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Developing Organizational and Economic Mechanisms in the Process of Poverty Reduction: Modern Approaches and Practical Solutions

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Abstract: This article analyzes modern approaches and practical directions for improving organizational and economic mechanisms in the process of poverty reduction. The author evaluates poverty as a complex and multifactorial issue, substantiating the importance of state policy, economic reforms, and institutional development in its elimination. The research employs theoretical source analysis, empirical statistics, and econometric modeling methods. A linear regression model based on population size, GDP, wages, and income is constructed to study their impact on labor resources. The results indicate that permanent population and per capita GDP have a significant influence on the level of poverty. The article emphasizes that the integrated application of effective organizational and economic mechanisms can lead to sustainable socio-economic development. The conclusion section presents proposals for improved approaches based on political decisions, digital technologies, and local capabilities.

Key words: Poverty, indigence, economic mechanism, organizational mechanism, economic growth, entrepreneurship, economic policy, institutional reform.

Introduction. In many developing countries, the existence of extreme poverty is a critical issue that must be urgently addressed, considering its negative impact on human well-being. This problem manifests itself in various forms, such as lack of adequate shelter, limited access to safe drinking water, low literacy rates, high infant and maternal mortality, elevated unemployment levels, and feelings of vulnerability and powerlessness. Poverty reduction can be achieved through several affirming measures: promoting economic growth to expand income and employment opportunities for the poor; implementing economic and institutional reforms to increase efficiency and improve resource use; prioritizing the essential needs of the poor in national development policies; advancing microcredit programs aimed at eliminating constraints to innovation, entrepreneurship, and small business development; introducing incentives for the private sector to improve and enhance production; and conducting targeted cash transfers to ensure that the social and economic benefits of poverty reduction initiatives reach demographic groups that might otherwise be excluded.

The Presidential Decree of the Republic of Uzbekistan “On Measures to Improve and Enhance the Effectiveness of State Policy in the Field of Poverty Reduction and Employment” outlines goals

such as the development of human resources, reforming the labor market, implementing modern forms of employment, improving the quality of state services in the field of poverty reduction, and broadly introducing decent labor relations based on international standards[1].

Review of the Relevant Literature

Numerous works by both foreign and local scholars related to the topic have been analysed. In particular, N. Baporikar, in her article titled *"Cooperative Model as Organisational Mechanism for Poverty Reduction and Economic Development"* focuses on Namibia as a case study, considering that poverty reduction and economic development remain central issues for both developed and developing countries[2]. The aim of the study is to identify and analyze the elements of the agricultural cooperative model as an organizational mechanism for poverty reduction and economic development. The findings indicate that cooperatives still face many challenges, and the recommendations include mechanisms for government and other stakeholders to provide support through capital funding, training, and land acquisition.

Scholars suggest creating employment opportunities in agriculture to reduce poverty, concluding that addressing poverty should involve not only economic factors but also establishing a legal framework and implementing incentives.

In the article *"Poverty Reduction as a Local Institutional Process"* by Y.Bastiansen, T.Herdt, and B.Exelle, poverty is defined not as a characteristic specific to a certain group of people but as a condition in which individuals may find themselves at a particular time[3]. The authors distinguish between individual features of poverty and its institutional determinants. They study the experiences of Nicaragua and Cameroon in detail, selecting these two cases because they offer opportunities to explore the interaction of external programs with the local institutional context. These cases serve as vivid examples of the complexities and paradoxes associated with the local institutional absorption of development interventions. Moreover, they provide an opportunity to reflect on the policy implications of our understanding of the possibilities and constraints of externally induced institutional changes.

R.Boyer, in his article *"Growth Strategies and Poverty Reduction: The Institutional Complementarity Hypothesis"* begins by discussing the limitations of policies that treat poverty-reduction strategies as independent of economic growth and rely primarily on market mechanisms[4]. Contrary to this, a strand of the new institutional economics emphasizes that real economies are based on a set of coordinating mechanisms that are not substitutive but complementary. The core argument of the article is that anti-poverty policies become effective when they create mutually reinforcing "virtuous circles" between growth and poverty-reduction programs—meaning that economic growth should underpin these programs, and in turn, the programs should contribute to the pace and sustainability of growth.

