"GREEN ECONOMY" AS A MEANS OF ENSURING ECO-FRIENDLY AGRICULTURAL PRODUCTION

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Abstract

In many countries, the deepening of the environmental problem and the increase of anthropogenic effects on the ecosystem makes it necessary to review the basics of traditional farming and transition to an ecologically oriented economy. This development is also strategically important in our country, so an unsoiled environment and "green" growth must be accepted as national priorities. In this paper, the characteristics of the green economy are studied, and the necessity of extension of the green economy is justified. The contemporary state of "green" evolution was clarified using the example of Azerbaijan's agro-food complex, and scientific reasons for ulterior progress in this domain were given. This research also displays the gravity of applying marketing concepts when producing eco-friendly agriculture and food products. The study shows that the provision of development under the condition of expecting the interests of consumers, businesses, and society applies the socio-ethical concept of marketing. The article clarified the ecological quality of life and the economy's environmental and resource efficiency. The factors of the transition of the country's economy to "green" development tracks have been clarified. This article also tested the hypothesis that an increase in energy resource prices during the energy crisis entailed, in the short term, an increase in the share of renewables combustible in net electricity production in Europe. The study proved that the energy crisis is not an obstacle to the development of both green energy and the green economy. Based on the study's results, stages of transition to green development were elaborated to ensure eco-friendly agricultural production.

Keywords: green economy, green development, greening, environmental efficiency of the economy, resource efficiency

I. Introduction

The problems faced by our civilization in the present period led to severe changes in almost all spheres of society's life activity. These problems include global climate change, loss or disappearance of biodiversity, economic and social tensions, and the emergence and spread of viral infections. Recently, among the listed problems, the effects of virus infections on society and economic development have been more significant. However, implementing purposeful measures to solve the mentioned problem has made it feasible to reduce its effects on society significantly (Rakhmanov et al., 2020). We observe this situation in the example of our country.

However, among the global issues, solving the environmental problem remains relevant in many countries, and there is the potential to achieve stable economic and social development by solving this problem. To ensure stable economic growth, all sectors of the economy must be constantly improved. At the same time, every sector of the economy depends on the resource extraction industry. Transitioning to a green economy is one rational way out of this situation. *First of all, to ensure food security and the lasting development of the agro-food complex, it is necessary to focus on the agro-industrial complex and green energy during the transition to a green economy.*

Research shows that solving an environmental problem would take a long time. Our country's transition to a "green" economic development model will benefit society and is a reliable way to achieve persistent economic development.

In the current conditions, the world's countries are looking for ways to achieve sustainable development and try to implement it. The concept of lasting development is a qualitatively new approach from a socio-economic and ecological point of view, and it combines the following three main problems:

- The lasting development of the economy must correspond to the environmental system of people's life support.
- Rational and fair distribution of current natural resources (including energy resources) and material opportunities should be provided for the current generations and future generations.
- Natural capital should be equally distributed in society, and the needs of social groups should be met (Unesco, 2022).

The concept of lasting development is based on two main principles:

1. Humanity can give development a sustainable character for its long-term well-being.
2. Without creating conditions for realizing everyone has a better life in the future, lasting development is simply impossible. Poverty is one of the leading causes of ecological and other disasters, and it has become a common phenomenon worldwide. Therefore, poverty alleviation is one of the main tasks (State Statistics Committee, 2023).

Scholar studies show that applying the Green Economy (GE) model is necessary for contemporary conditions to move to lasting development in our territories (Vukovich, 2018). The GE model has attracted the attention of scientists and international organizations as an essential tool for realizing lasting development. For this reason, in 2012, most countries switched to a GE model at the UN conference dedicated to lasting development (RIO-20). The countries that are the main initiators of programs related to the GE, which should be especially mentioned, are Australia, Denmark, Germany, Israel, Norway, Spain, Sweden, etc.

This study relates to interdisciplinary research. Its research subject is green economic development. The main goal is identifying how the Azerbaijani economy should transition to "green" development to ensure environmentally friendly agricultural production. When setting specific objectives, the authors did not limit themselves only to studying the green development of the agro-food complex but also tested the hypothesis of whether the energy crisis led to an increase in the share of green energy in net electricity production. Thus, crises are not always an obstacle to developing a green economy.

