

Mitigate the Effect of Poverty on Food Security through Education in Developing Countries: A Case of Pakistan

Zaib un Nisa^{1*}

¹Bahauddin Zakariya University, Multan, Pakistan

<p>Abstract: The current research study finds the relationship among food security, poverty status and education in Pakistan and also found the education in the mediating role to mitigate the effect of poverty on food security. The research study also analyzes the impact of livestock, foreign remittances, age of respondent and female head of household on food security. PSLM (Pakistan Social and Living Standard Measurement) survey data of 2019-20 is used for empirical estimation of the current study. Using PSLM has certain benefits, PSLM survey is conducted by a team of experts and the survey covers all the regions of Pakistan, it also covers almost all indicators relating to food security, education and poverty etc. Research study finds that livestock, education, foreign remittances and house head female have a significant positive impact on food security and poverty has a significant negative impact on food security. Poor people facing threat toward food security in Pakistan. On the same time the people who are poor but have education are able to mitigate the effect of poverty on the food security in urban and rural areas. The research study also finds that there are wide gaps among urban and rural areas of Pakistan, level of education in Pakistan. The research study also presents policy recommendations that help's government for better management of resources and to reduce poverty.</p>	<p>Research Paper</p>
	<p>*Corresponding Author: <i>Zaib un Nisa</i> Bahauddin Zakariya University, Multan, Pakistan</p>
	<p>How to cite this paper: Zaib un Nisa (2023). Mitigate the Effect of Poverty on Food Security through Education in Developing Countries: A Case of Pakistan. <i>Middle East Res J. Humanities Soc. Sci.</i> 3(3): 42-51.</p> <p>Article History: Submit: 01.09.2023 Accepted: 29.09.2023 Published: 03.10.2023 </p>
<p>Keywords: Food security, Poverty, Education, Live Stock, Pakistan.</p>	
<p>Copyright © 2023 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.</p>	

INTRODUCTION

Most important challenge in modern society is food security, with roughly 842 million persons worldwide believed to be unable to obtain sufficient and quality food on a daily basis. Dealing with enough and nutritious food, as the security of food and nutrition (SOFI) report points out, is a challenge and One of the most serious contests that society has nowadays on a global basis is the availability of nutritional food to support an energetic and healthy lifestyle. According to the study, the global population of hungry people climbed from 815 million (10.8 percent) in 2016 to 821 million (10.9 percent) in 2017 (FAO, 2018). For fight against poverty, Food security must be prioritised. If poverty is not addressed, it can spiral into a vicious cycle. Poverty prevents people from getting enough food, rejecting them the nourishment they require to remain fit. Malnutrition reduces output, decreases earnings, and maintains individuals in poverty. As an outcome, poverty is a source as well as a result of a food security lacking. Food security is vital for people's well-being as well as the economic growth that feeds it in a region. Despite Asia's economic strength and status as the world's growth

engine, the number of people suffering from malnutrition has constantly improved, 567 million in 2006 to 2008 as it was 526 million in 1995 to 1997 (FAO, 2011). Food security is a complex and tough topic. As the Asian example shows, economic growth alone is insufficient to provide food security. Even with the statistic that rapid extension has aided to decrease inclusive poverty in the region, the number of persons who are undernourished and hungry has risen. As an outcome, confirming food security should be a precedence to fight against poverty. To increase security of food and poverty reduction, a mix of long and short-term policies, social and economic policies, structural and macro policies are necessary.

While an inclusive policy agenda is necessary to promote security of food, policy actions can simultaneously address security in food and reduction of poverty. Basic policy strategies are five to think about: Food-based care nets and social guard programmes include increasing agricultural production, enhancing village development, Investing in human resources and fundamental infrastructure, as well as supporting agricultural research. Food security and poverty are

closely related. Individuals are more probable to develop ill and be impotent to work to harvest food or receive an income if they lack an income or the means to do so. The first MDG (Millennium Development Goal), was to end extreme hunger and poverty, made a connection between poverty and food security. There is still work to be done to make the world a more equitable place for everyone, even while the goal of cutting the rates of extreme poverty in half was achieved by 2000 and the goal of ending hunger is within reach by 2015. On October 16, World Food Day raises awareness of the importance of ensuring that everybody has constant financial and physical access to enough wholesome food to maintain an active and healthy lifestyle. The International Day for the Obliteration of Poverty, which takes on October 17, is a time to recognise the struggles of those who are poor, give them a voice, and encourage the rest of society to assist them in their fight against poverty. To keep programme costs under control, especially with limited fiscal headroom, cash distribution programmes should be limited to the poor. Because cash transfer programmes spend a large amount of resources, to achieve the best effects, they must be well-targeted. The least cost of a food bag that offers essential calories and nutrients to family associates should be used to compute transfers to recipient houses. This will help to guarantee that existing means are used effectively and that money transfers provide the bare least of nutrition to the impoverished.