As for local researchers, the article *"Modern Directions of Poverty Reduction"* by Q.Mirzayev and F.Shodiev outlines the role of organizational and economic mechanisms in poverty reduction and explores modern approaches for their development[5]. The authors emphasize the interconnectedness of poverty with economic, social, and institutional factors, analyzing both international and national experiences. The study investigates the impact of economic growth on poverty reduction, the importance of economic institutions, and the applicability of organizational and economic tools in the context of Uzbekistan.

In the article *"Improving Organizational and Economic Mechanisms Influencing Poverty Reduction"* Z. Ramazanov explains the need to enhance mechanisms that influence poverty reduction in the context of Uzbekistan's economic development. The article provides recommendations and proposals for poverty alleviation and reflects on the practical steps outlined by the President of the Republic[6]. It highlights the necessity of creating favorable conditions and

implementing a series of measures to enable able-bodied citizens to escape poverty through decent employment.

S. Akbarova, in her article *"Theoretical Foundations of Poverty Reduction"* discusses the application of econometric models in poverty reduction research. She identifies specific features such as the multitude of factors—aging population and migration shifts in the current context, the inclusion of youth, women, elderly workers, and low-skilled workers, as well as the use of both quantitative and qualitative indicators, and the impact of developed programs and decrees. This confirms the uniqueness of employing econometric models in poverty reduction studies[7].

Moreover, in our article *"Improving Organizational and Economic Mechanisms Influencing Poverty Reduction"* we elaborated on mechanisms affecting poverty alleviation in the context of Uzbekistan's economic development. Recommendations and policy suggestions were provided, with attention to measures explicitly defined by the President of the Republic[8]. The article also outlined the necessary conditions and interventions to ensure that able-bodied individuals can independently overcome poverty through decent employment[9], [10], [11].

Research Methodology

This article employs scientific-analytical, statistical, and econometric methods. Specifically:

- Based on a review of the literature, the concept of poverty, strategies for its reduction, and international experiences have been examined.
- As part of the empirical analysis, labor resources and their structural components in Uzbekistan have been studied using statistical data.
- Through correlation and regression analyses, key influencing factors such as population size, average income, and per capita GDP have been identified.
- The reliability of the model has been confirmed through econometric hypothesis testing using the Fisher criterion, p-values, and the coefficient of determination[12], [13], [14].

Analysis and Results

Since the 1990s, poverty and strategies for its reduction have become central paradigms in development economics—not only within academic circles but also among international financial institutions such as the World Bank and the International Monetary Fund. Indeed, in the post–World War II era, development thinking had predominantly focused on economic growth. However, a significant shift occurred in the late 1990s: terms like "growth" or "development" were replaced by "poverty" and "poverty reduction" as the primary objectives for policymakers and international organizations. Simultaneously, the concept of poverty itself expanded in scope[14], [15], [16].

Poverty reduction is now considered one of the most crucial directions of modern socio-economic policy. In this process, organizational mechanisms encompass the coordinated actions of state and local government bodies, the establishment of a system for social services, and the maintenance and monitoring of poverty registries. Economic mechanisms, on the other hand, involve direct financial assistance, the provision of subsidies, job creation programs, microcredit schemes, and vocational training. The effective integration of these two directions contributes significantly to sustainable poverty reduction and the improvement of living standards (see Table 1).

Table 1. Organizational and economic mechanisms for poverty reduction

Organizational mechanisms for poverty reduction	Economic mechanisms for poverty reduction
Strategies and programs aimed at reducing poverty will be	Direct financial assistance is provided to poor families

developed at the state level, and special commissions and agencies will be created to oversee them.	through subsidies, preferential loans, and grants from the state budget.
Developing education and healthcare will help expand the opportunities of poor families.	Investments and subsidies will be allocated to small businesses and agriculture in the regions, creating new jobs.
Anti-poverty measures will be strengthened by improving legislation in the field of employment and social protection.	Free vocational courses and educational programs will be organized, increasing the opportunities for representatives of poor families to acquire a profession.
Citizens will be provided with consultation and information services on financial literacy and entrepreneurship.	Measures will be taken to encourage small businesses through microloans, preferential tax regimes, and subsidies.
The effectiveness of measures to reduce poverty and increase employment will be continuously analyzed and monitored.	Employment will be increased through government job creation programs (public construction, infrastructure projects).
Collaboration with non-governmental and international organizations helps in financing and managing state and local projects.	Special anti-poverty funds are being established, and various social projects are being financed through the funds allocated to them.

When these mechanisms are applied as a complementary system, the effectiveness of anti-poverty measures increases. This is because poverty is a multifaceted issue that cannot be solved by a single mechanism; it requires a broad and comprehensive approach.

