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The Role of Middle Man in the Marketing of Agricultural Goods in Pakistan: A Case Study of District Swat

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Abstract: *This study used primary data which is collected from 96 respondents through a well-organized questionnaire from the different tehsils of district Swat. For the estimation of the results this study used ordinary least square regression with rebuts standard errors. The study's findings demonstrated a favourable correlation between the ith farmer's income and factors such as their qualifications, the size of their family, their job as a middleman, and their access to markets. Although there is a negative correlation between the output of wheat and rice and the income of the farmer, there is a positive correlation between the production of vegetables. According to this study, providing financial assistance to farmers should be the policy's main objective. The government ought to provide agricultural credits and subsidies to the farmers in the research region. This should provide knowledge, assistance, and agricultural inputs to the farmers.*

Key Words: Middleman, Agricultural Goods, District Swat

JEL Classification:

Introduction

A primary issue facing small-scale farmers in Pakistan is their limited capacity to get their goods to larger markets, coupled with inadequate storage systems that compromise product quality. As a result, they need commission agents to sell. A farmer oversees the farming operations, which include planting and harvesting crops, tending to livestock and fisheries, managing smallholders' contributions to the farm, or working for a set amount of money on the farm (Irawan, 2023). 2.2 billion People are supported by agriculture, which also manages 85% of farms globally. For 2.5 billion people globally, agriculture provides 86% of their income. It also creates jobs for the 1.3 billion smallholders and landless people. It is necessary to acknowledge the limited capacities of smallholders in areas like technology, money, risk, and unstable resource management (Odunga, 2019). Kalejaiye, et al (2021) studied the actions of middlemen and their role in the impoverishment of African rural farmers. While intermediaries are essential in transforming and delivering agricultural products from producers to markets and end users, their operations need to be sufficiently regulated. Rural farmers are routinely rendered impoverished by the conduct of middlemen; deliberate efforts must be made to alter this

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perception. Government control over the agricultural value chain and farmer empowerment is essential for enhancing farmers' well-being.

The middleman acts as a mediator between the farmer and consumers. But in district Swat, this facilitator job is thought to occasionally be exploitative, which hurts farmers' interests. Due to their lack of direct market access, the farmers sell their goods to middlemen for a lower price. The majority of farmers are small-scale farmers in district Swat who lack the resources to pay for the basic demands of their clients. Due to this, they sell their goods to these middlemen as these farmers have no access to the big market and as well as they have no financial support for the product, therefore the middleman easily exploited the poor farmers of district swat.

The farmers' inability to obtain quick loans is one of the things causing this exploitation. They occasionally find it impossible to wait for the crop to reach the harvesting stage. The middleman usually seizes this chance and gives that cash against the anticipated crop at a price significantly below the market rate (Aga, 2018).

District Swat is one of the most beautiful districts of Khyber Pakhtunkhwa, Pakistan, famous for its beautiful rivers, and hills, and also considered a paradise for the variety of fruits, especially for peaches, peaches and apples (khan et al,2019).

Material and Method

This study will use the primary data which will, be collected from five tehsils of district Swat, Khyber Pakhtunkhwa Pakistan through a well-structured questionnaire. The questionnaire will be designed according to the objective of the study and will be applied to the logistic linear regression model.

To determine the sample size from the entire population using a 95% confidence level and a 10% confidence interval. Solvin's formula (Cochran, 1977) will be applied in this case.

$$N = \frac{x^2 p(1-p)}{b^2} \qquad (1)$$

Where b is the confidence interval, N is the sample size, x is the confidence level, and p is the sample choice. Therefore, according to the formula the data will be collected from 96 respondents to find out the relationship between the local farmers and middlemen of the district swat. For this purpose, this study will follow the study of Sudrajat et al (2021).

The Statistical software for social sciences (SPSS) has been used in this work. The questionnaire was pre-tested by a small sample of respondents in order to identify any errors or problems. Consequently, adopt primary data collection methods Qualitative or quantitative in character by creating structured questionnaires and gathering data from 96 sample respondents in order to examine the connection between the influence of intermediaries and farmers in the event of swat.

