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ИССЛЕДОВАНИЕ ФАКТОРОВ, ВЛИЯЮЩИХ НА ПРОДОВОЛЬСТВЕННУЮ БЕЗОПАСНОСТЬ ФЕРМЕРСКИХ ДОМОХОЗЯЙСТВ В ПРОВИНЦИИ БАЛХ (АФГАНИСТАН)

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Продовольственная безопасность связана с возможностью обеспечения физического и экономического доступа к продуктам питания. Данный тип безопасности относится к первому принципу и является одним из необходимых условий поддержания здоровья и благополучия людей в обществе, чтобы люди могли играть ключевую роль в политическом, экономическом, социальном и культурном развитии. Кроме того, она является составной частью человеческой безопасности, согласно концепции ООН. Продовольственная безопасность формируется на уровне государства и невозможна без соблюдения императивного признака. Без достижения продовольственной безопасности другие форматы стратегического развития государства просто невозможны. Данная тематика актуальна как на международном, внутригосударственном уровне, так и в разрезе каждого домашнего хозяйства. Глобальная проблема продовольственной безопасности заключается в географически непропорциональном распределении продовольственных ресурсов, а значит, и отличием разных стран при оценке данного показателя. Учитывая важность темы, было проведено настоящее исследование. Оно не является экспериментальным и описательным с точки зрения уровня контроля над переменными, основано на полевых условиях с точки зрения метода сбора данных и опросах с точки зрения обобщаемости результатов. Целевая группа настоящего исследования состоит из глав домохозяйств в провинции Балх Афганистана. Метод выборки, использованный в работе, представляет собой простую случайную выборку, 210 человек были отобраны по формуле Кокрана.

Результаты исследования показали, что факторы политики и регулирования оказывают наибольшее влияние на продовольственную безопасность семей в провинции Балх. Как следствие, это подчеркивает специфику реализации фактора на уровне Афганистана и не вызывает сомнений то, что разработка и реализация поддерживающей политики и постановлений правительства с целью увеличения доходов и, следовательно, продовольствия необходима для безопасности семей. После политических и регулятивных факторов наибольшее влияние на продовольственную безопасность семей в провинции Балх оказали экономические факторы. Основной импульс влияния отражается в низком уровне дохода домашних хозяйств и сложностью в их росте за счет дополнительных источников. Другими факторами, влияющими на продовольственную безопасность семей, стали образовательно-информационные факторы. Доступность информации, уровень образования, а значит, и профессиональных компетенций формирует и качество реализуемых решений на уровне каждого домашнего хозяйства. Географические факторы были еще одним условием, оказавшим существенное влияние на продовольственную безопасность семей. Географическое положение оказывает прямое воздействие на продовольственную безопасность через климатическое воздействие, транспортную доступность, экономическое развитие и культурные традиции. Эти факторы определяют потенциал территории для производства, хранения и распределения продовольствия, а также устойчивость его жителей к внешним угрозам. Последним фактором, который оказал самое слабое влияние на ситуацию с продовольственной безопасностью семей в провинции Балх, является семейный фактор. Его влияние проявляется через соотношения размера семьи и уровня потребления.

Представленные результаты подчеркивают многофакторность влияния на продовольственную безопасность в провинции Балх. Они указывают на то, что для позитивных сдвигов в рассматриваемой области необходимо внедрение комплексных решений. Именно они приведут к мультиплектичному эффекту. Учет и регулирование только одного фактора не даст стабильно-устойчивых результатов. Синергетический эффект возможен через реализацию государственных программ, направленных на социальную ста-

билизацию общества, развитие системы кадров для актуальных сфер экономики, усиление информационной доступности.

Ключевые слова: продовольственная безопасность, пищевое разнообразие, распределение доходов, цены на продовольствие, провинция Балх (Афганистан).