In our econometric model analysis, we selected the main factors affecting poverty. The primary goal of presenting the econometric model in this study was to highlight how significantly the influencing factors contribute to the increase in the number of labor resources.

Any econometric model must have a hypothesis. In our econometric model, we rely on the following hypothesis:

H_0 = none of the four factors have an impact on the dependent variable (Y – the number of labor resources).

H_1 = at least one of the four factors has an impact on the dependent variable (Y).

To test the above null hypothesis, we construct the following theoretical model:

$$\mathbf{Y = a + \beta X_1 + \beta X_2 + \beta X_3 + \beta X_4 + u} \quad \mathbf{(1)}$$

Here:

Y- Number of labor resources (thousand people);

$\mathbf{X_1}$ – permanent population (thousand people);

$\mathbf{X_2}$ – GDP per capita (million soums);

X_3 – average monthly salary (thousand soums);

X_4 – Total income of the population (billion soums);

a – free term;

β – *coefficient;*

u – error.

Table 2. Resultant and influencing factors selected for correlation-regression statistical analysis[1]

Years	Y	X_1	X_2	X_3	X_4
2017	18666,3	32656,7	7629,0	1360,8	249346,3
2018	18829,6	33255,5	12254,0	1667,1	313655,2
2019	18949	33905,2	15096,2	2170,8	381387,9
2020	19158,2	34558,9	16788,8	2600,5	431182,4
2021	19334,9	35271,3	20826,8	3009,7	538540,7
2022	19517,5	36024,9	24659,1	3646,4	654993,3
2023	19739,6	36 799,8	29291,4	4357,4	756084,2
2024	19997,3	37543,2	39 131,4	5137,5	896274,4

The characteristic of multiple correlation lies in the fact that several important and significant factors are involved in its regression equation. Selecting the most essential of these factors correctly and including them in the regression equation is of great importance.

The selection and qualitative theoretical analysis of factors are carried out in three stages. In the first stage (preliminary analysis), the factors are selected without applying any specific conditions. In the second stage, they are analyzed using pairwise correlation coefficients. For this, a matrix of pairwise correlation coefficients between the variables u_1, $x_1,x_2,...,x_n$ is constructed. In the third stage of factor analysis, the regression equation is determined, and the significance of its parameters is evaluated using special criteria.

To determine the effect of these factors on the dependent variable, correlation analysis methods can be used. In this case, the pairwise correlation coefficient is defined as follows:

$$r_{ij} = \frac{\left(\sum x_i x_j - \sum x_i \times \sum x_j / n\right)}{\sqrt{\left(\sum x_i^{\,2} - \left(\sum x_i\right)^2 / n\right)\left(\sum x_j^{\,2} - \left(\sum x_j\right)^2 / n\right)}} \quad (2)$$

To determine which factors should be included in the regression equation, we construct a matrix of pairwise correlation coefficients between the factors (Table 3).

Table 3. Matrix of pairwise correlation coefficients of influencing factors

	Y	X_1	X_2	X_3	X_4
Y	1				
X_1	0,99829485	1			
X_2	0,987067386	0,980010311	1		
X_3	0,997411552	0,994964606	0,990834784	1	
X_4	0,996137253	0,993700842	0,991453298	0,998059758	1

Based on the data from Table 3, it can be concluded that the pairwise correlation coefficients indicate a strong positive relationship between the number of labor resources (Y) and the influencing factors.

In Table 3, $\mathbf{r_{xy}}$ represents the pairwise correlation coefficient between the factors $\mathbf{x_i}$ and $\mathbf{x_j}$. It is known that in a multiple regression equation, factors that exhibit a strong linear correlation with each other should not be included simultaneously. However, as evident from the table, all the factors are strongly correlated with each other. Therefore, all four factors were planned to be included in the econometric model, with the critical value of the correlation coefficient set at $\mathbf{r_{kr}=0.998}$.

The coefficient of determination (R^2) in the identified model indicates the proportion of the variance in the dependent variable explained by the effects of the considered factors. This indicator takes values between "0" and "1". The closer its value is to "1" the better the factors included in the regression equation account for the variations in the dependent variable.

The analysis of the significance of the identified model is conducted by testing the "null hypothesis" which reflects the overall insignificance of the regression coefficients, indicating that the independent variables collectively have no economic impact.

If the analysis results fail to reject the "null hypothesis" the conclusion is drawn that "The variables have no significant effect on the dependent economic indicator **Y**, and the overall explanatory power of the regression equation is low".