This study will use the Logit model to find out the intervention of middlemen in the marketing of agricultural goods and its effects on the income of the farmers. When the explanatory factors cause to decrease in the income of the farmer, the binary dependent variable maintains a value of one; otherwise, it maintains a value of zero Sudrajat et al (2021).

$$I_i = \beta_0 + \beta_{1Family\ members} + \beta_{2education\ of\ the\ farmer} + \beta_{3\ role\ of\ midle\ man} + \beta_{4\ kinds\ of\ craps} + \beta_{5\ market\ access} + U_i$$

Where I am a dummy variable and will keep the value 1 if the Income of the farmer change because of the explanatory variables and will zero otherwise, similarly, $\beta_{1Family\ members}$ represent the family members of the farmer, $\beta_{2education\ of\ the\ farmer}$ represents the education level of the farmer, $\beta_{3\ role\ of\ middle\ man}$ representing the role of middle man in the agriculture marketing, $\beta_{4\ kinds\ of\ craps}$ representing the kinds of crops which affect the farmer's income level while $\beta_{5\ market\ access}$ representing the knowledge of the farmers after the access to the market and U_i representing the error term.

Results and Discussions

Demographic Information of the Respondents

The demographic data displays the personal details of the sample respondents, such as name, age, education, marital status, occupation, and farming experience. Table 1 shows the total Demographic information of the respondents in detail.

The tables showed that eighteen percent of the respondents are aged 15 to 30 years old, 48.95% of the respondents are from age up to 45 years old, 26.04 % of the respondents are up to 60 years old and only 6.26 % respondents are older than 61 years old.

Similarly, these 96 farmers' households have 314 females and 454 males respectively. Only 8 percent of the respondents are totally illustrated, while 2 percent of the respondents have primary education 13 percent have eight years of education, 20 percent of the respondents have 10 years of education, 21%,5%,26% and 1% of the respondents have F.A, B.A. M.A. and M.Phil. Qualification respectively.

Table 1

Demographic information of the respondents

Description	Frequency Age configuration	Percentage
15-30	18	18.75 %
31-45	47	48.95 %
46-60	25	26.04 %
61 and above	6	6.26 %
Respondent Family Members		
Female	314	41 %
Male	454	59 %
Qualification of the Respondents		
Illiterate	08	8.33 %
Primary	02	2.08 %
Middle	13	13.54 %
S.S.C	20	20.83 %
F.A	21	21.87 %
B.A	05	5.20 %
M.A	26	27.08 %
M.PHIL	01	1.04 %

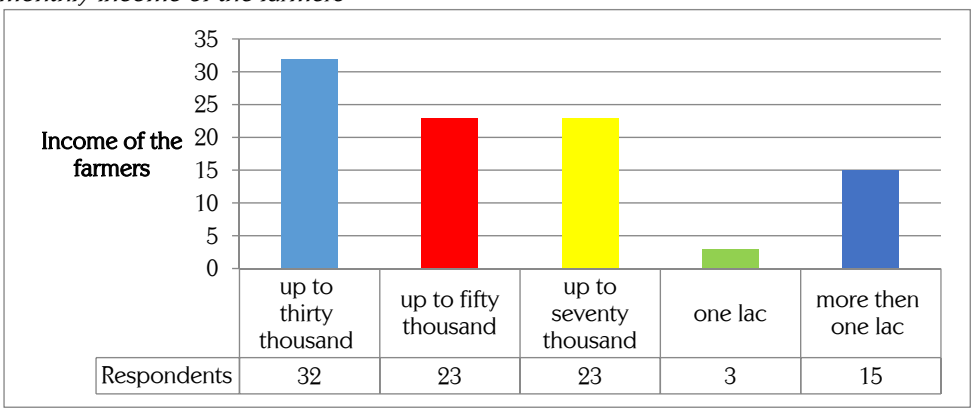
Source: author's calculation based on survey data

Monthly Income of the Farmers

The monthly income of the farmer is different which is shown in figure 2. The figure showed that 32 farmers have about thirty thousand incomes per month, while 23 farmers have fifty thousand incomes per month. Similarly, 23 farmers have seventy thousand incomes per month, while 3 farmers have one lac and 15 farmers have more than one lac income respectively.