II. Literature review

As defined by the United Nations Environment Program (UNEP), the green economy covers economic growth, environmental sustainability, and social justice (UNEP, 2011). However, there are contradictions between all three to one degree or another. Firstly, all three aspects require investment. Nevertheless, the budget of no country, even the most developed and prosperous, can provide funding in the required volumes. Each state sets the investment volume for each listed purpose, considering the opportunity cost.

Secondly, there are contradictions between economic growth and environmental stability since economic growth requires increased use of natural resources, which are mainly exhaustible.

Not only is the world's population growing, but so are their needs. An increase in demand leads to an increase in supply. The expansion of production leads to the release of pollutants and contributes to global climate change, which harms not only nature but also humans. That is, on the one hand, social justice can be ensured by economic growth. On the other hand, economic growth and expansion of production leave a carbon footprint, leading to an increase in emissions of carbon dioxide and other greenhouse gases.

Although contradictions exist, they can be mitigated with well-thought-out policies and government strategies. However, it is impossible to minimize the described contradictions without investment. Table 1 presents the main approaches to the green economy, which involve minimizing the described contradictions but have their own disadvantages.

Table 1: *Main characteristics of fundamental theories of green economy and their disadvantages*

Fundamental theories of green economy	**Main characteristics**	**Disadvantages**
Circular economy theory	In a circular economy, resources are reused and recycled to minimize waste and pollution.	The high costs of transitioning to a circular economy require significant investments. Repeated recycling of materials can decrease quality. Not all materials can be recycled. It is not economically feasible for manufacturers to produce products with a long service life.
Theory of sustainable development	Sustainable development of the national economy ensures a balance between economic growth, social inclusion, and environmental protection.	There is a high level of investment in renewable energy sources. New expensive technologies and equipment with a long payback period must be introduced. High costs can lead to decreased competitiveness, which is not profitable for entrepreneurs.
Ecological Economics	According to this theory, the economy should be a subsystem of the ecosystem.	Significant investments are needed to implement the green economy. It is difficult to achieve an economic model that considers all environmental and social factors, and there is a conflict of interest between business and environmental protection.
Theory of sustainable consumption and production	The essence of this theory is to change consumption and production patterns to reduce the negative impact on the environment.	Changing the consumption and production model may encounter the following obstacles: significant financial investments beyond the reach of small businesses, consumers' reluctance to change their habits and preferences, and the lack of green technologies in some industries.
Bioeconomy	Bioeconomy involves transitioning from fossil resources to renewable biological resources and developing biotechnology.	Biological resources are limited, leading to increased competition for their use. The development of the bioeconomy is impossible without significant financial investments. At the same time, some bioeconomic activities' economic efficiency is lower than traditional ones, which will decrease competitiveness.
Ecological modernization theory	According to this theory, environmental problems can be solved through innovation, reform, and institutional changes that do not impede economic development.	One of the assumptions of this theory is that economic growth and environmental sustainability can coexist and complement each other. However, limited natural resources indicate the opposite and are a prerequisite for reducing overall consumption.

Source: Authors' systematization.

Modern society is a society of consumers, so difficulties arise when promoting a circular economy (Figge et al., 2022). Consumers should change their habits, use the same product for a long time, and not regularly change, for example, phones and other electronics. Great difficulties will arise when manufacturers reformat since they are not interested in producing goods with a long service life. For example, if the light bulbs do not burn out regularly, and if we do not offer consumers new versions of iPhones, how can manufacturers generate revenues in volumes that would provide them with the wealth they strive for? An entrepreneur is not an altruist. Another disadvantage of the circular economy is that there are technological limitations since not all materials can be reused or easily recycled, or there are restrictions on the number of recycling cycles.

Reformatting producers is also necessary to promote sustainable development (green economy) (Ogryzek, 2023). Some sustainable technologies are less cost-effective, making them less attractive to entrepreneurs. Less efficiency combined with high costs makes production less competitive.

The main characteristics of ecological economics are sustainable resource management and the consideration of natural capital, environmental, and social factors in the economic model (Omer, 2023). Introducing environmental technologies often increases costs, which decreases revenues and profits. Thus, businesses are not interested in promoting ecological economics.

Promoting sustainable consumption and production may cause conflicts between economic, environmental, and social goals. For a massive transition of the population and business to sustainable consumption and production, the state must introduce a system of economic incentives (Goel & Baral, 2023). However, not all states can subsidize all enterprises to ensure the transition to sustainable production.

