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The Role of Innovations in the Activities of Tomorka Farms in Samarkand Region

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ABSTRACT

In this scientific research, the role and importance of using innovations in the income from tomorka farm activities in rural areas is studied. Also, the "The Innovation use index" is developed using factor analysis to assess the impact of the use of innovations on the income from tomorka farm activities. The analysis based on the data of 1428 respondents who took part in a social survey conducted in the rural areas of Samarkand region. The influence of the innovation index on the income from tomorka farm activities is determined to be statistically significant at 1 percent ($p<.01$). Particularly, it is based that, a 1% increase in the index of the use of innovations to increase the income from tomorka farm activities by 32.9%. Based on the results of the analysis, proposals were made to increase income from tomorka farm activities in rural areas and to introduce opportunities for using innovations.

INTRODUCTION

Before the COVID-19 pandemic, there was a focus on ending hunger and malnutrition on Earth by 2030(Banik, 2019). However, the pandemic period had a significant impact on the economic sphere of all countries, including agricultural activities and the food production network. These impacts have led to major changes in storage, processing, delivery, and population consumption which are related with production. As a result, hunger and malnutrition among the population increased from 8.4 percent to 9.9 percent in one year (UNICEF, 2021). In particular, in 2020 compared to 2019, more than 57 million people suffered from famine in Asian countries.

Populations suffering from hunger or malnutrition, with low or no income from their labor, can have a significant impact. Whereas, for the normal growth and development of the population, to live an active and healthy life, it is necessary to provide enough food products(Pelletier *et al.*, 2016). However, 45 percent of the world's population lives in rural areas, and most of them rely on income from agricultural activities. In this regard, diversification of risks in agricultural activities, seasonal income changes and financing of production resources are important for the sustainable development of production efficiency. Also(Müller and Campos, 2021), attracting innovations to the agricultural sector and financial support from the government will have a positive effect on the increase in the quantity and quality of the products obtained from the activity. However, the involvement of innovations in agricultural activities affects the employment of the population in agriculture. In particular, the use of innovations in the labor-intensive work process, which requires a lot of manual labor in agriculture, the implementation of agrotechnical measures, the harvesting of cultivated crops or the use of resources, has an impact on the reduction of labor costs. The influence of such factors leads to the decision of the population to be engaged in non-farm activities from agricultural activities. While(Hasanov and Sanaev, 2018), the decision to engage in non-farm activities and the income coming from it affects agricultural activities. At the same time, although families grow agricultural products in their household for their own consumption and for the market, in families with a large number of family members, they rely on income from non-farm activities to meet their food and non-food needs (Lanjouw P., 2001).

However, the growth of non-farm sectors in rural areas also affects agricultural activities. That is, according to the results of a scientific study conducted by E. Giannakis and others (Giannakis, Efstratoglou and Antoniades, 2018) in households of the rural area of Cyprus, they found out that there is an inverse relationship between the arable land in farmers' or peasant farms and the probability of participation in non-agricultural activities. Also, according to the results of scientific research by S. Haggblade and others (Haggblade, Hazell and Reardon, 2010), in rural areas, households with less than 0.5 hectares of income from non-agricultural activities make up to 30-90 percent, and households with little or no arable land rely on sources of income from non-agricultural activities. However, agricultural activity includes the production of agricultural products (crops, livestock) in the course of agricultural activities using production factors (natural resources)(Reardon, Berdegué and Escobar, 2001). However, innovations introduced into agricultural activities (Ermakova, 2021) have an impact on the increase in income from activities.

The share of tomarka farms in the production of agricultural products in Uzbekistan is 70.1%, which plays an important role in the country's economy. Today, the

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number of homesteads is more than 5 million, 1.5 times more than in 2000. The land area used for agriculture in Uzbekistan(Agricultural statistics, 2021) is 3686.7 thousand hectares, 13.0% of which is arable land used by homesteads.