To mitigate the negative effects of rising food prices, such cash transfers might be set to climb in lockstep with rising food prices. Even if food prices fluctuate, this will ensure that transfers remain their true value. Encourage families to adopt healthy eating habits and invest in their children's education, Household involvement in education, health, and nutrition programmes might be made a condition of cash transfers. Despite expanding population, global economic upheavals, and environmental difficulties, food security and poverty reduction remain at the highest of the global progress agenda. The United Nations developed 17 SDGs (Sustainable Development Goals) in 2015, with 160 goals to be met by 2030, following the Millennium Development Goals (MDGs). The SDGs represent the record aspiring effort to date, encompassing economic, social and environmental aspects (UN, 2015). SDG-1 purposes to "end poverty in all of its forms and manifestations," whereas SDG-2 aims to "end hunger, achieve food security and improved nutrition, and promote sustainable agriculture." (The United Nations, 2016). As a result, attaining SDG 1 "No Poverty" and SDG 2 "No Hunger" is serious for ensuring sustainable progress for upcoming generations, as these goals will assist in the achievement of a number of other goals as a result, finding fast solutions is vital before the poverty and food security scenario worsens. As a result, international development organisations have been urged to intervene with financial support as soon as possible to solve these problems (FAO 2006). Foreign money, in reality, has a lot of potential to assist achieve the SDGs,

particularly in areas of food security and reduction of poverty. In both MDG & SDG projects, aid from foreign has been touted the major instrument for alleviating poverty through breaking the cycle of poverty (Mahadevan & Hoang, 2016). Malik (1994) also discovered that assistance had a minor positive influence on overall food security. It was also acknowledged that foreign direct investment would be a crucial component of upcoming food security and reduction of poverty since it would create new jobs, raise incomes, and introduce contemporary technology and know-how (FAO, 2015).

According to the OECD Guidelines on Poverty Reduction, "poverty encompasses different dimensions of deprivation that relate to human capabilities, including consumption and food security, health, education, rights, voice, security, dignity, and decent work" (OECD, 2001). As a result, field poverty assessments focus primarily on a lack of financial means, with data on other forms of deprivation provided as needed. Almost all global poverty indicators, including the commonly used World Bank \$1 per day poverty line, reflect this. This was initially defined as spending in a nation comparable to 1 dollar per day in 1985 dollar exchange rates at buying power parity (Ravallion *et al.*, 1991). In 1985, to represent a range of poverty levels in emerging countries. In 1993, it was updated by choosing the middle of the bottom poverty levels from the same group of nations as in the original study. In 1993, a comparable line in PPP was roughly \$1.08 per day (Ravallion and Chen, 2000). Its attractiveness arises from its "knowledge of the relatively wealthy people who are the primary users of the metrics and the primary target for discourse based on them" (Deaton, 2000). Developing a rural-based growth strategy is the most effective way to combat poverty and food security. By unswervingly growing farmer profits and cutting food prices, the dual-track if offered by a Green Revolution to successfully reducing poverty and food security in Asia.

Rural development and expansion are the most effective means to reduce poverty, as Asia's history shows. Agricultural support should be prioritised in a new growth paradigm, bringing rural income opportunities up to pace with those in cities. As a result of structural change, the surplus labour mobility from rural to urban areas will be reduced. Rural incomes should be diversified, and urban-rural integration should be strengthened, in order to strengthen stability. Food security has improved as a result of the renewed interest in agriculture and global food security issues – 'food markets have become more balanced and less unpredictable in recent years' (FAO, 2013). Will Pakistan be able to feed itself in future? Several academics have utilized model-based scenarios to investigate the future effects of the major factors influencing food security in Pakistan. These researches present a variety of responses, resulting in a new question and the factors that these researches are based on. Are the results similar or do they differ? What are the important

factors influencing Pakistan's food security situation, and is the focus of the current research study? And how poverty status of households effects the food security in Pakistan. Is the poor people able to mitigate the effect of poverty on food security through education?

DATA AND MODEL FRAMEWORK

The dataset of 2019-20 of PSLM (Pakistan Social and Living Standard Measurements) is used to study the food security determinants in Pakistan. Sample

survey data is collected from the Bureau of Statistics Pakistan. It is created on sample of economic circumstances, expenditures, demographics and individual income levels. From the survey of 2019-20 a sample of 1300 is selected for research methodology. On the basis of evidence provided above following model has been developed. The dependent variable is Food Security, and five control variables are education, Poverty status, livestock foreign remittance and being a female as a household head.