The main goal of the bioeconomy is the transition to using biological resources to produce products and services (Pan, 2023). As shown in Table 1, the limited availability of biological resources leads to increased competition for their possession and use, negatively affecting food security. It also leads to their intensive use, which can lead to monoculture practices and biodiversity loss.

The connection with green energy can be traced with all six theories listed in Table 1. Green energy is a crucial component of sustainable development.

The concept of a "green" economy is based on the awareness that all sectors of the national economy must rationally use natural resources, including energy. Thus, the green economy cannot be isolated from "green" energy. However, the research subject in most modern scientific works is either a "green" economy or a "green" energy.

The researcher M.V. Chkhan notes that the "green" economy (GE) is closely related to lasting production, consumption, energy efficiency, and renewable energy sources, which creates new jobs and improves people's well-being (Chkhan, 2021). This new economic concept, the GE, aims to unlock the value of people and nature and improve the population's well-being (Zenchanka et al., 2015). Poverty reduction and efficient and optimal use of limited natural resources form the basis of this concept (State Statistics Committee, 2022).

Researcher N. A. Khutorova believes that "green growth is a new vector of economic development," which indicates the close interrelation of the country's national priorities. "The GE must be viewed in continuous connection with the concept of lasting development of national and global economies" (Khutorova, 2015).

Numerous factors of green growth can be studied in more detail. Russian economists S.N. Bobylev, P.A. Kiryushin, and O.B. Kudryavtseva determine the factors of GE and lasting development within the framework of interaction between the state, society, and business and divide these factors into three categories (Bobylev et al., 2019). As E.B. Dorina and T.V. Bukhovets noted, these three factors relate to the state, society, and business (Dorina et al., 2017).

The specialized literature offers many approaches to the GE, which is oriented towards sustainable development. Some scholars argue that GE is based on transitioning to alternative resources and focuses on renewable energy sources (Gainsborough, 2018).

When studying green energy, one cannot ignore the mechanisms of energy price formation. Thus, researcher T. Gutium believes that gas pricing mechanisms influence the development of green energy, especially in periods when fossil fuel prices change considerably (Gutium, 2021). That is why this article tested the hypothesis that rising energy prices during the energy crisis led to an increased share of renewable fuels in net electricity production in Europe in the short term.

Summarizing all of the above, the authors in this study examined the "green" economy, not in isolation from "green" energy.

III. Materials and methods

This research's sources are scientific works published in the last ten years, national economic development programs, and a database of available data since 2010. The authors used the following methods: scientific abstraction, induction and deduction, static and dynamic analysis, and correlation and regression analysis. The hypothesis about the influence of energy resource prices on the share of renewable energy resources in electricity production during the energy crisis was tested using the software EViews 9.5.

EViews is a statistical package primarily used to analyze time series econometric data and build regression models. With its help, it will be proven or disproved that a significant increase in the price of energy resources leads to the growth of green energy. This package will also test the quality of the obtained regression equation.

To verify the quality of the obtained regression equation, the researchers rely on the following statistical tests: the coefficient of determination (R-squared), the coefficient of determination adjusted (Adjusted R Square), the F-statistic, Akaike Information Criterion (AIC), and Schwarz Criterion (SC).

Residuals checking for autocorrelation was performed using the Durbin-Watson Statistic test (d):

$$d = \frac{\sum_{i=2}^{n}(\xi_i - \xi_{i-1})^2}{\sum_{i=1}^{n}\xi_i^2} \quad (1)$$

$$\xi_i = y_i - \widehat{y_i} \quad (2)$$

Where:

ξ_i – random member with "statistical noise" properties ("White noise" - time series with zero expectation),

y_i – the value of the endogenous variable,

$\widehat{y_i}$ – the adjusted value, obtained with the regression equation.

Depending on the value obtained, we can highlight the following general cases:

if d=0, then there is perfect positive autocorrelation;

if d=4, then there is perfect negative autocorrelation;

If d≈2, we consider the deviation from the regression line to be random. This means that the constructed linear regression probably reflects the actual dependence.

The Breusch-Pagan-Godfrey test was used to check the heteroscedasticity of the residuals. The number of observations is 24. The observations represent monthly data for the years 2021-2022.