The "null hypothesis" is tested using variance analysis (ANOVA) and is formulated as:

Null hypothesis (H_0): $D_{explained}=D_{residual}$,

Alternative hypothesis (H_1): $D_{explained}>D_{residual}$,

Where $D_{explained}$ is the variance explained by the model, and $D_{residual}$ is the unexplained variance.

The Fisher F-test is used to verify these hypotheses, comparing the proportion of variance explained by the model to the proportion of unexplained variance.

The actual value of the F-statistic is determined using the following formula:

$$F_{actual} = \frac{D_{factor}}{D_{residual}} = \frac{R^2}{1-R^2} * \frac{(n-k-1)}{k}$$

Where:

D_{factor}: Variance explained by one degree of freedom of the factors ($\gamma_1=k$),

$D_{residual}$: Residual variance per one degree of freedom $\gamma_2=n-k-1$),

n: Number of observations,

k: Number of factors (parameters) in the multiple regression equation.

The actual value of the F-statistic F_{actual} is compared with its critical value $F_{critikal}$ (α; k; $n-k-1$). If $F_{actual} > F_{critical}$, the identified model is considered significant.

In the model developed to analyse factors influencing the growth of gross domestic product (GDP), the actual value of the F-statistic $F_{actual} = 552{,}62$ (Table 4).

Table 4. Regression Statistics Table

Регрессионная статистика					
Multiple R	0,9993221				
R-squared	0,9986447				
Normalized R-squared	0,9968376				
Standard error	25,934388				
Observations	8				
Analysis of variance					
	df	*SS*	*MS*	*F*	Significance F
Regression	4	1486754,803	371688,7006	552,62	0,000124639
Remainder	3	2017,777489	672,5924964		
Total	7	1488772,58			

Thus, the factors included in the regression equation are classified as highly significant, relatively significant, and insignificant. Based on the analysis results, we have separately highlighted the highly significant and insignificant factors included in our model (Table 5).

Table 5. Significant factors included in the linear regression model

	Odds	Standard error	t-statistics	P-Value	Bottom 95%	Top 95%
Y-intersection	12543,4	2025,091175	6,194006072	0,0084769	6098,6831	18988,171
X1	0,183	0,065474093	2,799552441	0,0678781	-0,0250696	0,3916659
X2	0,007	0,008615122	0,846968859	0,4592294	-0,0201204	0,0347139
X3	0,073	0,145927063	0,503426367	0,6493041	-0,3909415	0,5378686
X4	-0,0001	0,000759325	-0,140291104	0,8973197	-0,002523	0,0023099

$$y = 12543,4 + 0,183x_1 + 0,007x_2$$

Analyzing Table 5, it can be observed that the factors X_1 and X_2 are relatively statistically significant. This is because, compared to the required p-value threshold of 0.5 mentioned earlier, the factors X_3 and X_4 were found to be insignificant. Therefore, we excluded the factors X_3 and X_4 from the econometric model. As shown in Table 5, a one-unit change in the value of X_1 leads to a 0.183 change in Y. This is because an increase in population results in an increase in the number of labor resources. A one-unit change in factor X_2 increases Y by a coefficient of 0.007.

According to statistical and econometric analyses, population growth, per capita GDP, and total income are the main factors that directly affect the level of poverty. In particular, the indicators X_1 (permanent population) and X_2 (GDP per capita) have a positive effect on labor resources and contribute to the expansion of employment opportunities through economic growth.

Conclusion and suggestions

In conclusion, poverty reduction measures require a systematic and comprehensive approach. Reforms in a single direction are not sufficient; rather, sustainable and equitable poverty reduction can only be achieved through coordinated strategies across various sectors such as social policy, economy, education, healthcare, and market infrastructure. In this regard, it is essential to make

effective use of modern statistical analysis methods, international experience, and national resource potential.

Based on the above findings, the following recommendations have been developed:

First, fully implement the "Unified Social Protection Registry" system covering low-income populations and automate its operations.

Second, expand concessional loan and grant programs to support small business development at the local level, and develop a system to provide affordable housing and subsidized utility services for low-income groups.

Third, expand centers for vocational training, digital literacy, and foreign language instruction.

Fourth, introduce an independent monitoring system to evaluate the effectiveness of public and non-governmental poverty reduction programs, and utilize scientific analysis to generate poverty reduction forecasts for use in policymaking.

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