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The Possibility of Agricultural Modernization in Afghanistan

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Abstract

Agricultural modernization aims at proper productivity of arable land and water resources and access to sustainable agricultural products. In this research, an attempt has been made to discuss agricultural modernization as a positive effect of technology and industrialization of the economy with the library-descriptive analytical method. According to the data of the World Bank the studied countries have been ranked in three categories. The first group consists of group A, which ranks first in terms of agricultural modernization. These countries are leaders in terms of industry and technology, and are ranked first in terms of productivity of production factors and level of economic well-being. The countries that rank second in terms of modernization are also in the second rank in terms of industry and technology, i.e. Group B. But the countries that are in the third rank of modernization are also in the third rank in terms of industry and technology, i.e. in group C. Afghanistan is one of the countries that ranks third.

Keywords: *Agriculture; Afghanistan, Industry; Technology; Agricultural Modernization*

Introduction

The gross domestic product of every country consists of three sectors: agriculture, industry and services. The agricultural sector is one of the most important sectors because it provides food. The agricultural sector is divided into two sectors of agricultural products such as products related to agricultural affairs (grains, vegetables and fruits) and products related to animal affairs (livestock breeding). The world's most populous countries, such as China and India, have tried and focused on the modernization of the agricultural sector for a long time to reduce poverty and economic inequalities, but they have not been able to achieve sustainable production of agricultural products. But by strengthening and improving their industry and technology, they were able to achieve economic self-sufficiency in the production of agricultural products (Rajee, Quigley, 2017p428). Historically, after the industrial

revolution of the 18th century, there was a big change in the agricultural sector. After the industrial revolution, technology spread in the agricultural sector and caused the modernization of agriculture. The countries that pioneered in the field of industry and technology achieved self-sufficiency in agriculture and sustainable production of agricultural products.

Therefore, in this article, it has been tried to address the issue that the development of technology and the industrial sector has played an effective role in the modernization of agriculture and the sustainable production of agricultural products. Then this issue is proposed as a model for the modernization of Afghanistan's agriculture. The expansion of technology and the strengthening of the industrial sector in Afghanistan leads to the modernization of agriculture and the production of sustainable products. This model experienced in advanced and developing countries has reduced poverty, economic inequalities and effective use of physical capital such as land and water resources in these countries. Therefore, "modernization of Afghanistan's agriculture" means the use of necessary technologies in all aspects of agriculture .With the spread and transfer of technology in the agricultural sector, this sector will be modernized and sustainable agriculture will be created in Afghanistan, and the agricultural sector will be under the positive influence of technology. Finally, this speech is faced with the following questions: How is agricultural modernization and access to sustainable agricultural products possible in Afghanistan? What positive effect can the nature of technology expansion and industrialization have on agriculture?. As a result, in order to investigate this issue, the importance of the agricultural sector in the national economy as one of the economic platforms and ways of its modernization from the point of view of scientists and international institutions is discussed under the title of theoretical foundations. Then, the way of influencing technology as the process of modernization of Afghanistan's agriculture at macro and micro level is discussed. Finally, the main nature of the expansion of technology and the strengthening of the industrial sector is the modernization of the agricultural sector. Modern and sustainable agriculture is provided by advanced technology. The last discussion of this research is the comparative studies of agricultural modernization with emphasis on Afghanistan. For comparative studies, 30 countries of the world have been selected based on World Bank data from 1960 to 2018. Finally, the summary and conclusion of the discussion is presented.

Theoretical Foundations

The agricultural sector has always been emphasized as follows because it is a supplier of food and constitutes an important part of the gross domestic product.

A) **The Scientist's Point of View**

The famous Indian economist named "Sen" believes in the role of human capital in the production of agricultural products and food security. Human capital through innovation in the technology sector and its employment in the agricultural sector will bring about the modernization of agriculture (Shaker 2013, p. 107).