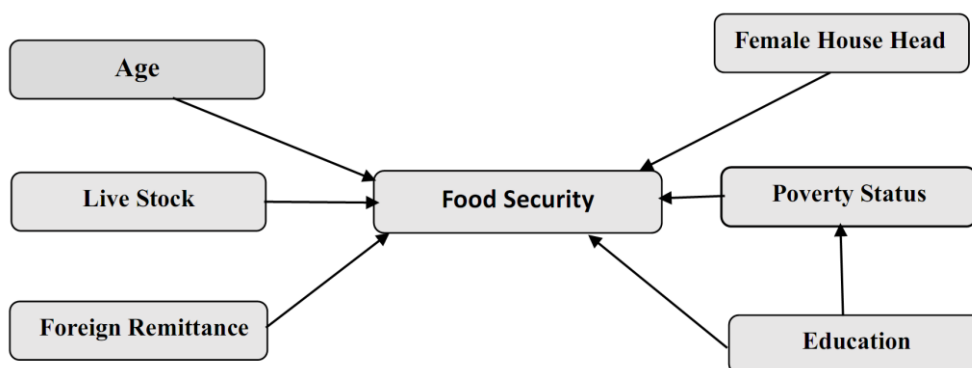


Figure 1: Conceptual Framework (Author's Contribution)

Functional relationship of the research study can be written as follows:

$$F_S = f (POV, FR, EDU, LS, FH) \quad (i)$$

$$F_S = f (POVEDU, FR, EDU, LS, FH) \quad (ii)$$

Econometric methodology can be written as:

$$FS_{it} = \alpha_1 + \beta_1POV_{it} + \beta_2FR_{it} + \beta_3EDU_{it} + \beta_4LS_{it} + \beta_5FH_{it} + \varepsilon_t \quad (iii)$$

$$FS_{it} = \alpha_1 + \beta_1POVEDU_{it} + \beta_2FR_{it} + \beta_3EDU_{it} + \beta_4LS_{it} + \beta_5FH_{it} + \varepsilon_t \quad (iv)$$

Where Fit represents the log regressed variable, α_1 shows the intercept, while β_1 's are coefficients.

Table 1: Measurement of Variables

Variables	Description	Data in PLSM	Measurement Scale/Coding PLSM	Recoding
FS	A household status of food secure or food insecure.	1. During the last 12 months, was there a time when you were worried you would not have enough food to eat because of a lack of money or other resources?	Yes=1 No=2	Yes=0 No=1
		2. During the last 12 months, was there a time when you were unable to eat healthy and nutritious food because of a lack of money or other resources?	Yes=1 No=2	Yes=0 No=1
		3. During the last 12 months, was there a time when you ate only a few kinds of foods because of a lack of money or other resources?	Yes=1 No=2	Yes=0 No=1
		4. During the last 12 months, was there a time when you had to skip a meal because there was not enough money or other resources to get food?	Yes=1 No=2	Yes=0 No=1
		5. During the last 12 months, was there a time when you ate less than you thought you should because of a lack of money or other resources?	Yes=1 No=2	Yes=0 No=1
		6. During the last 12 months, was there a time when your household ran out of food because of a lack of money or other resources?	Yes=1 No=2	Yes=0 No=1
			Yes=1	Yes=0

Variables	Description	Data in PLSM	Measurement Scale/Coding PLSM	Recoding
		7. During the last 12 months, was there a time when you were hungry but did not eat, because there was not enough money or other resources for food? 8. During the last 12 months, was there a time when you went without eating for a whole day because of a lack of money or other resources?	No=2 Yes=1 No=2	No=1 Yes=1 No=2
EDU	Household head's education (Intermediate or Higher)	Household head's education (Intermediate or Higher)	Education, Inter or high = 1 Otherwise = 0	Education, Inter or high = 1 Otherwise = 0
FH	Female as a household head	Female as a household head	Female=1 Male=2	Female=1 Male=0
POV	Poverty status	How much money in cash, did ... earn during the last year?	In Rupees	Total Income/365 Person not Poor if =>2.15\$=0 Poor if <2.15\$ =1
LS	Ownership of Land/ animals.	If land then how many acres? if animals then Number of animals?	Land in Acres Animals in Numbers	Have any of them=1 None of them=0
FR	Foreign remittances	income received by household in terms of foreign remittances without performing any economic activity	In rupees	Received=1 Not Received=0

Source: PLSM 2019-20

RESULTS AND DISCUSSION

Economic and social characteristics of respondents are presented in table 2. Logit model is used to check the family characteristic impact of food security

in Pakistan. Here food security is dependent variables and independent household variables are tested. The results shows that urban and rural demographics are different in the entire Pakistan. So clearly the food secure probability will vary across the region.