FACTORS AFFECTING FOOD SECURITY OF FARMING HOUSEHOLDS IN BALKH PROVINCE (AFGHANISTAN)

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Food security means ensuring physical and economic access to food products. This type of security is linked to the first principle and is defined as one of the necessary conditions for maintaining health and well-being of people in the society so that people can play a key role in political, economic, social and cultural development. In addition, it is an integral part of human security according to the UN. It refers to the state duty to maintain food security which should also be legally binding. Without achieving food security, other formats of strategic development of the state are simply impossible. This topic is relevant at the international, domestic level and in the context of each household. The global problem of food security lies in the geographically disproportionate distribution of food resources, and, therefore, the differences between countries in assessing this indicator. Thus, the present research has been conducted to highlight the significance of this issue. This study is non-experimental and non-descriptive in terms of the level of control over variables, field-based in terms of data collection method, and survey-based in terms of the generalizability of the findings. The target group of the present study consists of household heads in Balkh province in Afghanistan. The sampling method used in this research is simple random sampling, 210 individuals were selected using Cochran's formula.

The findings of the research show that policy and regulation have a significant impact on the food security of families in Balkh province. Thereby, this highlights the specificity of the implementation of this factor at the level of Afghanistan. It is certain that the development and administration of public supportive policies and regulations in order to increase income and, consequently, food security of families is necessary. After policy and regulation, economic factors had the greatest impact on the food security of families in Balkh province. The low level of household income and the difficulty of growing through additional sources were taken into account. Educational and informational factors were among other factors affecting the food security of families. Availability of information, level of education, and, consequently, professional competencies shape the quality of decisions implemented at the level of each household. Geographic factors were another factor that had a strong effect on the food security of families. Geographical position has a direct impact on food security through climate impact, transport accessibility, economic development and cultural traditions. These factors determine territorial potential for food production, storage and distribution, as well as the resilience of its inhabitants to external threats. The last factor that had the weakest impact on the food security of families in Balkh province is the family factor. The impact of this factor can be observed through the relationship between family size and consumption level.

Thus, the results of the research emphasize the multifactorial impact on food security in Balkh province. They indicate that it is necessary to implement complex solutions for positive changes in the area which will further lead to a multiplier effect. Consideration of relevant regulations in relation to one factor will not give stable and sustainable results. Thereby, a synergetic effect can be achieved through the implementation of state programs aimed at social stability, development of the personnel system for relevant areas of the economy and strengthening information accessibility.

Keywords: food security, food diversity, income distribution, food prices, Balkh Province (Afghanistan).

Introduction. In terms of development perspective, one of the main functions of the agricultural sector in the process of the country's growth is to provide food for the people of the society. This issue has received more attention in recent years due to the increase in population and the need for more food resources [1, p. 11].

However, the role of nutrition in improving health and well-being, increasing people's efficiency, and its relationship with development has been proven in extensive global research, so that the eradication of poverty and hunger and food security have been considered among the important development goals [2, p. 678]. Generally, food security refers to a situation in which people do not feel hungry or afraid of hunger during their lifetime. Food security is one of the most important aspects of human health and security, and its absence means that security for humans is endangered [3, p. 305].

Studies show that there are currently hundreds of millions of people around the world who do not have an acceptable level of food security, and there is a serious risk of feeding more than 9 billion people in 2050. To address existing concerns, the FAO (Food and Agricultural Organization) deputy secretary-general announced that to meet the growing demand for food, agricultural production must increase by 70% worldwide and around 100% in developing countries. The facts suggest that food insecurity is more severe in developing countries and is gradually affecting these countries [4, p. 65]. According to FAO, about 98% of the people facing food insecurity and malnutrition in the world live in developing countries, and the highest number of malnourished people live in Asia and the Pacific, and the highest proportion of malnutrition is in sub-Saharan Africa [5, p. 114].

Research Background. Until recently various studies have been conducted in the field of identifying the factors which influence food security at the micro and macro levels.

M. Safarpour and colleagues conducted the study entitled «Investigating the status of food security and identifying its related factors in Bandar Anzali Districts». The results showed that 51% of respondents were food insecure. Food insecurity has a significant relationship with the economic level of the family, the number of employed family members, the number of children, the level of education of the head of the household and home ownership [6, p. 196].

