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**AGRICULTURAL PROBLEMS
AND NEW MODELS OF
ECONOMIC DEVELOPMENT
IN THE EAST**

Collective Monograph

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The collective monograph is devoted to topical issues of our time – agricultural problems and new models of development of the countries of the East. For the past two years, the world has been living in the harsh conditions of the COVID-19 pandemic. The monograph comprehensively examines the impact of the pandemic on the food security of the countries of Asia and Africa, on the increase in poverty and inequality in the countries of the East, and on the choice of new models of economic development by these countries. The book examines: the dynamics of economic growth in the agricultural sphere of the leading Asian countries; the impact of agrarian reforms on the development of agriculture; the level of food security in a number of countries, special emphasis is placed on the impact of the COVID-19 pandemic; new models of economic growth in Asia and North Africa are also presented, new forms of production organization in the financial and agricultural spheres are evaluated, in particular the impact of TNCs and innovative financial technologies.

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SUMMARY

At present, many global problems of humanity have intensified. The COVID-19 pandemic has caused a humanitarian crisis that has put it at risk the food security and food supply of millions of people around the world, and especially in the developing countries of Asia and Africa. In countries where agricultural problems have accumulated over the past decades, the crisis has manifested itself most acutely.

No matter how much we would like to cover the agricultural sector in all the countries of the East in this work, this path is not possible, so we decided to give a bird's-eye view of the main problems. On the one hand, the agricultural sphere will appear before us in the space-time continuum, so as a process of formation of agricultural sector in countries of Asia and Africa, and on the other hand, the current state of institutions and reforms in the agricultural sector will be shown.

An important place in the work is occupied by the study of the impact of the COVID-19 pandemic on the following processes: a) the state of food security in the countries of Asia and Africa, b) the increase in poverty and inequality in the countries of the East, c) the choice of new models of economic development by these countries.

Special attention will be paid to new models of development of the Eastern countries in the energy, finance, and raw materials sectors, including new forms of production organization in the financial and agricultural sectors, in particular the influence of TNCs and innovative financial technologies.

This monograph consists of seven chapters. The first four chapters are devoted to assessing the state of the agricultural sector in the regions of the East. The agrarian problems in the regions of South Asia, the Middle East and North Africa, East and Southeast Asia, and Central Asia are studied.

The fifth and sixth chapters examine the impact of the pandemic on food security, poverty, inequality in the countries of the East. The COVID-19 pandemic has become a stress for the global system, in

which many existing trends and problems have appeared in a special form. These include the food problem and the attitude of leading figures of the UN system to it, for example, a message on the World Health Organization website about the significant risk of an increase in the number of hungry people in the world due to the COVID-19 pandemic. In one year, there was the enrichment of a small group of rich people and at the same time the impoverishment of a huge mass of poor people. Discontent in the world has grown even more. The crisis caused by the pandemic overlapped with the financial and economic crisis and aggravated it.

The seventh chapter presents new models and forms of economic organization in the Eastern countries in the field of «green technologies», energy, agriculture, finance.

Recent technological progress has made it possible to use hydrogen as a carbon-free fuel. The development of the electric power industry based on renewable energy sources has opened the way to obtaining «green hydrogen» by electrolysis without a «carbon footprint». If renewable energy sources remove fossil fuels from the electric power industry, then «green hydrogen» can displace carbon-containing fuels from sectors of the economy that are poorly amenable to electrification. The distribution of hydrogen in combination with renewable energy sources is the way to a carbon – free, climate neutral economy, which humanity aspires to. Hydrogen energy, providing many countries in Asia and Africa with a chance to radically change their positions in the international division of labor, makes demands on national businesses and governments to possibly abandon the existing specialization and change the structure of economies based on new «comparative advantages».

Let's outline the most discussion problems – primarily country-specific ones, which will be explored in the book.

Pakistan. The phenomenon of the «land-demographic complex» in Pakistan is considered, that is, overabundance of people employed in agriculture. In addition to the diminishing of land cultivated by farms, there has been an increase in the number of agricultural households specializing in livestock holding. Livestock has become a leading agricultural industry, pushing crops into the back chair of the

agricultural product. Caused by the installation of tubewells the use of groundwater has increased and the role of irrigation from canals diminished. Noting the decline in the role of the agricultural sector in the structure of GDP, the author believes that it was in no small part the result of inefficient and self-interested public policy. The ruling circles do not take measures to reform the structure of social relations in the village, perpetuating its generally distressed state. The country, he believes, is facing not a catastrophe, but stagnation with increased dependence on outside aid and the support of world and regional powers.