The training of human experts and their employment in the agricultural sector is considered one of the most important strategies for the modernization of the agricultural sector and its improvement (Shahabadi, Samimi and Khorasani 2019, p. 30). "Francis Bacon", the philosopher of the 16th century, also believes that agriculture and exploitation of water and land resources is a symbol of man's domination over nature, and in order to improve his life, man must master and use water, land and natural resources with skill and technology (Channell, D.F, 2009, pp117-154). Martin Heidegger, a philosopher of the 20th century, in the modern philosophy of technology, believes that technology will modernize agriculture. Agriculture is placed in the form of a "resource resource" that can be used by technology (Walter biemel martin Heidegger, 1953, p131)

Arthur Lowis, winner of the Nobel Economic Prize in 1950, believes that the development of the industrial sector will modernize the agricultural economy, and the economy of the traditional agricultural sector will turn into modern agriculture. Also, according to Arthur Lowis, because most of the poor live in villages and two-thirds of them are engaged in traditional agriculture, therefore the modernization of agriculture is a necessity (Michael P. To Daro, Stephen C., translator: Taheri, pp. 195-196). According to Lewis, the most important reason for rural poverty is the existence of traditional and non-modern agriculture, which has high costs and low productivity (ibid., 194). Malthus is one of the economists who is pessimistic about the increase in population. He believes that the increase in population will limit the supply of food and the scarcity of natural resources, and finally, the level of people's access to welfare will decrease. Malthus considers three possible negative effects for population growth, such as quantitative and qualitative expansion of poverty, limitation of natural resources, and destruction of the environment (Malthus, 1820). Keynes is also considered among the pessimistic economists towards population growth, because Keynes, like Malthus, believes that population growth is dangerous for living standards (Khani and Nasralhi 2012, p. 91). François Perro, the famous French economist, among the economists, is against Malthus's theory. He considers population growth as the driver of economic growth and population pressure as the driver of agricultural modernization in the society (Behnam 1346: p. 4). Jones is one of the economists who is optimistic about population growth and believes that research and development will cause economic growth. Research and development is dependent on the population growth parameter. If the population grows, the number of scientists and researchers will also grow, and as a result, the growth rate of agricultural production will also increase (Jones, 1995). German-American economist Elbert Hershman in 1958 and Vasily Leontief, winner of the economic Nobel in 1936, believe that the industry and technology sector is the primary basis for the development of the agricultural sector (Faizabadi and Roud Bari, 2017: p. 120).

Elbert Hershman believes that the industrial sector is the leading sector because it has the most backward links with other sectors, especially agriculture. The modernization of the agricultural sector requires industrial products such as tractors, combines, chemical fertilizers, advanced irrigation, high-yielding seeds and transportation (Malcolm, Dwight H., Romer and Donald R. Translator: Azad Aramaki, p. 217).

b) The Point of View of International Institutions

From the point of view of foundations and international economic institutions, the modernization of the agricultural sector, known as the Green Revolution, has always been considered in order to reduce hunger and poverty. In order to reduce poverty and inequality and improve the productivity of production factors, in early 1941, the first seed of modernization of the agricultural sector, called the Green Revolution, was planted in Mexico by the Rockefeller Foundation, which sent a research team to Mexico to examine agricultural products. Then, with the hiring of a young American biologist named Norman Bullock, high-yielding wheat seeds were miraculously produced in Mexico and the United States in 1954, using modern technological methods.

After the successful experience with wheat, over time, rice was also added to this menu. In the 1950s and 1960s, these high-yielding seeds were distributed around the world by the Rockefeller and Ford Foundation.

In 1968, the term "green revolution" was officially used for agricultural modernization by William Gaud in the Washington DC Development Association. In 2005, the Prime Minister of India, during his trip to America, stated that India owes its green revolution (agricultural modernization) to America, and now it wants the second round of the green revolution from America to India (Raji Patel, 2013, pp. 2-5). The modernization of agriculture after the Second World War increased food production in the world several times and caused the reduction of poverty and inequality and the improvement of production factors, especially in highly populated countries such as India and China (Pete Rosset, 2000).

For this reason, today, from the point of view of international organizations such as FAO and the United Nations Development Program, the production of healthy agricultural products to improve the quality of life of current generations and to improve the quality of the environment and resources for future generations is a promising sustainable agriculture, and this type of agriculture includes biological, ecological, technological and modern agriculture. which is due to the modernization of agriculture (Azizi, Pori 1388, p. 5). The Economic Development Cooperation Organization (OCED) also believes that the use of technical knowledge in agricultural activities leads to modernization and creation of wealth, reducing inequality and improving the efficiency of production factors (Nazem Bekaei, Siami Iraqi, 2017, p. 14). The use of technology in all economic sectors, especially agriculture, increased after the industrial revolution in the 18th century. The industrial revolution and the expansion of technology caused the economy to shift from the traditional agricultural production model to the mechanized and renovated agricultural model (James Ladyman, p14).