Tomorka farming(Law of the Republic of Uzbekistan. About the farm(tomarka), 2021) is a labor activity related to agricultural production on private homestead land plots for family economic activity, cultivation (processing) for sale on the market. Tomorka farming is not considered an entrepreneurial activity; it is not required to be state registered. However, a person may receive the status of a self-employed person in accordance with the legislation on employment. However, 26.9% of the working-age population in Uzbekistan is engaged in agricultural activities, and in 2020, compared to 2017, employment decreased by 3.1%. The decrease in the employment of the population in agricultural activities is related to the decrease in the size of agricultural arable land, which has decreased by 3.3% over the last 4 years. Although it is observed that the agricultural arable land has decreased, the volume of agricultural products and their value have increased over the years (2017-2020). The increase in the volume of agricultural products is related to the attraction of innovations in the field. In particular, in 2017, 66.7 percent of technological innovations were involved in agricultural activities by agricultural entities, and in 2020, this figure was 90.4 percent. Basically, innovations introduced by agricultural subjects are agricultural machinery, technologies related to the implementation of agrotechnical activities, innovative technologies related to crop irrigation. However, the involvement of such innovative technologies in agricultural activities are carried out by farm or agro cluster entities.

However, the owners of farm land in Uzbekistan are small farm subjects that grow agricultural products. It is important to introduce innovations in agricultural activities, which are the use of innovations by the owners of the agricultural land, such as irrigation of crops, fruitful new varieties of fruits and vegetables and potatoes, and cultivation of plant products from cultivated fields in all seasons. Also, the use of livestock with high productivity in livestock farming activities by the landowners can have a positive effect on the increase in the volume of products obtained from the activity.

The purpose of the scientific research work is to make an economic assessment of the impact of the innovations used by the estate owners on the income from the estate business and to make scientifically based proposals.

The scientific research work was based on survey data obtained from 1428 homestead land owners who operate in rural areas of Samarkand region.

MATERIAL AND METHODS

The object of study of the scientific research work is homestead farms operating in the rural areas of the Samarkand region, the center of the Republic of Uzbekistan. Samarkand region is located in the middle part of the Zarafshan river basin and is one of the largest and ancient irrigated regions in Central Asia. There are 14 districts and 2 large cities in Samarkand region. The Zarafshan river divides into two rivers around the city of Samarkand - Akdarya and Karadarya, and merges again near Khatirchi district of Navoi region. (Figure 1).

Figure 1: Location map of Samarkand regional districts

Pastdargom, Payarik, Narpai and Kattakurgan districts are the largest districts in the region in terms of the size of irrigated cropland. But, in the region, the cultivation of vegetable products on homestead farms is more due to the contribution of Jomboy, Taylak, Urgut and Samarkand districts.

This valley, located around the Zarafshan River, is 2000-3000 meters above sea level, and in some lowlands it is 980-1400 meters above sea level, and the annual rainfall is 320-360 mm. The climate of the region is sharply continental, the sun shines on about 300 days of the year, summer days are up to 15 hours long. In general, the climate conditions in the territory of the region correspond to the generally accepted soil-climate classification. According to agroclimate, the irrigated area is divided into 2 parts: the larger part of the area corresponds to the region of typical gray soils, and the smaller part corresponds to the region of pale gray soils.

Irrigated gray soils are located in the temperate-hot thermal zone, the annual effective temperature is 2140-2300 C0, the length of the vegetation period is 208-212 days.