Bangladesh. On the 50th anniversary of independence, which is celebrated in 2021, I would like to note the success of Bangladesh in the field of agricultural development and food security. The paper first assessed the basic level of agricultural development with which the country entered the period of independence, for this purpose, an attempt was made to give a comparative analysis of the macroeconomic parameters of economic growth in the industry in three countries – Bangladesh, India, and Pakistan. The agricultural sectors of these countries in the first decades after independence, each having its own specifics, generally overcame the same stages of development. First, this concerns a series of agrarian reforms. In Bangladesh, for many reasons, agrarian reforms were practically not completed, which led to a relatively slow growth rate in the industry in the first twenty years. However, since the beginning of the 1990s, economic growth in the agricultural sector has intensified, reaching 3.6% per year. The development of other industries, primarily the service sector, has led to the fact that the contribution of agriculture to the national gross domestic product has decreased from 42% (1970) to 13% (2020). Since the 1990s, successful hunger eradication programs have been carried out in Bangladesh with the support of international organizations. The Global Hunger Index (GHI) has decreased from 52 to 26 points in 30 years, the share of undernourished people today is less than 13%.

India. The research of agricultural development is presented in two perspectives: first, a retrospective analysis of economic growth in agriculture is given, and secondly, modern agrarian reforms are described. In 2022 India will celebrate 75 years of independence. During this period, the country's agriculture has achieved great success. In the

initial period, an import-substituting model of economic growth was adopted as the basis for development, and in the early 1990s, when the basic needs of food security were met, the state initiated a change of the model to an export orientation. The dynamics of economic growth in the agricultural sector since the beginning of the period of independence can be divided into three stages: a) the stage of compensatory growth (from the early 1950s to the mid-1960s), b) the stage of the «green revolution» (from the mid-1960s to the early 1990s), c) the stage of export orientation (from the early 1990s to the present). The starting point of the third stage, aimed at strengthening the export orientation, was the agrarian reform of the early 1990s. By the end of the second decade of the XXI century. More than 10% of the gross agricultural product was exported, which is four times more than the same indicator of the early 1970s. India has entered the list of leading exporters of not only traditional agricultural goods for the country, but also non – traditional (products of fishing, fruit growing, animal husbandry-buffalo meat). The growth rate of production in the sectors producing export products is higher than the indicators of grain production. Moreover, the technologies of the second «green revolution» were introduced into these sectors of agricultural production.

The agrarian reform initiated in 2020 by the government of Narendra Modi is aimed at expanding the export of agricultural goods. For example, it is planned to increase revenues from agricultural exports by 100 billion by 2023 and make India a world food basket. To achieve this, the export market should have a more systematic focus on attracting investment and introducing innovations.

However, the agrarian reform of 2020 in India met with fierce resistance in the states. During the nearly three-month nationwide «lockdown» that began in March 2020, supply chain failures exposed critical infrastructure gaps and management problems in Indian agriculture. As a result, on May 12, 2020, Prime Minister Narendra Modi announced a stimulus package in the amount of 20 trillion Indian rupees (\$263 billion), designed to support the economy against the background of the spread of the COVID-19 pandemic. The package of reforms was adopted in a very short time, already on June 5, 2020. The Ministry of Law and Justice published three decrees that came into force

immediately, although they were approved at the next session of Parliament in September 2020. The assemblies of the states of Punjab, Rajasthan, Chhattisgarh, and subsequently Delhi and Kerala introduced their own bills to oppose the new laws on agriculture.

Israel is one of those countries where the agricultural sector played an important role in the formation and nation-building of the state. Moreover, the process of the birth of national agriculture in Palestine on the part of the territory that entered the borders of Israel was one of the conditions for the revival of the state. Along with the forms of agricultural settlements that already existed in the West, a new collective form of farming emerged – the kibbutz, which for a long time was the «calling card» of Israel. The Kibbutz movement has achieved significant success in the agricultural sphere, and at the same time fulfilled urgent national tasks outside this sphere. The rapid pace of development of the Israeli economy, the economic crisis of the 1980s could not but affect the situation of the kibbutzim. But despite the radical changes in many areas, the kibbutz tries to preserve its foundations as much as possible – collective work, cooperation, and direct democracy.

Turkey. Since the beginning of the second decade of the XXI century, the country has been experiencing a slowdown in economic growth. And although most often unfavorable trends in the development of the institutional environment are focused on, no less, and probably more significant, is the reduction in the volume of external financing. The decline in growth is synchronized with the reduction in the balance of payments current account deficit. The latter circumstance, in turn, led to a certain decrease in the rate of investment and a more noticeable reduction in the level of private consumption, which, ultimately, led to a slowdown in economic dynamics. At the same time, an indirect influence of the institutional factor on the reduction of external financing is allowed, but it does not seem to have become a decisive one.