The Process of Agricultural Modernization

According to the theoretical foundations that reflect different views on agricultural modernization, it can be concluded that agricultural modernization is a process that is provided by the use of technology and human expertise. The process of agricultural modernization starts with the development of the industry sector .With the development of the industry and technology sector, agricultural equipment is produced and it causes the modernization of agriculture and brings agriculture under the positive influence of modernization at both macro and micro levels.

A) **At the Macro Level**

At the macro level, the expansion of the industry sector is transferred to agriculture as spillovers from the industry sector and plays a vital role in the modernization of agriculture (Mary Hallward-Driemeier Gaurav Nayyar.2018p15). The spillovers of the industry and technology sector at the macro level generally include the improvement of agricultural infrastructure, such as the marketing of agricultural products, warehousing, and the creation of cold storage facilities for storing and preserving agricultural products, and providing the necessary technology for road, rail, and sea transportation.

b) At the Micro Level

The spillovers of the industry sector at the micro level specifically include the production of high-yielding seeds, pesticides, fertilizer production, irrigation and planting and harvesting equipment, which causes the modernization of agriculture:

1- Production of High-Yielding Seeds

The production of high-yielding agricultural seeds is one of the main factors of agricultural modernization and improves land productivity. High-yielding seeds are more resistant to pests and plant diseases, and are more compatible with harsh environmental conditions, different climates, and different types of land. The production of these types of seeds is therefore the result of research and a symbol of the transformation of science into technology, which causes the modernization of the agricultural sector.

2- Production of Fertilizers

The land needs fertilizer for its fertility and richness, and in agricultural modernization, chemical fertilizers are used instead of animal and natural fertilizers. Agricultural lands increase their productivity and fertility by feeding chemical fertilizers. As a result, the production of this type of fertilizers is another symbol of agricultural modernization, which helps to improve agricultural productivity and modernize it.

3- Irrigation Equipment

Water is one of the most important resources for the production of agricultural products, without which agricultural products cannot be produced or grow. Water shortage is one of the most serious problems in agriculture. Irrigation with rainwater is not reliable in different seasons of the year, so the lack of water causes a decrease in agricultural products. Especially in Afghanistan, in recent years, one of the most important reasons for the reduction of agricultural products has been the drought crisis. As a result, drip irrigation, water storage, water transfer pipes are the most important technologies for agriculture. which causes optimal storage and water supply in agriculture and promises stability in agriculture.

4- Planting Machines

Today, farmers use various planting machines to grow crops. which increases the speed of planting and improves the yield of agricultural products and increases the amount of harvest per hectare.

5- Harvesting Machines

Today, combine harvester machines are known as combine harvesters because they combine three tasks, such as harvesting, threshing, and separating seeds from the stalk. Using this equipment will speed up work and reduce costs.

6- Agricultural Sensors

Agricultural sensors are one of the newest agricultural technologies that are widely used in all stages of agriculture and make agriculture smart. With the help of sensors, farmers can learn about the time of planting, harvest, weather conditions, soil moisture, and soil quality. It prevents the leakage of water sources.

7- Production of Pesticides

About 5 to 10 percent of agricultural products are destroyed by pests and other plant diseases. To take care of seeds and agricultural products, different types of pesticides are necessary. Pesticides that are not harmful to nature and humans. Pesticides are a gift from the industry sector to the agriculture sector and it causes the modernization of agriculture and increases the productivity of agricultural products (Interdependence of agriculture and industry pp37-41).

The Results of Agricultural Modernization

In general, the effects and consequences of agricultural modernization are examined as follows and it aims for the following effects and results:

1. **Improving Agricultural Productivity**

One of the effects of agricultural modernization is improving productivity in agriculture. Agricultural modernization is done by improving the yield of cultivated land. If this problem is well shown in the section of comparative studies that is discussed separately, and it is also well shown in the report of the World Bank Group in 2014 (Anupan, Phyllis, Judith, Dirk 2016, pp13-16). In 2014, the World Bank Group studied the added value of agricultural products of countries based on the level of agricultural modernization and divided the results into several stages.