A social survey was conducted to study the activities of tomorka farms. The survey was conducted from March 10 to August 24, 2021, and a total of 1428 respondents from 14 districts of Samarkand region participated. In this case, a questionnaire was conducted among the landowners located in the district, but not included in the neighborhood of the central city of the district(Saydullaeva, 2021). The agricultural products grown on homesteads in the research object, especially the crops obtained from plant growing, are grown for the consumption of family members. However, the needs of family members for agricultural products are met at the expense of vegetable, potato, fruit and grape products grown on homesteads. Surplus of consumption of family members is sold for income. However, family members are engaged in agricultural activities, the main income of families is income from agricultural activities. That is, tomorka farm land owners grow commodity products for sale in 1 or 2 types of markets on arable land. Nevertheless, a certain part of the goods is used by the family members to meet the needs of the family. In this process, agricultural products used for sale and for family needs were taken to determine the income from tomorka farm activities. In this case, the agricultural products used for family needs in homesteads, which are vegetables, potatoes, fruit and grape products, were expressed at the market price. According to the approach, when agricultural products are not grown on the cultivated area of the tomorka farm, how many soums will be spent for the needs of family members. In total, the incomes from household activities of 1428 respondents were taken in the value index, and their average income is 14,531 thousand soums (Table 1).

Innovations used by tomorka farm land owners, which

Table 1: Descriptive Statistics of tomorka farms activities

Variable	Obs	Mean	Std. Dev.	Min	Max
Income	1428	14.531	5.458	3.3	37.5
Inn_irrigation	1428	.344	.475	0	1
Inn_veg_var	1428	.548	.498	0	1
Inn_fruit_var	1428	.506	.5	0	1
Inn_greenhouse	1428	.297	.457	0	1
Inn_ped_cattle	1428	.2	.4	0	1
Age	1428	48.1	6.87	27	60
Male	1428	.832	.374	0	1
Education	1428	1.926	.685	1	3
Non-farm	1428	.543	.498	0	1
Cropland	1428	7.323	2.438	3	18
Family_members	1428	5.588	1.229	2	11
3_year_members	1428	.272	.445	0	1
log_Income	1428	2.598	.413	1.194	3.624

are the use of modern technologies in crop irrigation, high-yielding varieties of vegetables and fruits, and the presence of closed space and productive livestock in tomorka farms, were taken as dummy variables. In particular, 34.4 percent of 1,428 respondents used modern technologies to irrigate agricultural crops grown on tomorka farms. Also, 54.8% of the respondents used high-yielding vegetable crops in their homesteads, and 50.6% of respondents have high-yielding fruit trees in their homesteads. However, 29.7 percent of homesteads have a closed area and 20.0 percent have productive livestock. The average arable land in homesteads is 7,323 hectares, which can limit the possibility of raising productive livestock breeds. The age, gender, education and number of family members(Pardaev, 2021) of the owners of the estate are important for the change of the income from the tomorka farm activities(Muratov, 2021). However, the average age of the respondents is 48.1 years, and they are at working age. Similarly, 83.2% of the landowners are men, 27.2% of the family members have children under 3 years of age, and the average number of family members in the household is about 6 people. However, 54.3 percent of homestead land owners living in rural areas are mainly engaged in non-farm activities

In scientific research, the standard deviation of different values of the independent variable or the variation of the relationship between them causes the problem of heteroskedasticity and multicollinearity(Daoud, 2018). In order to partially eliminate the problem of heteroskedasticity, we introduce a new variable, innovations used by landowners, which use dummy indicators. This new variable represents the index of the use of innovations in household activities of 1428 respondents. Factor analysis(Rummel, 1988) was used to create the index of the use of these innovations.

First, the Kaiser-Meyer-Olkin (KMO=0.568) test(Kaiser, 1974) was conducted to determine the suitability of factor analysis for the variables used in agricultural activities, which represent innovations. In this case, the statistic is a measure of the ratio of variance between variables that may be the total variance. Also, according to the results of Bartlett's test(Bartlett, 1937), H0: the fact

that the variables are not related to each other is explained by the condition that p value is less than 10%, 5%, and 1%. According to the result of Barlett's test, the variables representing the use of innovations in agricultural activities are not related (p=0.0000). Determinant of the correlation matrix(Bartlett, 1951) is explained by multicollinearity between variables greater than 0.0000001. However, the multicollinearity between the variables representing the innovations used in tomorka farm activities explains 0.890. According to the results of the 3 tests conducted, using factor analysis, it is possible to express the innovation use index by means of the variables that represent the use of innovation. Factor 1 explains 27.5% of the innovations used in homesteads as a variable (Table 2).