IV. Results

Recently, the concept of GE has been increasingly used in the scientific community. "The GE is no longer a new concept; it is used to explain a particular type of economic development, and at this time, the main goal is to improve the material well-being of people with the expectation of social justice and the reduction of anthropogenic impacts on the ecosystem (Khutorova, 2015).

Our country has no universally accepted and unambiguous definition of a GE. We do not observe that this concept is defined explicitly in the normative documents of the Republic of Azerbaijan. The most comprehensive description of this concept appears in the UN Environment Program. According to this document, the GE model is an economy that ensures a decent standard of living for people while protecting the environment without creating risks for future generations.

The deepening of environmental problems worldwide and the anthropogenic effects on ecosystems are reaching a dangerous level, making it necessary to review the foundations of traditional farming and transition to an ecologically oriented economy. "Economic growth is constantly creating unwanted and dangerous changes on our planet. The main reason is that carbon-based fuel products are the main energy resources to ensure economic development worldwide" (Gasimli et al., 2022). The type of ecologically oriented economy is called GE. The complex transformation strategy for a GE is called "green growth." Preserving ecological balance and improving the environment is impossible without "green" economic development. In this regard, "green development" is the most important means of lasting development.

In the document "Azerbaijan 2030: National Priorities for Socio-economic Development," adopted by the Decree of the President of the country on February 2, 2021, a lasting, growing, competitive economy, a clean environment, and a country of "green" growth were accepted as national priorities in our country. Until now, specific work has been done to transition our country's economy to green development tracks, and these measures are continuous. As a result of these measures, reductions in the volume of pollutants released into the atmosphere and significant improvements in some indicators characterizing the ecological quality of life are observed in our country.

As can be seen from the statistical analysis, the volume of pollutants released into the atmosphere from stationary sources in 2022 decreased from 170.9 thousand tons to 158.4 thousand tons, or by 7.3%, compared to 2018. During the analyzed years, the volume of pollutants released into the atmosphere from mobile sources decreased from 950.2 thousand tons to 772.2 thousand tons (18.7%) (Figure 1).

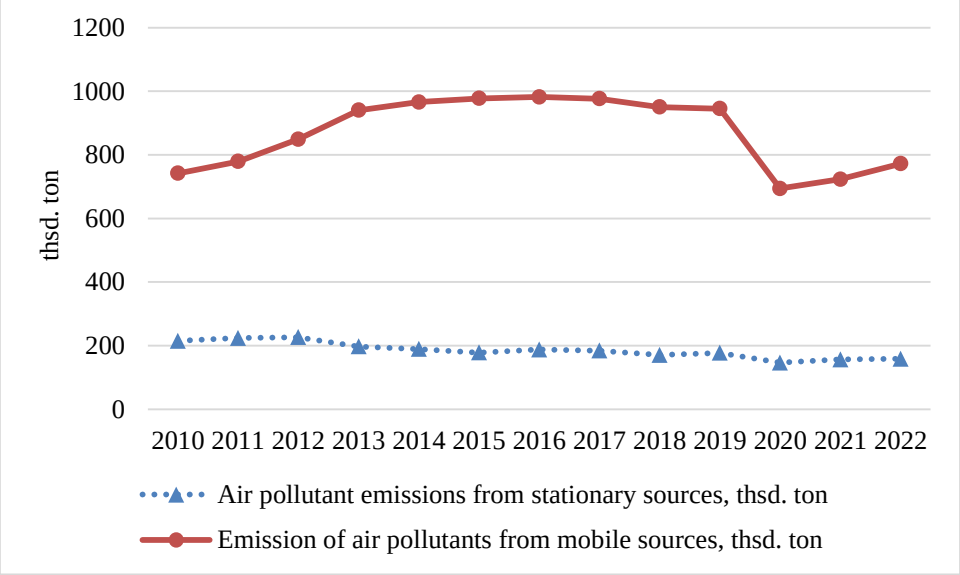

Figure 1: *Evolution of air pollutant emissions*
Source: The State Statistical Committee of the Republic of Azerbaijan

Currently, special attention is paid to developing the "green" agro-food complex to improve the quality of life in our country. To ensure the green development of the said complex, specific works have been done to create a legal framework and form its institutional foundations. Thus, the laws of the Republic of Azerbaijan "On ecological agriculture," "On food products," and "On the protection of consumers' rights" were adopted, and the Food Safety Agency was established.