Primary Stage

In this stage, the economies of countries based on traditional agriculture are located. Due to the lack of diffusion and expansion of technology in the agricultural sector, the productivity of investment in the agricultural sector is small. For example, for every dollar invested in the agricultural sector, about 56 cents of added value is created.

Pre-transition Stage

Countries that are in the pre-transition stage have little agricultural modernization. The added value of each dollar invested in their agricultural products is 87 cents.

Transition Stage:

In the economies of transitioning or developing countries, the productivity and added value of each dollar invested in the agricultural sector is approximately one and a half times (1.17) i.e. 1.17 i.e. one dollar and 17 cents. These types of countries are developing technology and modernizing agriculture.

Final Stage

But in the final stage, it includes developed countries whose technology is well developed and used in their agricultural sector, and they have modernized agriculture.

As a result, the added value and productivity of each dollar investment in the agricultural sector is at its highest level. That is, the productivity of each dollar invested in the agricultural sector is about (1.90).

Its added value is almost doubled, that is, it has an added value of one dollar and 90 cents (world bank group 2015).

2. **Reduction of Poverty and Inequality**

Another effect and consequences of agricultural modernization is the reduction of poverty and inequality .According to the report of the United Nations in 2007, the development of technology in the agricultural sector in the world has caused its modernization. As a result, the degree of poverty and inequality has been reduced and it has become more effective and profitable. In other words, agricultural modernization has reduced poverty and inequality.

In 1981, more than a third of the world's population was poor. Since 2001, when industry and technology expanded in the world's most populous countries such as China, India, South Korea, Indonesia, Taiwan, Mexico, Brazil and other countries, their agriculture was modernized, and poverty decreased to less than a fifth. Today, about 18% of the world's population is poor. With the modernization of agriculture, through the development of technology, skilled workers entered the agricultural labor market, and their profits are distributed more evenly between land owners and skilled workers. The profits of unskilled workers have returned to the landowners more than to the unskilled workers themselves (United Nations; 2007.pp295-299). Also, according to the research of Chen and Revalion in 2004, in 1981, one third of the world's population was involved in absolute poverty, but in 2001, about 18% of the world's population was involved in absolute poverty. The great reduction in absolute poverty is due to the modernization of agriculture in the world's most populous countries, such as China and India. Of course, poverty has increased in countries that did not have agricultural modernization, such as countries related to the sub-Saharan Africa. (Matleen kniivila. p295).

Comparative Study of Agricultural Modernization

1) Modernization of Agriculture in the World

For a comparative study of the state of agricultural modernization and its effectiveness in the countries of the world, firstly, the average harvest and cultivated land data of 30 selected countries from the four continents of Asia, Africa, Europe and America have been selected based on the economic data of the World Bank during the years 19960 to 2018.

Then 30 selected countries have been ranked into three grade of A, B and C.

A) First Degree

The first level includes the countries that are ranked A in terms of agricultural modernization, because the amount of crop harvest, the amount of cultivated land, and their per capita income are at the highest and best level. These types of countries are usually industrial and have advanced technology and are developed in terms of industry. According to the data of the World Bank, the countries that are at this level are shown in the form of the first table.

Table 1

The countries ranked A in terms of the average amount of grain harvest, the average percentage of currently cultivated land and per capita income during the years 1960-2018.

Average per capita income in dollars	Country	The average percentage of land under cultivation	Country	rank	Grain harvest in kilograms per hectare	Country	rank
48847	Denmark	66	Bangladesh	1	6504	Netherlands	1
43284	United States	63	Denmark	2	5676	England	2
42268	England	57	Ukraine	3	5599	Japan	3
34548	Netherlands	54	India	4	5561	France	4
34463	Japan	40	Pakistan	5	5456	Egypt	5
31403	Germany	34	Germany	6	5367	South Korea	6
27488	France	33	France	7	5313	New Zealand	7
27172	New Zealand	30	Thailand	8	5247	Germany	8
18781	Oman	27	Netherlands	9	5083	Denmark	9
12981	South Korea	27	England	10	4976	United States	10

Source: World Bank data

b) Second Degree

According to World Bank data, the countries that are in the average level in terms of the amount of agricultural products harvested, the cultivated land, and the level of welfare and income are in the second level of modernization, i.e., B level. Because these countries are developing in terms of industry and technology, they are also modernizing and developing the agricultural sector in terms of agriculture. The countries that are ranked second according to the data of the World Bank are shown in the format of table number two.