Table 2: Value of interpretation of variables in factors

Factor analysis/correlation			Number of obs	= 1,428
Method: principal-component factor			Retained factors	= 2
Rotation: (unrotated)			Number of params	= 9
Factor	**Eigenvalue**	**Difference**	**Proportion**	**Cumulative**
Factor1	1.37979	0.24770	0.2760	0.2760
Factor2	1.13209	0.27211	0.2264	0.5024
Factor3	0.85998	0.04324	0.1720	0.6744
Factor4	0.81674	0.00535	0.1633	0.8377
Factor5	0.81139		0.1623	1.0000

LR test: independent vs. saturated: chi2(10) = 165.75 Prob>chi2 = 0.0000

However, in 5 factors, their eigenvalue is greater than 1(Larsen and Warne, 2010), Factor1 and Factor2 explain the variables expressed in the use of innovations by the landowners. In particular, Factor2 explains 22.6 percent of 5 independent variables.

Existing innovations in the activities of homesteads (Figure 2), which means that fruit trees were planted in homesteads 1 year ago or many years ago, and are present in homesteads for years. On the other hand, the price of fruit seedlings set in the markets or by the growers of fruitful fruit seedlings shows that the farm is suitable

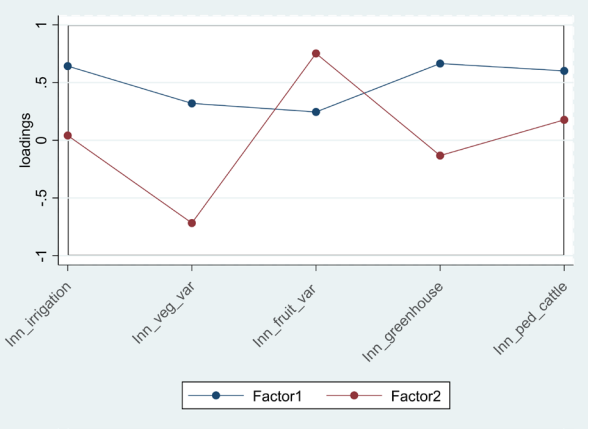

Figure 2: Loadings of variables representing innovations in farm activities

for the consumption of the landowners. The variables representing innovation were explained by Factor1 and Factor2 and indexed by Bartlett's method(Bartlett, 1937) (Table 3).

Table 3: Descriptive Statistics of Inn_index

Variable	Obs	Mean	Std. Dev.	Min	Max
Inn_ index	1,428	.3504802	.2449325	-5.40e-17	1

In this case, according to the statistical description of the index of use of innovations, 1428 estate owners, which represented the innovations used in estates, were indexed between 0 and 1. The average value of the innovation use index is 350, and the standard deviation is 244.

In the object of scientific research, it is expressed that there is a relationship between the income from tomorka farm activity and the index of use of innovations (Figure 3).

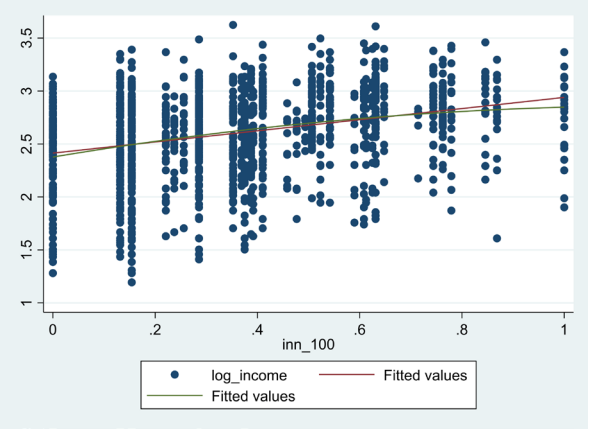

Figure 3. Graphic representation of the relationship between income from tomorka farm activities and the index of use of innovations

In this case, the relationship between the dependent variable, the income from household activities, and the independent variable, the innovation use index, is positive. Innovations introduced into real estate activities, which are variables representing the index of innovation use, have a positive effect on the increase in income from real estate activities.