Figure 2

The monthly income of the farmers



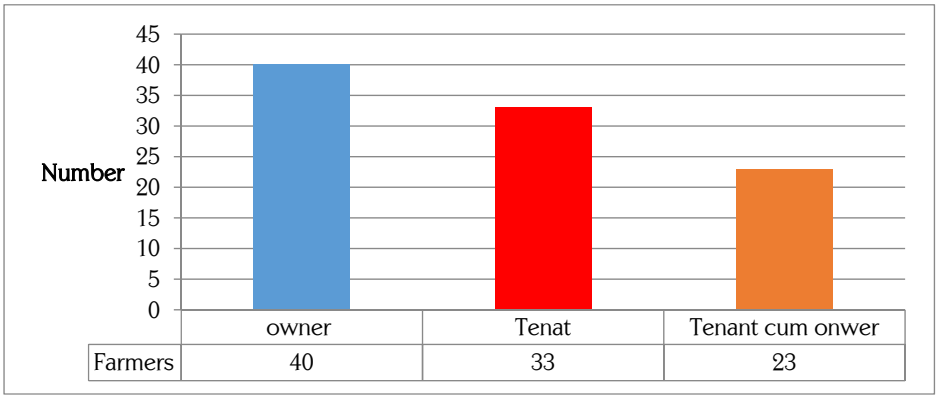
Source: author's calculation based on survey data

Tenancy Position of the Farmers

The figure showed that 40 farmers have their own land while 33 farmers are tenants while 23 farmers are tenant cum owners.

Figure 3

Tenancy positions of the farmers



Source: author's calculation based on survey data

Regression Results

Table 3 presents the estimated ordinary least, square regression findings with rebuts standard errors. The table shows that the income of the farmer and the qualification of the farmer have a positive relationship with each other, which means that a 1 percent increase in the farmer's education will increase the income of the farmer by 2 %, the result is also significant with 1 % level of, significance. The results of the study are also fellow the results of Kumar et al (2020), Van Ho et al (2019) and Kangogo et al (2021).

Farmers' farming skills and productivity are enhanced by education. The empirical results of this study confirm that when farmer education levels in district Swat increase, so does the level of production in the agriculture sector. Additionally, farmers will use all other related equipment efficiently and will also make better use of the limited amount of available resources.

Table 3 shows that the income of the ith farmer and the family size of the ith farmer is a positive relationship means that a 1 percent increase in the family size of the farmer will increase the income of the ith farmer by 2 per cent. This result is also significant at a 1 percent level of significance. This result is also following the results of the study by Hu, Y et al. (2022) and Okello (2019).

In district Swat, the farmers' income level is negatively impacted by their growing family sizes. However, the main industry in the Swat district is agriculture, which provides the raw ingredients for many downstream industries. Compared to agriculture, manufacturing demands greater talent. As a result, when families grow, so do the number of farmers; yet, this leads to a very slow increase in agricultural sector output.

The table showed that the income of the ith farmer has a positive relationship with the intervention of the middleman means that an increase in the intervention of the middleman will lead to an increase in the income of ith farmer by 15 percent. This result is linked with the study of Liu et al (2021) and Singha.

Often referred to as arhtiyas or commission agents, middlemen manage the auction and the transportation of harvested products to purchasers by acting as a middlemen between farmers and those looking to purchase their produce. They offer vital services including transportation, storage, and financing in the process.

Table 3 also shows that the income of the farmer and the market access have a positive relationship, this means that if the farmer has access to the market, it will lead to an increase in the income of the farmer by 8 percent. This study is also following the results of Nandi et al (2021), Otekunrin et al (2019) and Amare et al (2019).

Table 3 showed if the farmer sows wheat, it will lead to a decrease its income by 13 percent. If a farmer sows rice, it will decrease the ith farmer's income by 5 percent and similarly, if the ith farmer sows vegetables, the income of the ith farmer will increase by 16 percent. These results follow the results of Khan et al (2018), Platel et al (2020) and Khan et al (2019).

