface or subsurface irrigation. This method is very suitable for greenhouses and can be moved from one place to another. In subsurface irrigation, water is pumped from a depth of 40-45 cm underground. It is delivered directly to the soil layer where the roots grow through very small holes in small-diameter pipes, water-permeable pipes or special water outlets. Sprinkler irrigation. In this method, the water flow is broken up into small droplets (artificial rain), which are then sent to the ground and plants. During the spraying, part of the water evaporates. This technology requires water supply channels, pipes, sprinklers and pumps. The water must be free of mechanical impurities that can clog the nozzle holes. The method is mainly used in areas with sufficient water, in suburban areas, on flat surfaces and relatively small areas. Sprinkler irrigation guarantees uniform moistening of the soil layer and saves water, but requires large financial costs and qualified service. Drip irrigation. Drip irrigation is a method of applying water directly to the soil, while leaving most of the soil surface dry. Drip irrigation is a method of delivering water in the form of droplets directly to the soil surface, directly from the plant, through a network of small-diameter pipes with small holes, installed at a certain distance from each other, thereby saving water consumption.

Climatic conditions play an important role in the successful development of irrigated agriculture. Temperature, rainfall, and general climate characteristics directly affect the growth and development of plants. For example, in dry climates, the efficiency of irrigation systems increases, since water resources are limited. Soil fertility and structure are also important factors in irrigated agriculture. Fertile soils must be enriched with nutrients necessary for plants. Good drainage and aeration of the soil also contribute to the efficient use of water. Irrigation technologies, such as drip irrigation or sprinkler systems, are important in irrigated agriculture. Modern technologies allow saving water and accurately meeting the water needs of plants. Such systems reduce water consumption by delivering water directly to the roots of plants. Economic factors are also very important for the development of irrigated agriculture. Investments, financial assistance and subsidies in the agricultural sector allow farmers to introduce modern technologies. Also, production in accordance with market demand ensures economic stability. State policy plays an important role in the development of irrigated agriculture. Issues such as agricultural policies, water resources management, environmental safety and sustainable development should be implemented within the framework of strategies established by the state. The skills and experience of farmers are essential for achieving successful results in irrigated agriculture. By improving their knowledge and adopting modern methods, farmers can increase their productivity. Preparing farmers through education and training is also important in this process. The environmental impact of irrigated agriculture should also be taken into account. Issues such as saving water resources, reducing soil erosion, and preserving biodiversity contribute to environmental sustainability. The development of irrigated agriculture largely depends on climatic conditions, soil fertility, irrigation technologies, economic factors, government policies, farmers' skills, and environmental impacts. Taking these factors into account, it will be possible to create effective and sustainable irrigated farming systems, which is important for ensuring food security.



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