Table 4: Variance inflation factor

Variable	**VIF**	**1/VIF**
Income_tf	1.34	.746
Education	1.312	.762
Age	1.17	.855
3_year_members	1.112	.899
Male	1.086	.92
Cropland	1.075	.93
Inn_index	1.048	.954
Family_members	1.016	.984
Mean VIF	1.145	.

The presence of variable correlation in the variables indicates multicollinearity, that is, the independent variables are statistically insignificant. When determining such a situation, a diagnostic test was conducted to ensure the robustness of our results (Table 4).

VIF (Variance inflation factor) test was conducted for independent variables to determine multicollinearity. The VIF test(Wichers, 1975) is a measure of the amount of multicollinearity in a set of multiple regressor variables. Mathematically, the VIF for a variable in a regression model is the ratio of the total model variance to the variance of the model containing only one independent variable. This ratio is calculated for each independent variable. A high VIF indicates that the dependent independent variable is correlated with other variables in the model. However, according to the VIF test result, its mean value is 1.145, indicating that there is no multicollinearity between the variables.

The results were obtained in the STATA-16 program package using the multivariate linear regression model in the economic evaluation of the influence of independent variables on the income from household activities. The "robust" command was used in the STATA-16 program package in order to strengthen the variables and eliminate multicollinearity when obtaining the results. Here, the marginal effect of the index of use of innovations on the income from household activities was determined.

RESULTS

According to the results of the analysis (Table 5), independent variables explain 50.7 percent of the changes in the dependent variable (R-squared=0.507). The functional equation is statistically significant (Prob > F 0.000) and at least 1 of the independent variables affects the dependent variable. However, the change of the income from tomorka farm activities is influenced by the use of innovation index, tomorka farm area, employment of the owner of the tomorka farm land in non-farm activities, education, gender, age, number of family members and family members under 3 years of age 1 percent (p<.01) is statistically significant. In this case, the influence of independent variables on the dependent variable is statistically significant.

However, the presence of children under the age of 3 in the family members has a negative effect on the increase in income from household activities. That is, the presence of 3-year-old children in the family has a statistical significance of 1 percent (p<.01) on the income from household activities, and it reduces the income from household activities by 7.9 percent. In this case, it is possible to limit the labor costs of family members in the homestead or the expenses spent on the homestead. However, the busyness of working-age family members with raising children up to the age of 3 limits the labor consumption in the cultivation of agricultural products in homesteads. However, sending children older than 3 years to kindergarten, which can have a positive effect on the increase in income from household activities. An increase in cultivated area by 1 hectare in tomorka farms increases the income from the activity by 8.3 percent. However, there is no possibility to increase the cultivated area due to the limited amount of cultivated land in the regions. However, in order to reduce poverty in the rural areas, to increase the employment of the population and their well-being, the government is allocating 15 hectares of arable land for long-term use, but not exceeding 10 years.

Use of resources, in which the limitation of land resources forces the intensive use of arable land. However, the intensive use of open spaces is related to the innovative technologies involved in the activity. In particular, a 1% increase in the index of the use of innovations by the landowners increases the income from the estate by 32.9%. However, the use of innovations by homestead land owners depends on the level of education and income of family members. In particular, an increase in the level of education of tomorka farm land owners by 1 unit increases the income from tomorka farm activities