Table 2: Economic and social characteristics of the respondents

Characteristics	Frequency	Percentages
Age Range (Yrs)		
20-29	322	24.77
30-39	327	25.15
40-49	305	23.46
50-59	326	25.08
>60	20	1.54
Gender		
Male	993	76.38
Female	307	23.62
Marital Status		
Single	324	24.92
Married	945	72.69
Divorced	31	2.38

Source: Survey Data Findings

When people have enough, socially acceptable and nutritional food for live a productive and healthy life

above time, they are supposed to be food secure presented (Rhoe, Babu, & Reidhead, 2008). At the

national and regional levels, demonstrates the frequency, percentages and food security in households. For scheming and realizing policy alterations, a good

sympathetic of the scale of food security, education, female head household, foreign remittances, along with rural and urban areas are graphically

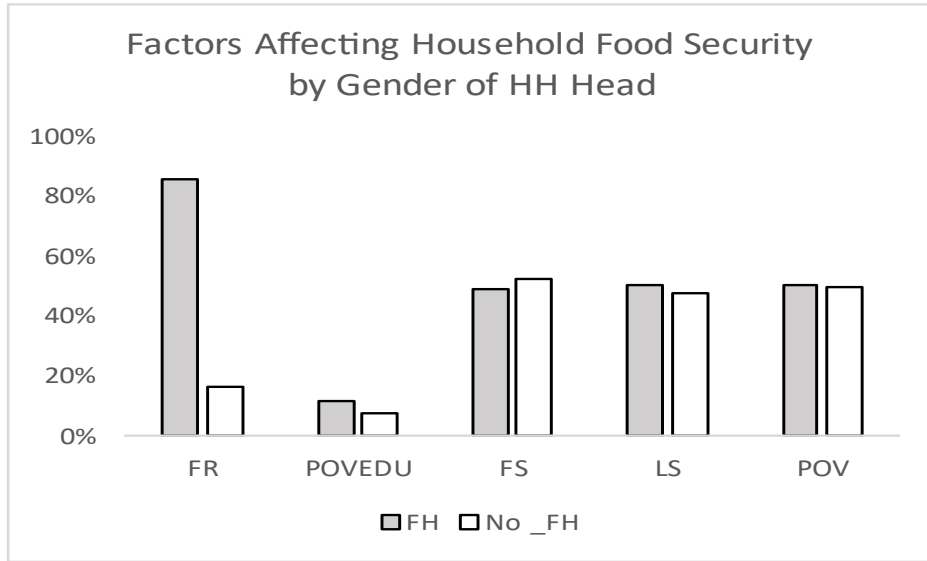


Figure 2: Factors Affecting Household Food Security by Gender of Head of Households

Figure 2 and 3 presented the factors affecting the food security by gender of household. And gender of head of household is taking as female, showing the

significantly affecting the food security along with other factors.