In 2010 M. Qaim and R. O. Babatund investigated and identified the factors affecting the food security of Nigerian households. In this case study, the amount of energy intake was considered as an indicator of food security. The results showed that the size of the household, the age and education of the head of the

household have a negative and significant effect on the food security of households. Moreover, the effect of the variables of head gender, farm size, agricultural and non-agricultural incomes on food security is positive.

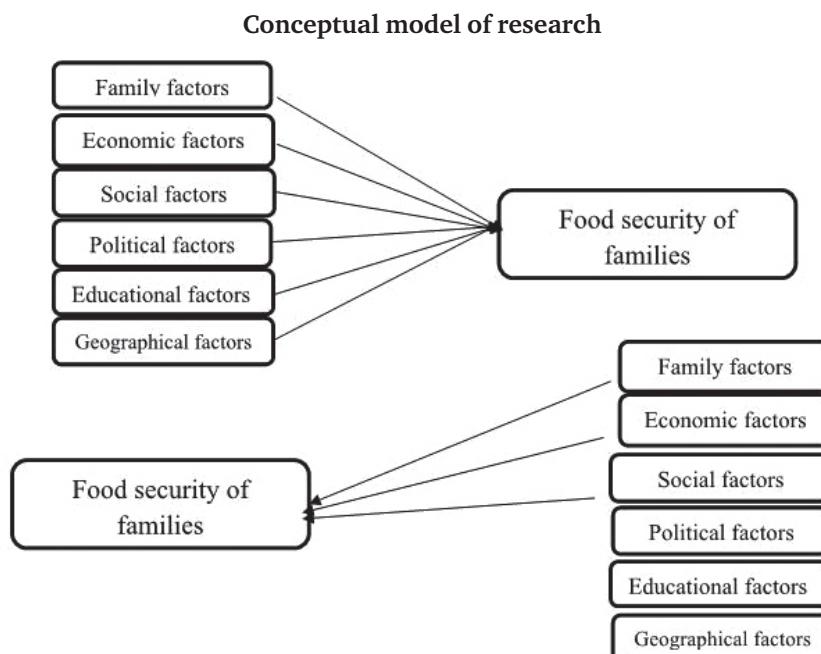
According to the findings of the research of A. Firouzjani, rural households have a lower level of food security compared to urban households and their vulnerability to food insecurity is higher [7].

In their article devoted to the investigation of the factors having an impact on food security in Iran, M. Basharabadi and A. Ohadi have calculated the general index of food security for urban and rural households, and the indicators of food prices, crop diversity in cultivation pattern, and evaluated government support for the agricultural sector. Then, using the Johansson-Joselius approach, they concluded that the variables of agricultural diversity, per capita income and imports of agricultural products have a positive and significant effect while the variables of Gini coefficient and government support policies of the agricultural sector have a negative effect on both food security of urban and rural households as well as on food security in urban areas [8, p. 116].

F. Rostami has conducted an analysis which revealed the challenges of food security in rural families in Kermanshah village. The results of this study indicated that out of 100 rural families studied, 68% of the families were food insecure and there was a strong relationship between the social and economic status of the families and their food security. In addition, there was a positive relationship between family food security and monthly family income, father's job status, living facilities, mother's literacy level, and the size of the family [9, 10].

Based on the **conceptual model of the research**, the hypotheses of this research include the following:

- Hypothesis 1: Family factors have a positive and significant effect on the food security of families in Balkh province;
- Hypothesis 2: Economic factors have a positive and significant effect on the food security of families in Balkh province;
- Hypothesis 3: Social factors have a positive and significant effect on the food security of families in Balkh province;
- Hypothesis 4: Political factors have a positive and significant effect on the food security of families in Balkh province;
- Hypothesis 5: Educational factors have a positive and significant effect on the food security of families in Balkh province;
- Hypothesis 6: Geographical factors have a positive and significant effect on the food security of families in Balkh province.

**Figure 1. Food security factors of households**

Research Methodology

Methodologically this research is non-experimental and non-descriptive in terms of the level of control over variables, field-based in terms of data collection method, and survey-based in terms

of the generalizability of the findings. The target population of the present study consists of household heads in Balkh province. The sampling method used in this research is simple random sampling, and 210 individuals were selected using Cochran's formula.