Table 5: Economic assessment of the impact of variables on the income from farm activities

log_income	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Inn_index	.329	.032	10.23	0	.266	.392	***
Cropland	.083	.003	23.95	0	.076	.09	***
Non-farm	.168	.018	9.20	0	.132	.203	***
Education	.221	.012	18.03	0	.197	.245	***
Male	.083	.022	3.71	0	.039	.127	***
Age	.004	.001	3.22	.001	.002	.006	***
Family_ members	.025	.006	4.07	0	.013	.037	***
3_year_ members	-.079	.019	-4.17	0	-.116	-.042	***
Constant	.984	.078	12.67	0	.831	1.136	***

Mean dependent var	2.598	SD dependent var	0.413
R-squared	0.507	Number of obs	1428
F-test	168.270	Prob > F	0.000
Akaike crit. (AIC)	532.252	Bayesian crit. (BIC)	579.628

*** p<.01, ** p<.05, * p<.1

by 22.1 percent. In this case, it is required to increase the literacy of the landowners in the field of agriculture and livestock.

In homesteads, the employment of the head of the family in non-farm activities increases the income from homestead activities by 16.8%. However, the head of the family's employment in non-farm activities depends on the number of family members. In particular, the limitation of labor costs in farm activities, which the heads of families focus on the income from non-farm activities. However, an increase in the number of family members by 1 person increases the income from tomorka farm activities by 2.5%.

Innovations used in farm activities or the innovation index have a positive effect on the increase in income from tomorka farms (Figure 4).

However, we cannot say that homestead landowners have effectively used innovations such as crop irrigation, high-yielding vegetable and fruit varieties, greenhouses, and productive livestock. Based on the results of the analysis, the innovation use index has a significant impact on the increase in income from household activities. In particular, the relative marginal effect of the index of use of innovations on the income from household activities confirms this.

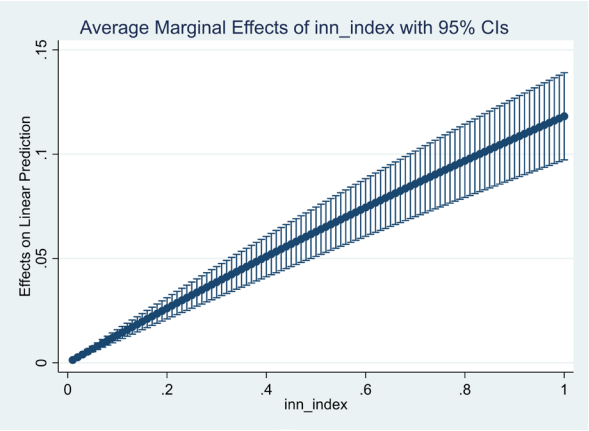

Figure 4: The relative marginal effect of the index of use of innovations on the income received from household activities

CONCLUSION

In the economy of Uzbekistan, agriculture is important in supplying industry with raw materials, meeting the population's demand for food products, and providing employment for rural residents. In particular, the agricultural products grown in the homestead economy, which, in addition to meeting the demand for food products of the family, are their source of income.

In the economic analysis of the impact of innovation on the income from tomorka farm activities, the data of the rural areas in Samarkand region was analyzed. 1428 respondents or landowners took part in the social survey. The results of the analysis showed that there is an opportunity to increase the income from tomorka farm activities in the rural areas of Samarkand region.

The size of tomorka farm land is important in increasing the income of the residents of rural areas from tomorka farm activities. However, the limited amount of arable land in tomorka farms, the use of innovations in activities is important. In this case, the homestead requires the use of new technologies by the landowners, which include crop irrigation, high-yielding vegetable and fruit varieties, greenhouses, productive livestock and other innovations. However, the effect of the use of innovation index on the income from farm activities is statistically significant at 1 percent ($p<.01$), and an increase in the use of innovation index by 1 percent increases the income from the activity by 32.9 percent. Also, the increase of the income from tomorka farm activities is statistically significant in 1 percent ($p<.01$) of tomorka farm area, occupation of the tomorka farm land owner in non-agricultural activities, education, gender, age, and number of family members. Although the presence of members under 3 years of age in the family household is statistically significant at 1 percent ($p<.01$), it has a negative effect on the increase in income from household activities.