In addition to all this, ensuring the coordination of activities on the production of ecologically clean agricultural products, expanding social and economic incentive measures that will help the development of the environmentally clean agricultural system, organizing fairs for producers of these products, and creating a product certification mechanism, the production of ecologically clean products it is planned to multiply and increase the number of people engaged in the production of these products by 50%.

These measures stipulated in the "Strategic Roadmap for the Production and Processing of Agricultural Products" have been almost implemented. As a result, the ecologically clean agricultural products market has developed to some extent as one of the critical segments of the food market. The research shows that specific improvements in some ecological and economic indicators in agriculture, forestry, and fishing (for example, reduction of wastewater discharge into surface water bodies, prevention of water loss used for irrigation, etc.) increase to a certain extent.

These opportunities can facilitate the growth of environmentally friendly products in domestic and foreign markets. The capacity of ecologically clean agricultural and food products is increasing yearly, and these products are among the dynamically developing markets. Thus, research shows that between 2000 and 2019, sales of organic agricultural products worldwide increased more than sevenfold. According to experts in this field, the market's growth for environmentally friendly products will continue from year to year, and in 2025, the volume of this market will reach 212-230 billion dollars. This means up to approximately 5% of the capacity of the world agricultural and food products market in terms of value.

The number of people who prefer organic products in the farming and food market worldwide is constantly increasing. The number of consumers of these products has increased approximately four times between 2005 and 2020, exceeding 700 million. According to data from the last few years, Switzerland is the leader among the countries that spend the most on organic products. Thus, in this country, the expenses incurred for acquiring organic products per person during the year amounted to 210 euros. This indicator was equal to 163 euros for Denmark, 157 euros for Luxembourg, 129 euros for Liechtenstein, 127 euros for Austria, 106 euros for Sweden, 93 euros for Germany, 77 euros for the USA, 71 euros for Canada, and 44 euros for Norway. The United States is the leader in terms of the capacity of the organic products market (44.7 billion euros). Germany ranks second, and France is third.

The production of these products and the actual capacity of the organic products market are expected to increase. Therefore, it is essential to focus on improving the production of these products, which also means raising the standard of living and preserving the national gene pool. Considering what has been said, attention to the production of environmentally friendly products has increased in recent years in our country.

In Azerbaijan, ecologically clean products are produced and offered to the market, which are directly consumed without processing, as well as those that undergo deep processing. These products include grapes, vegetables, subtropical plants, pasta, rice, milk, dairy products produced on family farms, and honey. These products offered to the market are positioned in the eyes of their buyers as ecologically clean products compared to products made traditionally, leading to buyers' preference for those products, thus ensuring their high competitiveness. Unfortunately, there is no accurate information on the listed products' production volume. Therefore, analyzing the conjuncture of ecological agriculture and food products is tricky.

Through market observation, it is possible to get a specific idea about the sale of the listed products and the buyers' satisfaction (Gutium et al., 2023). All this shows that the market of ecologically clean agriculture and food products in our country is experiencing its formation period. In addition to the so-called growth of the production of organic products in our country, it can allow the development of the export of those products and increase the profitability level of producers. This is because organic agricultural and food products are several times more expensive than conventionally produced products of the same name. Indeed, the costs involved in making these products are also high. Still, the income from the sale of the products allows them to

cover the costs and ensure the necessary level of profitability for the producers. From this point of view, foreign organic agricultural and food products markets are pretty attractive for producers. Several principles must be observed in the production process for product development for those markets.

The document "Concept on the restoration and development of the liberated territories of the Republic of Azerbaijan" was prepared to realize the economic potential of the region based on the methodological approaches and advanced international practices on the restoration and reconstruction of the territories from Karabakh, ensuring lasting development in these territories (Gasimli et al., 2022). This document defines the principles of keeping the territory restoration process in focus. These principles are as follows:

- Achieving high population density when returning to restored areas;
- Involvement of private and state, as well as local and foreign investments in the recovery process to reduce state costs, in particular, wide use of public and private sector partnership;
- The process of restoration of territories consists in creating more demand for new production and thus stimulating the growth of the country's economy.

The principles mentioned above, in turn, envisage the preparation and implementation of political measures, including complex programs, related to the territories' restoration, reconstruction, and lasting development.

As noted above, organic agricultural and food products are several times more expensive than traditional analog products. Rising energy prices can become an obstacle to developing a green economy. However, as we will prove below, the energy crisis has led to the growth of green energy, which is an integral part of the green economy. So, the crisis is not an obstacle to developing both "green" energy and the "green" economy.