Table 2

The countries ranked B in terms of the average amount of grain harvest, the average percentage of currently cultivated land and per capita income during the years 1960-2018.							
Average per capita income in dollars	Country	The average percentage of land under cultivation	Country	rank	Grain harvest in kilograms per hectare	Country	rank
10730	Türkiye	19	United States	1	4180	Oman	1
10247	Malaysia	19	South Korea	2	3914	china	2
9297	Russia	13	Japan	3	3903	Ethiopia	3
7339	Mexico	12	Afghanistan	4	3568	Uzbekistan	4
6610	Brazil	12	china	5	3439	Indonesia	5
5845	Turkmenistan	11	Ethiopia	6	3048	Ukraine	6
5414	Thailand	11	Indonesia	7	2921	Malaysia	7
5475	china	11	Mexico	8	2731	Bangladesh	8
4446	Iran	10	Uzbekistan	9	2419	Mexico	9
3269	Indonesia	10	Iran	10	2408	Brazil	10
Source: World Bank data							

d) Third Degree

Countries that have not been successful in terms of agricultural modernization are in the third grade, i.e. grade C. According to the data of the World Bank, the amount of harvest in such countries is very small and they are not prosperous in terms of income level. Therefore, such countries need to change from traditional agriculture to modern and industrial agriculture in order to improve the productivity of agricultural land and income level. Based on the experience of advanced countries, such countries can achieve agricultural modernization when they have developed industry and modern technology. Table number three below shows the countries that are in this level and Afghanistan is one of these countries.

Table 3

The countries ranked C in terms of the average amount of grain harvest, the average percentage of currently cultivated land and per capita income during the years 1960-2018.							
Average per capita income in dollars	Country	The average percentage of land under cultivation	Country	rank	Grain harvest in kilograms per hectare	Country	rank
2800	Uzbekistan	8	Federal Russia	1	2371	Thailand	1
2138	Egypt	7	New Zealand	2	2141	Tajikistan	2
2050	Ukraine	7	Sudan	3	1957	Federal Russia	3
1685	Sudan	6	Tajikistan	4	1901	Pakistan	4
1149	Tajikistan	5	Brazil	5	1870	India	5
1050	Pakistan	4	Turkmenistan	6	1848	Turkmenistan	6
770	Bangladesh	3	Malaysia	7	1533	Iran	7
740	India	3	Egypt	8	1395	Afghanistan	8
662	Ethiopia	2	Singapore	9	628	Sudan	9
598	Afghanistan	0	Oman	10			
Source: World Bank data							

2) Afghanistan Agricultural Review

Although Afghanistan has a good capacity for agriculture in terms of land and water resources. But due to the traditional of agriculture and its lack of modernization, in terms of productivity improvement, welfare level and per capita income, it is in the third rank, which means the last rank. According to the report and data of the World Bank, Afghanistan has cultivated only 12% of 58% of its arable land in a traditional and non-mechanized way (world bank data). The rest of the arable land has not yet been cultivated.

On average, Afghanistan uses 98% of its water resources for agriculture, according to the 2018 statistical yearbook, 12% of the available arable land is used for irrigation.