Nowadays, the reforms carried out by the government, which reduce poverty in rural areas and provide long-term arable land to the population, are important for improving the welfare of the population. However, it is necessary to develop a system to support or encourage the use of innovations in homestead tomorka farms and arable land allocated to them for a long time.

REFERENCES

Agricultural statistics (2021). Retrieved from https://stat.uz/uz/default/press-relizlar/7658-2021-yil.

Banik, D. (2019). Achieving Food Security in a Sustainable Development Era', *Food Ethics, 4*(2), 117–121.

Bartlett, M. S. (1937). The statistical conception of mental factors, *British journal of Psychology, 28*(1), 97.

Bartlett, M. S. (1951). The effect of standardization on a χ 2 approximation in factor analysis, *Biometrika, 38*(3/4), 337–344.

Daoud, J. I. (2018). Multicollinearity and Regression Analysis, *Journal of Physics: Conference Series, 949*(1).

Ermakova, A. M. (2021), Features of introduction of innovative means in production activity of the agricultural enterprise, *IOP Conference Series: Earth and Environmental Science, 723*(3).

Giannakis, E., Efstratoglou, S. and Antoniades, A. (2018). Off-farm employment and economic crisis: Evidence from Cyprus, *Agriculture (Switzerland), 8*(3), 1–11.

Haggblade, S., Hazell, P. and Reardon, T. (2010). The Rural Non-farm Economy: Prospects for Growth and Poverty Reduction, *World Development, 38*(10), 1429–1441.

Hasanov, S. and Sanaev, G. (2018). *Non-farm employment trends and policy in rural areas of Samarkand region (Uzbekistan)*, *176*. Retrieved from www.iamo.de/en.

Kaiser, H. F. (1974). An index of factorial simplicity, *Psychometrika, 39*(1), 31–36.

Lanjouw P., F. G. (2001). Rural Strategy Background Rural Non-Farm Activities and Rural Development

From Experience Towards Strategy, *Strategy*, 1–68. Retrieved from https://documents1.worldbank.org/curated/en/903001468740446659/pdf/multi0page.pdf.

Larsen, R. and Warne, R. T. (2010). Estimating confidence intervals for eigenvalues in exploratory factor analysis, B*ehavior Research Methods, 42*(3), 871–876.

Law of the Republic of Uzbekistan. *About the farm(tomarka) (2021)*. Retrieved from https://lex.uz/pdfs/5351489.

Müller, M. L. and Campos, H. (2021). Open Innovation and Value Creation in Crop Genetics, The Innovation Revolution in Agriculture.

Muratov, S. A. (2021). The Economic Assessment Of Factors Affecting Small Household (Tomorka) In Rural Areas And Their Income, *Irrigation and Melioration, 2021*(3), 45–51.

Pardaev, K. (2021).Smallholderspreferences For Contract Design Attributes, A Case Of Samarkand Province, *Economics of education*, (5), 59–66.

Pelletier, B. *et al.* (2016). Linking rural livelihood resilience and food security: an international challenge, *Food Security, 8*(3), 469–476.

Reardon, T., Berdegué, J. and Escobar, G. (2001). Rural nonfarm employment and incomes in Latin America: Overview and policy implications, *World Development, 29*(3), 395–409.

Rummel, R. J. (1988). *Applied factor analysis*. Northwestern University Press.

Saydullaeva, F. J. (2021). Main Directions of Food Security in Uzbekistan (The Case of Samarkand Province), *Irrigation and Melioration, 2021*(3), 39–44.

UNICEF (2021). The state of food security and nutrition in the world 2021.

Wichers, C. R. (1975). The Detection of Multicollinearity: A Comment. *The Review of Economics and Statistics, 57*(3), 366.