A regression analysis method was used to test the hypothesis about the influence of world natural gas and oil prices in Europe on the share of green energy in electricity production during the energy crisis. As a result, the following regression equation was developed using the software EViews 9.5:

$$\ln(share_{green}) = 2 - 0.1 \times \ln(price_{gas}) + 0.43 \times \ln(price_{oil}) + 0.13 \times d05 - 0.12 \times d11. \quad (3)$$

Where:

$share_{green}$ – the share of green energy in electricity production in Europe;

$price_{gas}$ – the natural gas price in Europe;

$price_{oil}$ – the oil price in Europe;

$d05$, $d11$ – dummy variables (05 – value "1" for May 2021; 11 – value "1" for November 2021).

The results of testing the null hypothesis H0 according to which the regression parameters of the regression equation (3) are equal to zero is presented in Table 2.

Table 2: *Testing the null hypothesis H0 that the regression parameters are equal to zero*

Variable	standard error	t-statistic	p-value
C	0.285909	7.066672	0.0000
ln(*price*$_{gas}$)	0.022222	-4.548545	0.0002
ln(*price*$_{oil}$)	0.076330	5.625145	0.0000
*d*05	0.049024	2.577127	0.0185
*d*11	0.047761	-2.591611	0.0179

Source: Authors' estimation using EViews 9.

The quality of regression equation (3) was verified, and the results are presented in Table 3.

Table 3: *The results of testing the quality of the regression equation*

Statistical tests	Value
R-squared	0.730786
Prob(F-statistic)	0.000031

Durbin-Watson statistic	2.1720
Akaike info criterion	-3.126022
Schwarz criterion	-2.880594
Hannan-Quinn criterion	-3.060910

Source: Authors' estimation using EViews 9.

The residuals do not autocorrelate according to the value of the Durbin-Watson statistic. The Breusch-Pagan-Godfrey test results showed that the regressions' random residuals are homoscedastic (Table 4).

Table 4: *Results of the Breusch-Pagan-Godfrey test*

	Value
F-statistic	0.6395
Obs *R-squared	2.8477
Scaled explained SS	2.4490
Prob. F (4,19)	0.6408
Prob. Chi-Square (4)	0.5836
Prob. Chi-Square (4)	0.6538

Source: Authors' estimation using EViews 9.

The obtained result indicates that only the price of oil had a direct positive impact (in the short term) on the share of green energy during the energy crisis in Europe. However, according to previous studies (Gutium, 2022), the price of natural gas directly impacts the share of green energy in energy-importing countries in the long term. The found cause-and-effect relationship shows that developing one's green energy is necessary to reduce the impact of volatility in world energy prices.

V. Discussion

The International Federation of Organic Agriculture (IFOAM) has defined the following principles that must be followed during the production of organic agricultural products: principles of ecology, health, care, and fairness. Many world countries have adopted the listed principles, and according to the latest information, their number has exceeded 180. The area of land devoted to organic farming in these countries has also increased yearly and, according to 2019, was equal to 72.3 million hectares.

In the last twenty years, the area of land certified for producing environmentally friendly products has increased up to seven times. Australia has the leading position worldwide in terms of cultivated area devoted to making organic products (35.7 million hectares). The following places are occupied by Argentina and Spain (respectively 3.7 and 2.4 million ha). According to 2020 data, the number of organic product producers worldwide is 3.1 million. Studies show that the area allocated for organic product production in Azerbaijan is 0.8% of the total land area. It should be noted that the level of this indicator varies around 1.5-1.6% worldwide.

Organic products produced in our country are rarely found in large trade networks. In trade networks of foreign countries (Russia, Belarus, etc.) are observed more on imported organic food products (for example, pasta products, cereals, etc.). This is because local producers establish relationships with consumers directly through social networks. This in itself should be considered admirable. Thus, forming relations with these products' direct consumers means removing intermediaries from the sales channel. In this case, the prices of the products become fairer, satisfying both producers and consumers.