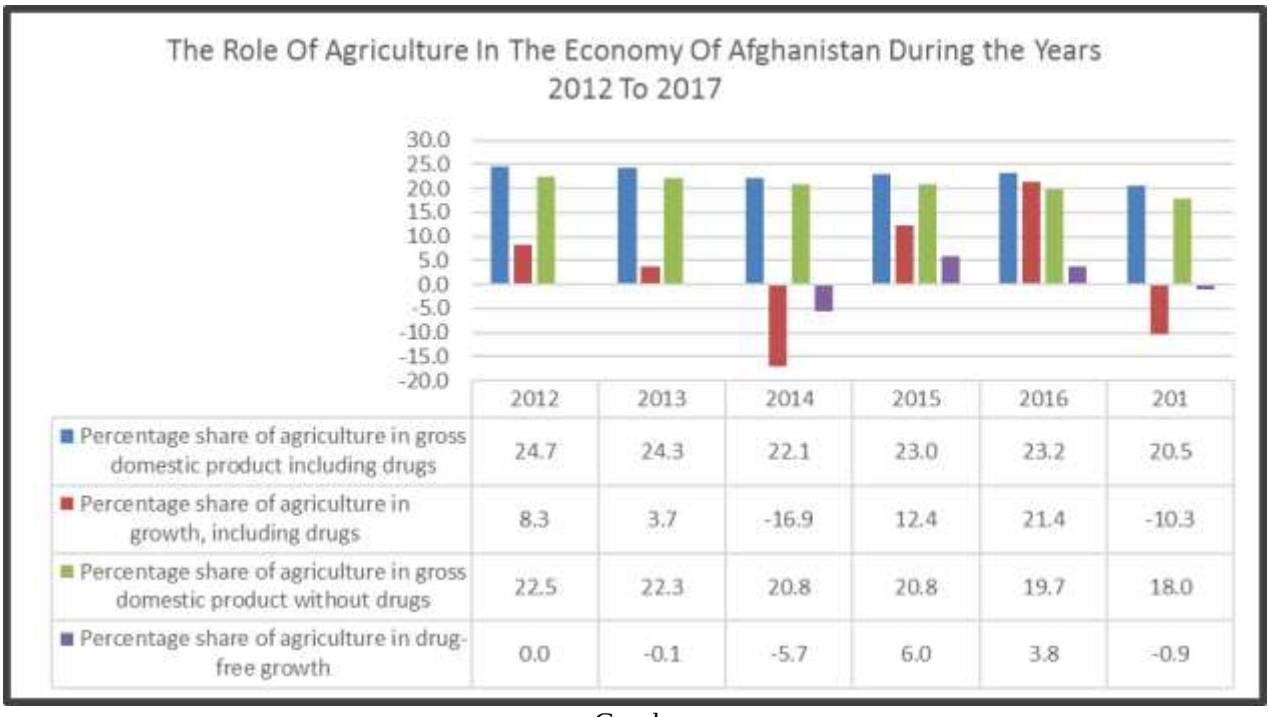
That means, on average, it uses 21 billion cubic meters of water per year for 12% of arable lands.

But the countries that have modernized their agricultural sector, the amount of water consumption in the agricultural sector is far less than Afghanistan.

Despite the fact that their harvest per hectare is much higher than Afghanistan (Statistics Center 2018). According to the 1390 statistical yearbook report, due to climatic changes and water drought, about 60% of the irrigated areas under cultivation have decreased since 1978(Statistics Center 1390).

A) The Share of Agriculture in the Gross Domestic Product

Afghanistan's agricultural economy is shown in the following graph based on the statistics of 2012 to 2017 reported by the Statistics Center. According to this information, the average share of agriculture including opium in the formation of gross domestic production was 23% and without opium it is 20.7%. But the share of agriculture in Afghanistan's economic growth is 3.1 percent with opium and 0.5 percent without opium.



	2012	2013	2014	2015	2016	201
Percentage share of agriculture in gross domestic product including drugs	24.7	24.3	22.1	23.0	23.2	20.5
Percentage share of agriculture in growth, including drugs	8.3	3.7	-16.9	12.4	21.4	-10.3
Percentage share of agriculture in gross domestic product without drugs	22.5	22.3	20.8	20.8	19.7	18.0
Percentage share of agriculture in drug-free growth	0.0	-0.1	-5.7	6.0	3.8	-0.9

Graph
World Bank data

B) Drugs and the Decline of Political Stability

Due to the high cost of farming to produce food crops, farmers prefer to dedicate their land to grow illegal crops such as drugs.

Cultivation of narcotic drugs causes the prosperity of trafficking and political instability in some countries, and the share of traffickers in the income from drug trafficking is much higher than the income of farmers. "Raymon Bakr" believes that the production of dirty money caused by drugs in Afghanistan contributes to insecurity in Afghanistan. According to United Nations statistics, around 36 billion US dollars of dirty money are produced annually.

About two billion of it is injected into the national economy of Afghanistan as the income of farmers and internal smugglers of Afghanistan .About 4 billion dollars is the share of international smugglers who transfer from Afghanistan to the world.

Its 30 billion dollars are absorbed by the economy of developed countries. As a result, these astronomical incomes caused by the cultivation and processing of drugs have disturbed the political stability in Afghanistan (Rymon W. Baker. 2005. p93).