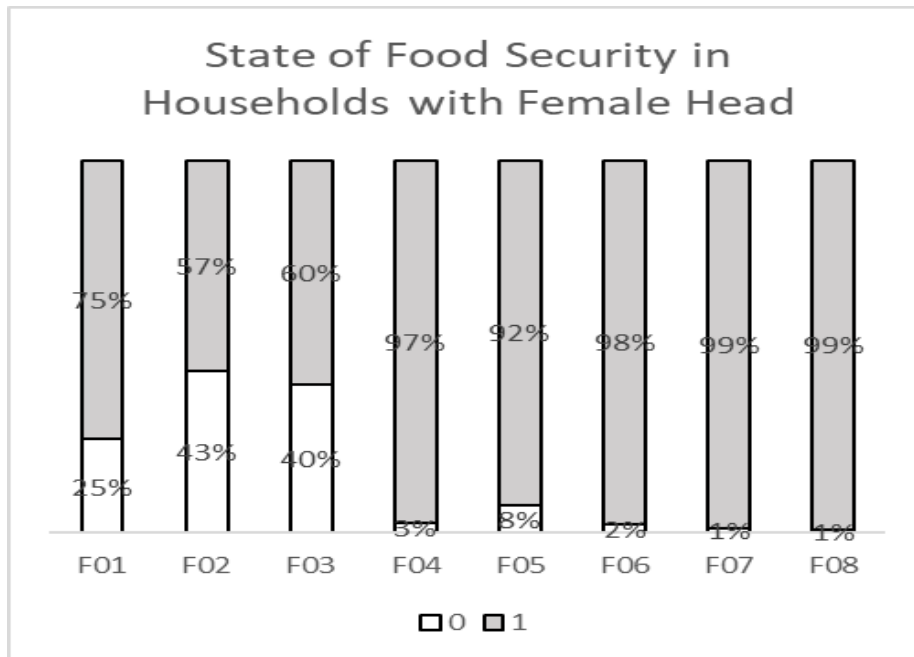


Figure 3: State of Food Security in Households with female head of Household

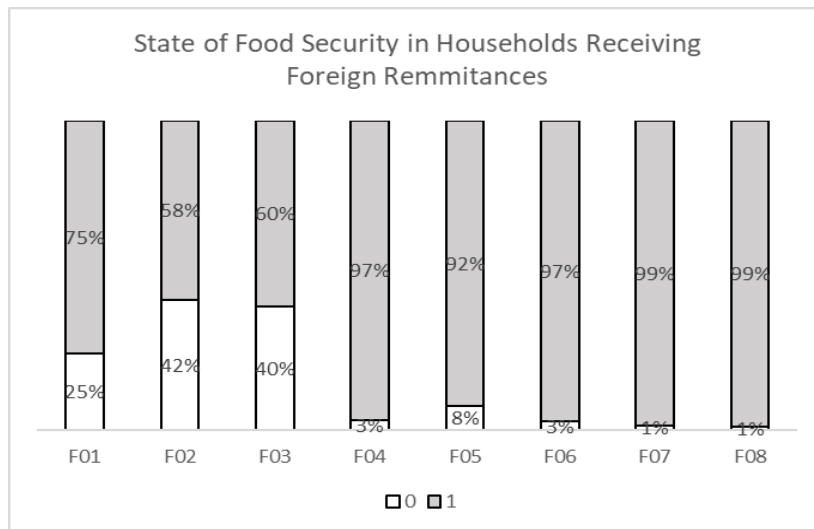


Figure 4: State of food Security in Households Receiving Foreign Remittances

Figure 4 stated the food security according to the receiving the foreign remittances by the households.

Households receiving the foreign remittances have different effects on different indicators of food security.

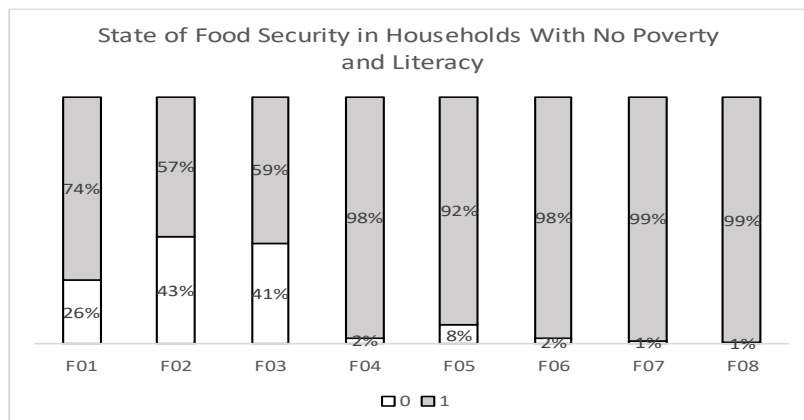


Figure 5: State of Food Security in Households with No Poverty and Literacy

Figure 5 showed the data facts about the households where the households head have education and not poor.

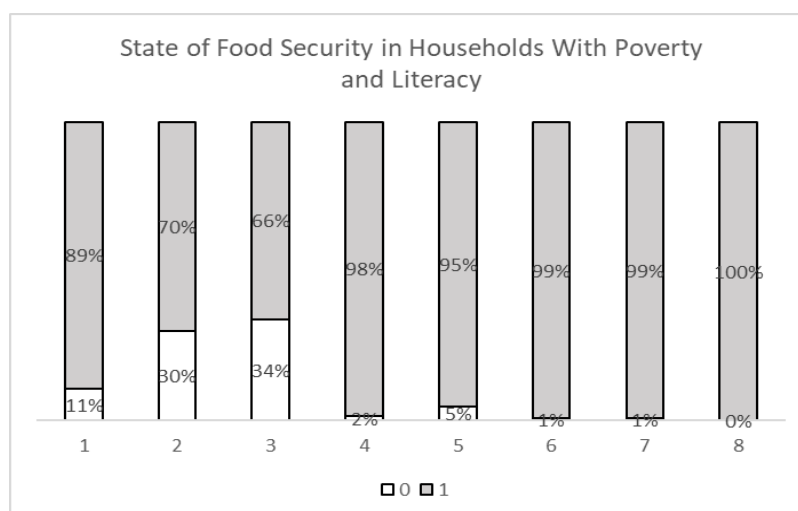


Figure 6: State of Food Security in Households with Poverty and Literacy

Figure 6 explains the situation of the poverty along with education and significantly mitigate the effect of poverty on food security.