The countries of the Cooperation Council of the Arab States of the Persian Gulf, despite the natural and climatic conditions that are unsuitable for many types of agricultural activities, are implementing various programs to maintain food security, including the development of agro-industrial production based on new technologies. For this

purpose, various programs are being implemented in this area. In local conditions, it is not possible to achieve full self-sufficiency in food, and therefore, some measures in this area complement others, while great importance is attached to investing in food logistics, creating stocks and storage systems, developing desalination, as well as investing in agriculture abroad.

Egypt is studied in this paper from the point of view of food security. Food security is an important element of Egypt's national security as it directly affects the socio-economic aspects of people's lives. In recent years, the country's agricultural sector has made significant gains in productivity growth, which has a positive impact on food security. At the same time, there are threats in Egypt related to limited natural resources, demographic situation, as well as the COVID-19 pandemic.

Algeria. Studying the specifics of the development of the agricultural sector in Algeria, several stages of economic growth are distinguished. The first – before the period of colonialism–was characterized by the fact that at that time there was a tribal organization of labor on the land. Already during the French occupation of North Africa, almost all the fertile land was expropriated from the local population. After independence, the situation on the ground indicated that at first the organization of labor occurred spontaneously, but soon the authorities began to introduce a centralized management system. In the 1980s. Algeria was going through a period of economic liberalization; land began to be transferred to private farmers. In the light of the civil war and the need to restore the economy, the authorities, while preserving private property, additionally began to implement initiatives aimed at improving the agricultural sector. In general, the main task of the country throughout the entire period of independence is the desire to achieve food self-sufficiency.

Southeast Asia. In the last quarter of a century, the restructuring of the sectoral structure of the economy of the countries of Southeast Asia, including the assessment of the place of the agricultural sector, has become one of the most important tasks. As a result of the purposeful policy of the state, most of the Southeast Asian countries carried out forced industrialization, they managed to accelerate the pace of

economic growth, strengthen the positions of the industrial sector, and in recent years – the service sector. At the same time, due to the slower growth rates of the agricultural sector, there was a noticeable narrowing of its positions in almost all countries of the region. Although the process of restructuring the sectoral structure in the Southeast Asian countries is developing quite successfully overall, it is not only geographically uneven, but also quite contradictory. Accelerated industrialization is combined here with the de-agrarization of production, a noticeable lag in the service sector, and most importantly-with the strengthening of differentiation of the countries of the region.

The *Philippine* agrarian reform has a long and complex history. The administration of President Rodrigo Roa Duterte, who took office in June 2016, decided to intensify the process of transferring land to small owners. The paper focuses on the results of the agrarian reform during the administration of R. Duterte the difficulties arising in the implementation of the program goals of the reform, both economic and socio-political in nature, are discussed.

Japan. Today, someone may be surprised to learn that in the third economy of the world, agriculture is to a certain extent a backward industry. But this is true, in many respects its products do not stand up to the competition of the world market. In terms of labor productivity and production efficiency, it is inferior not only to its own industry, but also to the agriculture of many other developed countries. The main pain points of today's agricultural sector are an insufficient level of food production and a large volume of imports, a shortage of labor, especially of working age, high costs and production costs, low production efficiency.

Oceania. Given the combination of natural resources, unique geographical location, extensive exclusive economic zones, and the challenges facing Oceania Island states, including exposure to economic and natural shocks, food security is a vital agenda for the region. Based on data from international organizations, reports from relevant ministries of Oceania countries, as well as a study of the experience of foreign experts, this chapter analyzes the status of food security in the island's states, including a wide range of factors: soil diversity,

population growth, the role of agriculture and fisheries, the impact of foreign trade, climate change, foreign aid, and the COVID-19 pandemic.

Kazakhstan. Since the beginning of the 1990s, due to the diversification of the economy, the functional role of agriculture in the national economy of the republic has changed dramatically. In this paper, on the one hand, I would like to outline the thirty-year experience of structural modernization of agricultural production in Kazakhstan and describe the directions of agrarian reforms that allowed the agriculture of the republic to switch to a multi-layered market economy. On the other hand, to assess food security in Kazakhstan, which is directly related to national security. At the same time, the impact of the COVID-19 pandemic on all sectors of the economy of Kazakhstan, including agriculture, was studied.