Therefore, the modernization of agriculture reduces the costs of agriculture. The reduction in costs forces farmers not to devote their land to drug cultivation and the informal economy.

Finally, the following results arise from the lack of agricultural modernization: First, it causes the country's water resources to be wasted. Secondly, the effectiveness and productivity of water and land use is very low. Thirdly, due to the lack of storage systems such as greenhouses, transportation systems such as refrigerator cars, lack of product marketing and lack of packaging, many agricultural resources are wasted. It is exported at the lowest price and causes the most losses to farmers.

Fourth, traditional agriculture has reduced political stability. High-quality agricultural land increases the demand for drug cultivation. High-quality lands are used for drug cultivation and smuggling, which reduces political stability.

Conclusion and Suggestions

Results

The use of technology at both macro and micro levels in the agricultural sector will modernize agriculture and modernize it.

With the modernization of agriculture, factors of production such as land and water, firstly: will be more efficient, secondly: the level of productivity will increase, and thirdly: poverty and economic inequalities will decrease, and the level of prosperity and income of the people will increase, and fourthly: political stability in the country will be strengthened and agricultural lands It is not available to smugglers to cultivate drugs.

As in applied studies based on the data of the World Bank during the years 1960 to 2018, the average data shows that the modernization of agriculture has improved the productivity of production factors and made it possible to use more economic capacities. Also, the level of welfare has improved and poverty and inequality have decreased, especially in the world's most populous countries such as India and China.

Among the 30 countries selected from the four continents of the world, the countries that have been successful in agricultural modernization are ranked first, i.e. in category A. But the countries that are in the process of modernizing the agricultural sector are in the B rank, that is, they are in the B rank.

The effectiveness and productivity of agricultural land is very low. Most of their resources and facilities, such as water and land, are wasted, and their income is also at a low level and they have little prosperity.

Afghanistan is one of the countries that is ranked third and has not been modernized in terms of agriculture and is still stuck with traditional agriculture and most of their resources and facilities are wasted every year and are not used properly. It serves the interests of drug traffickers and strengthens instability and widespread poverty in the country.

Offers

1. In order to improve welfare, reduce poverty and inequality and strengthen political stability, Afghanistan must modernize its agricultural sector and use modern technology to modernize it.
2. The Ministry of Agriculture of Afghanistan should use new technologies in the agricultural sector to improve the productivity of production factors such as land and water.
3. In order for the agriculture sector to be able to use the capacities of its agricultural sector, it is necessary to modernize and equip the agricultural sector with modern techniques and equipment in order to reduce the costs of agriculture.
4. Due to the fact that the nature of the industry and technology sector is agricultural modernization, therefore, the industry sector should be strengthened in Afghanistan.

References

Alan charmers. What is this thing called science.9918-44.

Amesterdam, the Netherlands: Elsevier, p124.

Amir Abbas Ali Zamani. The nature of technology from Heidegger's point of view. Nameh Mofeed. 2019 No23.

Anupan, Phyllis, Judith, Dirk2016, pp1-16.

C.I. Jones,"R & D-based models of economic Growth"Journal polit. Econ,103(4)1995 759- 784.

channell, D. F,2009 "the emergence of the engineering sciences; An historical analysis',in A.meijers(ED),philosophy of technology and engineering sciences, pp117-154.

Derek H. C. Chen and Carl J. Dahlman. The Knowledge Economy, the KAM Methodology and World Bank Operations. The World Bank Washington DC 20433. 2025.p6.

Derek H. C. Chen and Carl J. Dahlman. The Knowledge Economy, the KAM Methodology and World Bank Operations. The World Bank Washington DC 20433. 2025.pp1-3.

Diwani Amir. Laws of nature. Qom University Press. 2004.

Esfandiari Hangama, Najafi Baha Bahauddin and Mousavi. The role of economic sectors in Iran's economic growth with emphasis on the agricultural sector. Agricultural Economics Research, Vol. 8, No 1, 2015.

Faizabadi Yasir Wardbari Narjes. Investigating the position and connection of the agricultural sector with other sectors in Iran's economy. Agricultural Economics and Development Quarterly, Year 26, No 103 .2019

Hamdollah Phoror, Azizi Parvaneh, sustainable agricultural development through the stabilization of agricultural incomes...2010

Interdependence of agriculture and industry pp 37-41.