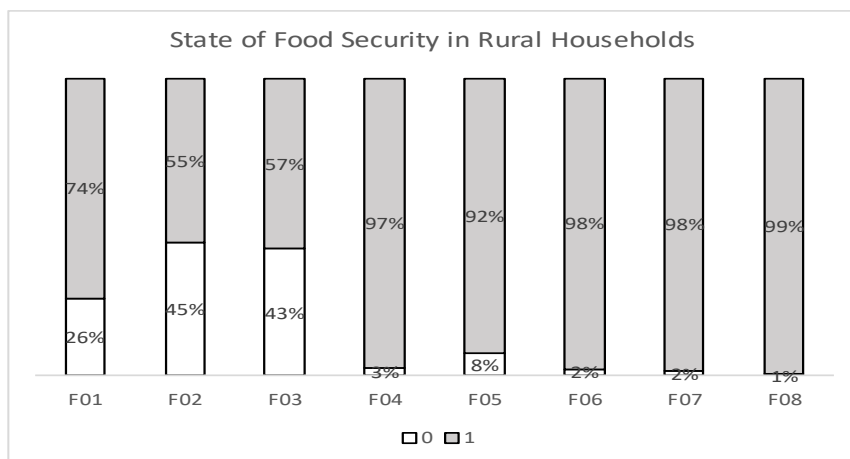


Figure 7: State of Food Security in Rural Households

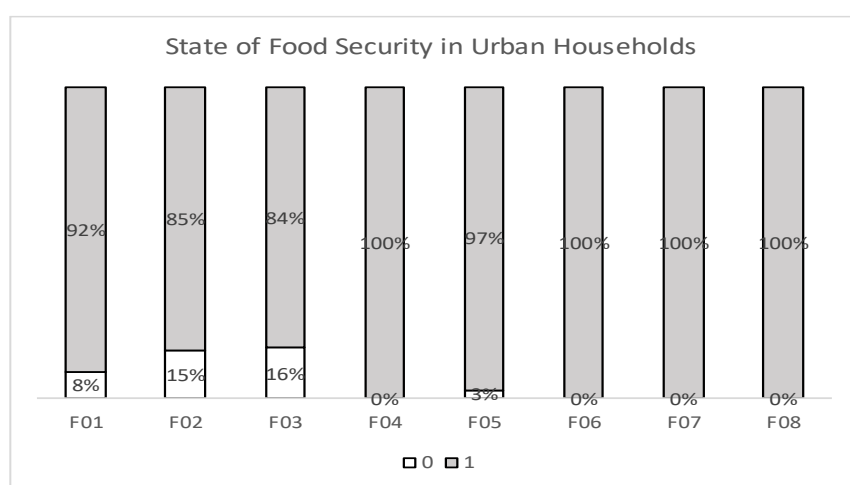


Figure 8: State of Food Security in Urban Households

Figure 7 and 8 showing the state of food security in the urban and rural areas. And highlights a noticeable difference between the situation of food security in rural and urban areas. Food security is an important concern for both rural and areas of Pakistan. Pakistan is food secure despite having an agrarian economy, with agricultural contribution of 20.88 percent in GDP and almost employing 43.5 percent of the entire labor-force. Household, Individual and state well-being are all measured in terms of food security. Individual output is reduced, and economic growth of country is just stifled. As an outcome, assessing security of food and its core reasons in Pakistan is crucial in order to address this issue. Most important factors who have influence on food security in Pakistan are presented in Table 3. And

4. Research study showed that age, education, remittance, livestock and female head all have plays a role in determining the food security at (p0.001). The heads with greater education level are mostly food secure. Competency, working efficiency and income diversification are explained in the position of education, which is creating an environment which is favorable for children for long-term aims. As an effect, schooling diminish a family's probability of food security. A poor person who is educated able to mitigated the effect of poverty on food security. The result bear persons of Tefera (2006) and Aschalew (2006), who establish that by increasing education will help to increase food security.

Table 3: Effect of Poverty on food Security

Variable	Coefficients	S.E.	Odd ratio
Age	0.22	0.131	1.077
Education (Not Educated as REF)	1.29	0.221	1.73***
Live Stock (Not Have Livestock as REF)	1.33	0.222	2.27***
Foreign Remittances (Not received as REF)	1.88	0.216	5.92**
Female Head (Male as REF)	1.34	0.224	2.42***
Poverty (Non-Impoverished as REF)	-1.14	0.220	0.49**
Constant	-2.31	0.235	0.24
No. of Observations	1300		

Pseudo R ²	0.61
LR chi2(8)	1091.60
	(0.000)
Model specification	Well specified*
Overall-Model Prediction	82.31
Area below the ROC	0.81**

Source: PLSM 2019-20, Note: Significance 1%***, Significance 5%***, Significance 10%*

Table 4: Mitigate the Effect of Poverty on Food Security through Education

Variable	Coefficients	S.E.	Odd ratio
Age	.001	.005	1.001
Education (Not Educated as REF)	1.253	.298	3.502 ***
Live Stock (Not Have Livestock as REF)	.943	.209	2.567 ***
Foreign Remittances (Not received as REF)	1.68	.219	5.389 **
Female Head (Male as REF)	1.18	0.224	3.280 ***
Poverty (Non-Imperished as REF)	-1.34	.287	.260 ***
Poverty*Education	.296	.401	1.261 ***
Constant	-1.86	.294	.154
No. of Observations	1300		
Cox & Snell R Square	.560		
Nagelkerke R Square	0.745		

Source: PLSM 2019-20, Note: Significance 1%***, Significance 5%***, Significance 10%*