Uzbekistan It will soon be 30 years since the agricultural economy of Uzbekistan took the path of forming a market economy, having carried out a few agrarian transformations. Today, Uzbekistan is on the verge of a new reform of the agricultural sector. The adopted Strategy for the development of Agriculture of the Republic of Uzbekistan for 2020-2030 shows new approaches to the integration of agricultural production and industry. It is assumed that the introduction of cotton-textile clusters will significantly increase the efficiency of the cotton industry. The section shows how the agricultural sector of Uzbekistan has moved from a mono-cultural cotton economy to a multidisciplinary, multi-layered type of economy. By the beginning of the 1990s, 70% of the grain needed to feed the population was imported to Uzbekistan from the intra-union fund of the former USSR, so the main goal of agricultural development since independence has been to ensure food security. In 2020, compared to 1990, grain and vegetable crops, meat production increased more than four times, and milk production increased three times.

The second part of the book, internally conditioned by the agrarian problems described at the beginning, is devoted to the impact of the pandemic on food security, increasing poverty and inequality.

The impact of COVID-19. The COVID-19 pandemic has become a stress for the global system, in which many existing trends and

problems have appeared in a special light. These include the food problem and the attitude of the leading figures of the UN system to it. For example, on July 13, 2020, a message was published on the website of the World Health Organization about the significant risk of an increase in the number of hungry people in the world due to the COVID-19 pandemic. It was based on the annual report of the Food and Agriculture Organization of the United Nations (FAO), according to which, because of the COVID-19 pandemic, the population suffering from chronic hunger may increase by 130 million people by the end of this year. The named value of increasing the number of hungry people is sensational. At the current scale, the number of hungry people means an increase of almost twenty percent.

In the beginning of the 21st century, the UN General Assembly introduced as its main aim the elimination of absolute poverty by 2030. Today, due to COVID-19 and climate) change this aim has been postponed to a much later date. The pandemic has rendered the problems of poverty and inequality even more acute. They have become central to all citizens of the planet. Last year, a very small group became richer, while a large mass of people became poorer. Public discontent in the world has grown immensely. The pandemic has deepened the socio-economic crisis which began in 2008.

COVID-19 and food security in China. China was the first to take the brunt of the COVID-19 pandemic. To prevent the spread of the epidemic, the country introduced unprecedented measures that led to a serious slowdown in economic activity and disrupted the supply chain, which had cascading effects on the entire food system. But at the same time, China was not only able to localize the epidemic, but also mainly supported the stable production of basic agricultural crops.

The food situation in Africa, which has sharply worsened in the context of the pandemic, is of great concern. Despite their participation in various programs the UN Millennium Development Goals and UN Sustainable Development Goals, some African countries have not been able to achieve an optimal level of food security. On the African continent, the number of people suffering from hunger is constantly growing; the low level of food security there is primarily associated with poor agricultural development, which does not provide the population with

enough food. The development of agricultural production is influenced by many risks; the COVID-19 pandemic and associated containment restrictions have exacerbated the negative impact of these risks on the state of the industry and weakened it. The coronavirus has reduced the food security of the continent, contributed to the impoverishment of pastoralists and farmers, and reduced agricultural land and herds; led to huge losses of agricultural produce, disruption of value chains, renewal, and intensification of conflicts between shepherds and farmers, etc. Thus, the COVID-19 pandemic has had negative social, economic, and political consequences that still cannot be fully assessed.

The problem of food security is especially acute in the countries of East Africa. The policy aimed at improving the situation with food security includes, among other things, a set of measures to reduce post-harvest losses. Using the example of grain crops, the article analyzes the situation with losses of the harvested crop in individual countries of the region, national strategies to reduce post-harvest losses, the activities of international organizations in this area and the results achieved. The impact of institutional, socio-cultural, financial factors influencing the realization of national strategies and the implementation of post-harvest management in the agricultural sector of East African countries is investigated.

I would like to highlight the *institutional approaches to the analysis of agricultural problems*. For example, the analysis of the regional development of rural areas in China is directly related to the study of the main agricultural problems, establishing the influence of modernization transformations on the changes that have arisen in modern rural areas of China. The role of the Research Institute of Rural Development of the Chinese Academy of Social Sciences and the Institute of Economics and Agricultural Development of the Chinese Academy of Agricultural Sciences in carrying out complex interdisciplinary studies of the evolution of Chinese rural areas is determined. Based on the analysis of the key directions of research activities of these two «think tanks», the specificity of the study of rural areas of China was determined.