In addition to all this, direct sales of products allow producers to have more income and, therefore, more efficient market operations than the intermediary sales channel. This essential factor encourages the development of the organic products market. However, in the future, the

formation of a multi-channel system of organic products in our country will be inevitable. This will allow product manufacturers to increase the channel selection opportunities in product realization and to realize their products on the desired channel. Direct and indirect sales channels of organic products are active in developed foreign countries. It should also be noted that most of the products produced in those countries are sold through indirect sales channels. So, for example, according to data from recent years, 90% of organic products in Denmark, 72.3% in Great Britain, 54.0% in the USA, and 50% in Russia are sold through supermarkets.

Specialized stores are selling organic products in the listed countries. In these countries, the sale of products made by Denmark through specialized stores accounts for around 4% of the total volume of organic products. The mentioned indicator is 12% in France, 13.5% in Italy, 15% in Great Britain, and 25% in neighboring Russia. The high level of organization in the sale of organic products in the extensive trade networks of our country requires paying attention to solving the issues related to the marketing of these products. This is because, in the conditions of market relations, the competition between products and enterprises is based on marketing factors. Among these factors, packaging and certification of products at a level that can appeal to the consumer's taste in the current conditions can lead to the preference of those products compared to competing products and, thus, to the strengthening of the market positions of local producers.

In general, to ensure "green" development in the agro-food complex, it is necessary to apply the social-ethical marketing concept of marketing by business structures operating in this complex. During the application of this concept, not only the interests of consumers (this is ensured by offering consumers environmentally friendly products) but also producers (the interests of the manufacturing enterprise are manifested by obtaining sufficient profit to continue its market activity, and this is justified for the long-term period) and society as a whole interest (which manifests itself in the form of prevention of pollution of the environment and thus preservation of ecological balance) is protected.

Thus, lasting development is ensured. Transferring our country's development to the tracks of "green development" does not end with the measures mentioned above. The construction works in Karabakh are being implemented based on the principles of green development. We believe implementing intelligent village and city projects in Karabakh will significantly contribute to development based on the GE model.

The transition to "green" development to ensure environmentally friendly agricultural production requires an integrated approach, including the stages presented in Figure 2.

Figure 2: *Stages of transition to green development to ensure environmentally friendly agricultural production*
Source: Authors' elaboration

The passage of all these stages helps Azerbaijan create a sustainable and environmentally friendly agricultural complex that protects the environment, improves product quality, and improves the well-being of the rural population.

VI. Conclusion

The green economy theories examined in this study reflect a scientific approach to sustainable development that considers economic, environmental, and social factors. None of the theories is perfect; each has shortcomings. The main disadvantages are high initial costs and resistance from businesses due to the risk of reducing profits and competitiveness of production. All these obstacles can be overcome provided the state subsidizes the transition to a green economy and develops and applies a system of economic incentives.

The GE is interpreted as a concept that provides environmental sustainability, production and consumption of products and services, and investments in green development. When this issue is approached from a philosophical-sociological point of view, socio-economic development, income growth, employment, and poverty reduction are considered while ensuring environmental sustainability. There is no well-defined and universally accepted definition of what the concept of GE covers. For this reason, different countries come up with various definitions within their specific conditions. In fact, in the current conditions, the understanding of the GE, its scientific definition, and social-philosophical investigation differ in different countries.

Because the degree of socio-economic development of different countries is different, for example, there is considerable variation in lasting development between developed, developing, and newly industrialized countries. These differences are also reflected in the respective countries' GE levels and the steps taken in this direction.

In our opinion, the following can be attributed to the main ways of moving Azerbaijan's economy to the tracks of "green development":

- reducing the energy capacity of the economy (this can be achieved by reducing the share of non-productive sectors of the economy),
- extensive use of non-traditional energy resources, including renewable energy resources (solar, wind energy),
- reduction of anthropogenic (related to human activity) impacts of the energy sector on the environment,
- improvement of normative legal documents in the field of GE,
- create an efficient system of personnel training in energy-saving technologies, etc.

Factors related to society include the formation of an ecological lifestyle culture, the development of eco-activism, and the popularization of the eco-volunteer movement. Factors related to the state include the need for modernization of the economy, international cooperation in the sphere of lasting development, the implementation of internationally essential state projects, and the expectation of lasting development in the development of cities from an ecological point of view. Finally, factors related to business include improvement of environmental regulation, detection of "green" opportunities for business, and norms and standards for lasting development in business management.

In addition to the above, green economic development is influenced by using new and advanced technologies and actualizing environmental problems. To achieve this goal, factors affecting green economic development should be considered in a complex and systematic manner, thus ensuring lasting development.

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