Interdependence of agriculture and industry pp 37-41.

James Ladyman.Understandin philosophy of science 14.

james ladyman. Understanding Philosophy Of Science.london and new yourk. p7.

Khani Rehane and Nasralahi Zahra, the impact of population growth on innovation in Iran and selected developing countries, Strategic Policy Quarterly of Lawyers, Year 1, No. 4, 2012.

Malthus Thomas R,1820, “principles of political economics.Mew York.Augustus.M. Kelly.

Marton, Katherin; Singh, Rana K. (1992): New technologies and developing countries: Prospects and potential, Intereconomics, ISSN 0020-5346, Verlag.Weltarchiv, Hamburg, Vol. 27, Iss. 3, pp 135-138 Annemarie van Arendonk2015p9.

Marton, Katherin; Singh, Rana K. (1992): New technologies and developing countries: Prospects and potential, Intereconomics, ISSN 0020-5346, Verlag .Weltarchiv, Hamburg, Vol. 27, Iss. 3, p. 133.

Mary Hallward-Driemeier Gaurav Nayyar.World bank group. Trouble in the Making? The Future of Manufacturing-Led Development.2018pp11-190.

Michael P. To Darrow, Stephen C. Smith. Translator: Taheri Shahnan, economic development.

Mohsen Nazim Bekai, Ebrahim Siyami Iraqi, Economy of Science and Technology, Premier Andishan Publications, 2017.

Mousavi Jahormi Yeganeh, Economic Development and Planning, Payam Noor Publications 2019. Nai. 2015 Tehran.

Nowrozi Chakli Abdul Reza, Maddi Zahra. Comparative description of the relationship between science production and technological progress of countries: Does the increase in science production mean technological progress? A research paper on librarianship and information of Ferdowsi University of Mashhad. Year 5 No 1. 2014.

Nowrozi Chakli Abdul Reza, Maddi Zahra. The impact of the economic power of the country's science and technology location and the analysis of their mutual relationship. Scientific Research Journal of Shahid University, Volume 1, No. 2, 2014.

Organisation for economic co-coperation and development Paris 1996.pp9- 36.

Peter Rosset. Do We Need New Technology to End Hunger? Lessons from the Green Revolution.2000.

R. K apIinsky: Electronics-based automation technologies and the onset of system facture, in: World Development, 1985, Vol. 13, No. 3.

Rajee Olaganathan, Quigley Kathleen, Technological modernization and its impact on Agriculture, Fisheries and Fossil fuel utilization in the Asia Pacific Countries with emphasis on sustainability perspective. International Journal of Advanced Biotechnology and Research (IJBR) ISSN 0976-2612, Online ISSN 2278–599X, Vol-8, Issue-2, 2017, pp422-441 http://www.bipublication.com.

Raji patel,the long green revolation. the journal pesant studies2013, vol.40.

Rymon W.baker.capitalism,s Achilles Hell.printed in the united states of Amreca 2005.p93.

Salvatore, translator: Hamid Reza, Arbab. international economics. Publication.

Shahabadi Abul Fazl, Rahmani Omid. Investigating the role of research and development on improving the productivity of the industrial sector in Iran's economy. Specialized Quarterly Journal of Parks and Growth Centers, 7th year, No. 25, 2019.

Shahabadi Alireza Zare, Akbar Zare, Khorasani Mohammad Amin. Strategic planning of the development of the agricultural sector in Abarkoh city. Journal of Applied Research of Geographical Sciences. Volume 15, No. 18, 2019.

Shakri Abbas. Agricultural economics and development. Year 12, No. 48, 2013.

Statistical Center, statistical yearbooks of 2010 and 2018.

Steven Fawkes Kit Oung David Thorpe Best Practices and Case Studies for Industrial Energy Efficiency Improvement. 2016.p14.

Turkmani Puriai Dini "A Review of International Trade Theories, Economic Monthly No. 2". United Nations; 2007.pp8-295.

Val dusek philosophy 0f technology: an introduction. Blackwell Publishing. 2006 pp6-51.

Val dusek philosophy 0f technology: an introduction. Blackwell Publishing. 2006 pp6-51.

Walter biemel martin Heidegger, Routedge and kemag paroul(London and helmey) chaper8,Aletheia and nature of technology(the question concerning technology1953)p131.

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