Currently, the 14th Five-Year Plan of China, adopted in March 2021, is of great interest, which assumes a fundamentally new model of

the country's development for the next five years and defines long-term goals until 2035. At the same time, the competence of the adopted program includes not only the directions of socio-economic life, but also new institutional ties in society. The program goals for the upcoming 15-year period will focus on increasing the welfare of the people (increasing the number of the middle class), modernizing the economy, increasing investment activity, increasing the role of the environmental component of economic growth and, most importantly, increasing resistance to external shocks.

The logical conclusion of the research complex was the third part of the book, dedicated to new models of economic development in the countries of the East. Special attention should be paid to the fact that many countries had to choose these models in the context of the COVID-19 pandemic. In this part of the monograph, such economic spheres as alternative energy, green technologies, monetary policy, innovative financial technologies, as well as their functioning in the countries of Asia and Africa were considered.

The hydrogen economy. Recent technological progress made possible the use of hydrogen as carbon-free fuel. Power energy development based on renewable energy sources opened the way to production of «green hydrogen» through electrolysis without «carbon trace». While renewable energy sources oust fossil fuel from power energy, «green hydrogen» replaces carbon containing fuel from economic branches incapable of electrification. Wide spread of «green hydrogen» combined with renewable energy sources is a way to carbon-free climate neutral economy aspired by humanity. Hydrogen energy giving a chance to many Afro-Asian countries to radically change their position in the international division of labor demands that national businesses and governments should give up the existing specialization and change the structure of economies based on new «comparative advantages».

The European Union aims to be climate neutral by 2050. It plans to make green hydrogen produced with renewables a base of European economy. Due to great amount of clean hydrogen needed it can be imported to the continent from North Africa. The prospects of participation of Maghreb countries in green hydrogen production and

export to Europe depends on the development of green generation. Now Morocco seems to be the most real participant in European Green deal.

Green technologies are gaining an increasing place in the plans of the Republic of Korea. It is hydrogen that is considered in the country as a promising alternative to traditional fuel and energy resources, which can not only solve environmental and energy problems, but also contribute to economic growth.

Monetary policy. In the context of the COVID-19 pandemic, developing Asian countries selectively began to turn to unconventional monetary policy instruments. Also, the crisis of 2020 led to the fact that developing countries significantly expanded the tools and maneuverability of monetary policy, the scale of measures to support financial markets they resorted to a stimulating monetary policy for the first time.

New financial technologies are radically changing the model of providing financial services, which opens wide opportunities for involving the population and organizations of the Eastern countries in the sphere of modern financial services. The ability of fintech companies to serve those who cannot be served by traditional financial structures makes them a leading development force in the financial services value chain. We can note the rapid advancement of the Eastern countries to the first positions in global fintech. So, in the top ten innovative fintech companies there are three companies from China, two from India, one each from Singapore and Indonesia. Malaysia, the Philippines, and Thailand, although they demonstrate the use of different business models and technologies, but overall, they are successfully developing fintech, although at different rates.

New forms of organization of inactive capital. In the creation of global value chains in the process of agricultural production, an increasing place is given to transnational corporations (TNCs). Moreover, TNCs of various industries are involved in the international supply chains of agricultural products, from seed producers and agricultural machinery to hypermarket chains and TNCs of the food industry. In agriculture TNCs are increasingly using non-operational forms of organizing international production – the production of agricultural products under contracts. TNCs of the food industry, for example, Nestle Corporation, act as organizers of production under contracts. The paper

assesses the positive and negative consequences for Afro-Asian countries of contract production of agricultural products, shows the instability of income and employment of this form of production, i.e., factors that were particularly acute in 2020 during the COVID-19 pandemic.

* * *

Before reading the monograph, I would like to note once again what we see its special features in:

- a comprehensive approach to the study of agrarian problems in the countries of the East is given;
- despite the fact that the collective monograph is divided into three parts, they are all logically interconnected;
- presenting first a spatial and temporal cross-section of the state of the agricultural sector, we focused on the problem of the formation of the modern agricultural sector in large countries of Asia and North Africa. Most countries of South Asia, the Middle East and North Africa, East and South-East Asia, Central Asia, Oceania, and sub-Saharan Africa were covered;
- studying the impact of the COVID-19 pandemic on poverty and inequality, we identified the most acute challenges that the countries of the East had to face. Estimates of the increase in the number of hungry people in these countries during the pandemic were made, and the reliability of such estimates was calculated;
- the book describes new models of economic development in the countries of the East, while focusing on such innovative areas as the hydrogen economy, green technologies, agriculture, financial technologies and monetary policy, providing energy and raw materials;
- new forms of production organization in the financial and agricultural spheres are evaluated the influence of TNCs and innovative financial technologies.

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