Livestock has a damaging force on family food security. When compare to not have livestock, it show that keep livestock increase a family's probability of suitable food secure by 2.27 times more to be food secure who do not have livestock (Bashir et al., 2013) reported similar results. These consequences are like to those stated by Rutsch (2013) and Najafi (2013). The review also considers what it's like to be a family's head. According to the study, female-headed families have lower poverty rates than male-headed families. Remittances received from abroad have positive impact on food security. If remittance is received by household the odd ratio can be interpret. It has 5.92 period additional probability of suitable food secure than persons who do not get overseas money. These answer are reliable with Uraguchi's (2009). Poverty is a more substantial adverse determinant of Pakistan's food security, according to the study. When a family has female head, their chances of being food secure are 2.42 times more food secure as compared to who have male

as a head of household. The shock of poverty on food security is also examined in this study. The poverty line is Rs.1, 745/-.Poverty coefficients reveal that poverty has a great harmful impact on family food security. Poverty and food security have a strapping negative link in Pakistan. Food security capacity have been used as a proxy for poverty in a variety of research (Klaver, 2019). These result are similar to individuals of Malik (2019) and Brisson (2019). The similar criterion are tacit at the nationwide level to study the determinants of food security in rural and urban areas. Table 4.2 present an outline of the conclusion. The result at the rural and urban are statistically reliable with the answer at the nationwide level. The similar criterion is tacit at the nationwide level to study the determinants of food security in rural and urban areas. Table 5 & 6 present an outline of the conclusion. The result at the rural and urban are statistically reliable with the answer at the nationwide level.

Table 5: Effect of Poverty on food Security in Rural and Urban Areas

	Urban		Rural			
	Coefficients	P-Values	Odd Ratio	Coefficients	P-Values	Odd Ratio
Age	-0.009	0.47	.991	0.003	0.615	1.003
Education (Not Educated as REF)	1.533	0.01	4.634	1.418	0.000	4.130
Live Stock (Not Have Livestock as REF)	0.163	0.77	1.177	1.042	0.000	2.836
Foreign Remittances (Not received as REF)	1.190	0.03	3.286	1.181	0.000	3.257
Female Head (Male as REF)	0.699	0.09	2.012	1.765	0.000	5.843
Poverty (Non-Imperished as REF)	-1.440	.012	.237	-1.172	0.000	0.310
Constant	-0.549	.452		-2.152	.000	
No. of Observations		800			500	
Cox & Snell R Square	0.430			0.574		
Nagelkerke R Square	0.575			0.765		

Source: PLSM- 2010-20

Table 6: Mitigate the Effect of Poverty on Food Security through Education

Urban	Rural					
	Coefficients	P-Values	Odd Ratio	Coefficients	P-Values	Odd Ratio
Age	-.011	0.397	0.989	0.003	0.617	1.003
Education (Not Educated as REF)	0.529	0.035	1.698	1.378	.000	3.966
Live Stock (Not Have Livestock as REF)	0.125	0.030	1.133	1.045	.000	2.845
Foreign Remittances (Not received as REF)	1.340	0.023	3.817	1.182	.000	3.262
Female Head (Male as REF)	0.673	0.027	1.961	1.763	.000	5.828
Poverty (Non-Imperished as REF)	-2.265	0.004	0.104	-1.211	.000	0.298
Poverty* Education	1.871	0.002	6.497	0.077	.060	1.080
Constant	0.027	.974	1.027	-2.127	.000	0.119
No. of Observations		800			500	
Cox & Snell R Square	0.444			0.577		
Nagelkerke R Square	0.595			0.768		

CONCLUSION AND POLICY RECOMMENDATIONS

Using PSLM data from the Statistic Bureau in Pakistan for 2019-20, the current paper investigates the drivers of Pakistan's food security. Rural communities have an advanced level of food security than city areas. In addition, the paper reveals several socioeconomic individuality of food-secure family. Food security is better in bigger households with a higher reliance ratio. The growing number of dependents distorts household food costs and reduces food consumption. Increased household head education improves wages, skills, and household management, increase food security. Furthermore, household income is produced from a variety of jobs and industrial activities. The findings suggest that unpaid family employees have weaker food security than those who work for household heads. Agriculture and hunting-related households consume less food because they produce their own food. Senior politicians and professionals' households are also additional food secure than other jobs, particularly the most basic. The major purpose of the research is to use logistic regression to find predictors of food security. Food security is adversely and significantly connected to tutoring, livestock ownership and female household heads, while it is positively linked to poverty, according to the statistics. According to the study, poverty is the fundamental reason of household food security in Pakistan, since it is not only an issue, but it also negatively impacts every aspect of society's well-being, creating a vicious circle. It is recommended that education be extended and made more affordable, especially in rural areas and for low-income families. Supporting scholarship programmes and boosting knowledge about family planning can also help to lower household size and dependency ratios, especially among the poor. Finally, as a means of enhancing poor people's talents, programmes that encourage human growth in general should be emphasized. According to the answer, efficient public interference can improve nourishment, health and education, in even little income families. This is advantageous in and of itself, but it also helps to boost the overall growth rate.