Table 1**Results of Confirmatory Factor Analysis**

Hidden variables Extracted mean-variance		Validity and reliability indicators		Correlation matrix between hidden variables						
		Combined reliability	1	2	3	4	5	6	7	
1	Security	0.536	0.888	0.732						
2	Family factors	0.701	0.921	0.361	0.837					
3	Economic factors	0.706	0.905	0.61	0.318	0.84				
4	Social factors	0.722	0.926	0.431	0.478	0.448	0.85			
5	Political factors	0.673	0.925	0.649	0.38	0.541	0.542	0.821		
6	Educational factors	0.598	0.871	0.484	0.111	0.473	0.256	0.332	0.773	
7	Geographical factors	0.68	0.894	0.528	0.223	0.456	0.375	0.477	0.382	0.824

*The numbers reported in the diagonal table of the extracted mean square values of each variable are hidden.
Source: research data

Regarding convergent validity and since the extracted mean value of variance for all hidden variables in the measurement model was greater than 0.5, the research tool had a suitable convergence validity. Similarly, in the case of diagnostic validity, the root values of the extracted mean variance of each hidden variable were greater than the correlation values between the hidden variables in a two-to-two

manner. Therefore, the research tool had a good diagnostic validity.

The results showed that the average age of the respondents was about 45.3 years and most of them (26%) were in the age range of 40 to 40 years. According to the results, 92.9% of the respondents were men and only 7.1% of them were rural women. In terms of literacy level, most of the respondents were illiterate.

Table 2
Distribution of the percentage of responders according to the number of their daily meals

No	The number of meals	Frequency	Percentage
1	Once	50	23.8
2	Twice	20	9.5
3	Three times	120	57.1
4	More than three times	20	9.5
Total		210	100%

The percentage distribution of the responders based on the status of their daily meals was shown in the above table. Based on the results, the highest

percentages of 57.1% and 23.8% were related to the respondents with the number of daily meals three times and once.

Table 3
Summary of the results obtained from the general structural model of the research

Research hypothesis	Standard coefficient	Standard error	T value	Sig	Test Result
Family factors and food security		0.040	2.460	0.014	Verification (1)
Economic factors and food security		0.046	4.948	0.001	Verification (2)
Social factors and food security		0.047	0.255	0.501	Rejection (3)
Policy factors and food security		0.062	5.555	0.001	Verification (4)
Educational and food security factors		0.045	4.115	0.001	Verification (5)
Educational and food security factors		0.051	3.193	0.001	Verification (6)

Source: research data

In the above table, without the relationship between social factors and food security, the calculated t-values for the other studied relationships in the conceptual model of the research were 1.96 and as a result, hypotheses 1, 2, 4, 5 and 6 were confirmed, while based on the results of the research, hypothesis 3 was not confirmed. In this way, each of the family, economic, political, educational, informational, and geographical factors had a positive and significant effect on the food security of families in Balkh province. Among the mentioned factors, political regulation and economic factors have had the most impact on the food security variable.

Conclusion. The results of the research showed that political regulation has the greatest impact on the food security of families in Balkh province. It is certain that the implementation of supportive policies and regulations of the government in order to increase income and, consequently, food security of families is necessary. The findings revealed that economic factors had the greatest impact on the food security of families in Balkh province. Therefore, we can state that families with a better financial position have more food security, which can be due to the fact that higher income allows

families to have more choices in the field of food preparation. The results show that educational and informational factors were other influential factors on the food security of families. Geographical factors as well had a significant effect on the food security of families. The last factor that had the weakest impact on the food security is the family factor in Balkh province. The authors suggest the following measures should be taken into consideration: 1) based on the findings of the research on the negative impact of family size on food security, family planning programs must be implemented in a way that controls the rapid growth of the population and leads to a reduction in the number of children so that the head of the family can provide the necessary supplies for all family members; 2) poverty alleviation programs should focus on how to improve farmers' non-farm income by providing education in the field of non-farm business to increase their income and, ultimately, improve their food security; 3) various government support programs and subsidy assistance, in particular, support of prices on agricultural and animal products provide the ground for improving the food and nutritional status of rural families.

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