Wheat production in the Swat Valley is negatively impacted by the low temperatures, as the crop does not achieve maturity and is harvested prematurely, resulting in its usage as animal feed (Chaudhry, 2004). Climate changes have an impact on the production of the agriculture sector. A 50% decline in wheat production is caused by a rise in temperature and a significant decrease in rainfall, which also affects the district's overproduction.

Similarly, rice has also a negative relationship with the income of the farmer. Different from other grains, rice requires constant irrigation despite being a semi-aquatic plant. Thus, rice production in the Swat district constantly requires steady and reliable surface water supplies. The production of vegetables has a positive relationship with the income of the farmer.

The production of apples, peaches, persimmons, apricots, pears, plums, and walnuts is well-known in District SWAT. The area is also well known for producing soybeans, tomatoes, potatoes, onions, and honey. As a result, in 2020, the district swat generated 99740 tonnes of vegetables, which benefits the production of the agriculture sector.

Table 3

Regression results

Variable	Co-efficient	Standard error	Probability
Constant	3.976	0.169	0.000
Qualification of the ith farmer	0.0232	0.006	0.000
Family size of the ith farmer	0.021	0.009	0.012
middleman interaction if Yes =1 No=0	0.153	0.137	0.001
Market access if	0.0889	0.069	0.002

Variable	Co-efficient	Standard error	Probability
Yes =1 No=0			
Wheat if Yes =1 No=0	-0.134	-0.126	0.03
Rice if Yes =1 No=0	-0.0523	0.083	0.12
Vegetable if Yes =1 No=0	0.1634	0.037	0.000
F-statistics	8.55		0.000
R- square		0.22	
Root mean square		0.26	

Source: author's calculation based on survey data

This study collected data from 96 respondents of which thirty respondents were selected from tehsil Babozai, fifteen respondents from tehsil Barikot, and fifteen from tehsil Charbag, while twenty from tehsil Kabal and sixteen respondents were selected from tehsil Khwazakhila respectively.

The results show that eighteen percent of the respondents are aged 15 to 30 years old, 48.95% of the respondents are from the age up to 45 years old, 26.04 % of the respondents are up to 60 years old and only 6.26 % respondents are more 61 years old.

The study also explained the descriptive statistic of the study variables and found that the mean income of the i^{th} farmer is 47656 Pakistani Rupee (PKR) while the standard deviation of the income of the i^{th} farmer is 37556 Pakistani Rupee (PKR). Table 2 also shows that the mean of the qualification of the ith farmer is 11 years of education, while the standard deviation of the qualification of the ith farmer is only 4 years of education. The results also explained that the mean of the role of the middleman is 0.66 while its standard deviation is 0.2. Similarly, the mean of the market access of the ith farmer is 1.77 while its standard deviation is 0.422. The table also showed that 43 % of the farmers are producing wheat, 30 % producing rice and only 27 percent producing vegetables.

The regression result presents the estimated ordinary least square regression findings with rebuts standard errors. The results showed that the income of the farmer and the qualification of the ith farmer, family size, with the intervention of middlemen and the market access of the ith farmer, have a positive relationship with each other. Wheat production and rice production have negative While vegetables have a positive relationship with the income of the farmer.

Recommendation of the Study

This study's empirical findings support the following recommendations:

The goal of the policy should be to give farmers financial help. The farmers in the research area should receive agricultural credits and subsidies from the government. To ensure that farmers are very satisfied with their agricultural produce, the government should develop official regulations for middlemen in agricultural marketing. In every village, the government ought to set up agriculture centres and farmers' information centres. The farmers should receive information, support, and agricultural inputs from this. In addition to enjoying new agricultural policies such as approved seeds, certified fertilizers and spirits, pest and insecticides for various diseases, and appropriate timing information for cultivation and harvesting, farmers should be able to gather in a pleasant environment.

Together, the government and non-governmental organizations help small farmers supply the essentials for their agricultural operations. In order to preserve perishable agricultural output and provide a high return on investment from its agricultural products, the government must set up an adequate storage infrastructure. Because of the market's excess supply of agricultural products, price fluctuations, and an inadequate balance between marketing and transportation.

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