FUTURE DIRECTIONS

The following future directions are made:

- In order to encourage families to plan for reduced family sizes, especially in female-headed households, it is crucial to educate the community about family planning. The household size was a significant factor of household food security. Additionally, by doing this, more useful data will be gathered, which will be very helpful for future studies.
- The Pakistani government needs to put more plans in place to deal with the problem of household food insecurity. By holding seminars and support groups where people may receive training to guarantee that they increase their nutritional consumption and access to high-quality meals, the government should empower the community. Additionally, by doing this, more useful data will be gathered, which will be very helpful for future studies.
- Additionally, the region needs entrepreneurial programmes to encourage households to grow their own food and sell it. This may serve as a strong motivator for earning additional revenue that the household need. Additionally, by doing this, more useful data will be gathered, which will be very helpful for future studies.

REFERENCES

- Ahluwalia, M. S. (1985). Rural poverty and agricultural performance in India. *Journal of Development Studies*, 14, 298-323.
- Anand, S., and Ravallion, M. (1993). Human development in poor countries: On the role of private incomes and public services". *J. Econ. Perspectives*, 7, (1) 133-150.
- Aschalew, F. (2006). Determinants and dimensions of household food insecurity in Dire Dawa city, Ethiopia (Unpublished Masters' Thesis). Alemaya University, Ethiopia.
- Brisson, D. (2019). Neighborhood social cohesion and food insecurity: A longitudinal study. *Journal of the Society for Social Work and Research*, 3, 268-279.
- Datt, G., and Ravallion, M., (1998). "Why Have Some Indian States Done Better than Others at Reducing Rural Poverty?" *Economica* 65, 17-38.

- Deaton, A. (2000). Counting the World's Poor: Problems and Possible Solutions". Research Programme in Development Studies, Princeton University. August 2000, Revised December 2000. Processed.
- FAO. (2015). The State of Food Insecurity in the World 2015, FAO.
- FAO. (2006). The State of Food Insecurity in the World 2006, FAO.
- FAO. (2011). The State of Food Insecurity in the World 2011, FAO.
- FAO. (2018). The State of Food Insecurity in the World 2017, FAO.
- IMF, OECD, UN, WB, (2000), "A Better World for All. Progress towards the international development goals". http://www.paris21.org/betterworld/pdf/bwa_e.pdf.
- Klaver, W. (2019). Underweight or stunting as an indicator of the MDG on poverty and hunger, Manuscript submitted for publication.
- Mahadevan, R., & Hoang, V. (2016). Is there a link between poverty and food security? *Social Indicators Research*, 128(1), 179-199.
- Malik, S. (1994). "Poverty in Pakistan: 1984-85, 1987-88 and 1990-91". Processed. IFPRI, Washington D.C.
- Malik, S.J. (2019). *Remarks on food security: International experience and cooperation*, Paper presented on Seventeenth Sustainable Development Conference of SDPI, Islamabad.
- Najafi, B. (2013). *An overview of current land utilization systems and their contribution to agricultural productivity*, Paper presented at the seminar on Impact of land utilization system on agricultural productivity of Agricultural Productivity Organization, Iran.
- ODI. (2000). "Will Growth Halve Global Poverty by 2015?", by Lucia Hammer, John Healey and Felix Naschold, 8 July 2000, ODI Poverty Briefing. <http://www.odi.org.uk/briefing/pov8.html>
- OECD. (2001). DAC Guidelines on Poverty Reduction.
- Ravallion, M, G., Datt and van de Walle, D. (1991). "Quantifying Absolute Poverty in the Developing World". *Review of Income and Wealth*, 37, 345-361.
- Ravallion, M., and Chen, S. (1997). "What Can New Survey Data Tell Us about Recent Changes in Distribution & Poverty?" *World Bank Economic Review*, 11(2).
- Ravallion, M., and Chen, S. (2000). "How did the world's poorest fare in the 1990s?" <http://www.worldbank.org/research/povmonitor/publications.htm>
- Rutsch, H. (2003). The role of sustainable fertilization-global food security. *UN Chronicle*, 40(3), 2-14.
- Tefera, E.S. (2011). Determinants and dimensions of household food insecurity in Addis Ababa city, Ethiopia, Unpublished Master's thesis, University of Malawi, Malawi.
- Timmer, C.P. (1997). *Food Security Strategies: The Asian Experience*. FAO: Rome
- Timmer, C.P. (1997a). "Food Security Strategies: The Asian Experience". FAO Agricultural Policy and Economic Development Series, No. 3. FAO.
- United Nations (UN). (2015). *The 2010 Revision of World Population Prospects*. New York.
- Uraguchi, Z. B. (2010). Food price hikes, food security, and gender equality: Assessing the roles and vulnerability of women in households of Bangladesh and Ethiopia. *Gender and Development*, 18(3), 491-501.