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AGRICULTURE INVESTMENT IN PAKISTAN

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Abstract

Agriculture plays the vital role in GDP of Pakistan and more ways are producing to increase the agriculture in Pakistan. Rapidly increasing population require more food and consuming meat to overcome the hunger prevailing in the developing countries. the government and the researchers introducing techniques of agriculture biotechnology to promote the crop improvement more production of staple needs. A survey was taken with the help of closed ended questionnaire to check the people perception. This turns out that some people know about the difficulties, innovation, and investment in agriculture sector but most of the people are unaware about agriculture sector even if they are educated. Government need a to invest on agriculture sector with powerful and innovative tools like using biotechnology techniques to increase the productivity as our country is agriculture based and to increase GDP, strengthen of agriculture is necessary. For this research and to analyze the impact of agriculture on economy, we perform the chi square test. Moreover, Chi-square arithmetic is one way to show the relationship between the variables of the two categories. The p value will tell you whether your test results are important or not. While analyzing the impact of agriculture and subsectors of agriculture on economic growth, we noticed a pattern that our overall agricultural output is not seeing the growth as compared to the potential it has. When Pakistan came into being the contribution of agriculture in GDP was more than 50% but now it has come down to only 21%.

Keywords: Agriculture, crop improvement, invest, technology, impact, chi-square test.

Agriculture Investment In Pakistan

Pakistan may be a food insecure and water scarce country. Key reasons for this subdued growth include falling world costs for commodities created within the country, higher price of production in crop and eutherian sectors, slow rate of Agro-technology innovation, weak adoption of progressive farming techniques, problems concerning quality and quantity of staple provides, weak promoting, trade restrictions in agriculture, pest and livestock illness, slow and inadequate disbursements of agriculture credit. While the crop sector's price adscititious declined over time, eutherian production steady gained this is often partly attributed to repeated floods and droughts in many components of the country that have hampered the gain of the crop sector farmers.

Introduction:

Agriculture plays the vital role in GDP of Pakistan and more ways are producing to increase the agriculture in Pakistan. Rapidly increasing population require more food and consuming meat to overcome the hunger prevailing in the developing countries. the government and the researchers introducing techniques of agriculture biotechnology to promote the crop improvement more production of staple needs. Agriculture department are working more on cotton and rice because these are the most productive crops in Pakistan, and they work to make them pest resistance insect resistance(Zafar, 2007) . As an agriculture land, Pakistan needs more agriculture revolution to meet the country need but as (Zafar, 2007)said that despite of research Pakistan is unable to produce GM crops locally or released the imported GM in the country. According to the research 5% of growth rate in agriculture should be maintained to increase or obtain the desirable objective of the country like growth maximization, social, political, and economic stability and this 5% growth is absolute necessity for Pakistan in term of further progress (Chaudhry &

Chaudhry, 1997). Technologies play a great part in the agriculture of our country, conventional input devices, chemical fertilizers are used traditionally but as a modern era requirement t this should be replace with the advance version(Chaudhry & Chaudhry, 1997). Introduction of bio-chemical technology and new and advance mechanical-chemical technology is causing Higher crop productivity, Greater efficiencies and lower prices, Safer growing conditions and safer foods and Reduced environmental and ecological impact(Osmond et al., 2012). For storage of agricultural products for sustaining current crop yields while reducing inputs of fertilizers herbicides and pesticides or for crop protection, biotechnology techniques are applied to the agriculture sector specifically in agricultural land(Maxwell, 1991).

Knowledge of farmer is very important it leads to the innovation, interest, and efforts in farmer. Framer should know about the modern techniques of farming this is a good step toward encouraging production. Many countries are hiring farmer based on specific knowledge and certificate to cope with the scenario like using certain fertilizer, adaptation to climate change and crop disease. To reduce agriculture's vulnerability due to predicted changes in climate and reduce GHG emissions farmers are educated, and government are creating policies for farmers(Maxwell, 1991). 20% of the country was affected by 2010 flood and damage that country with $10 billion (Rehman et al., 2016).

Monsoon and rainfall affected Pakistan every year due to lack of infrastructure and system. Socio economic drought have threatened Pakistan with agriculture production and livestock. he intensity of drought impacts is

analyzed through meteorological, agricultural, and hydrological indicators. Financial reliance on agriculture and livestock, abolition of surface water resources, reduction of groundwater and insufficient supply of electricity has increased their susceptibility and exposure to drought(Rehman et al., 2016). Researchers showed through the research that GDP fluctuation of Pakistan is due to lack in agriculture advancement and work. Agriculture is having a negative impact on Pakistan due to agriculture problems. crops and livestock impacted to more than 90% on total agriculture which Is the positive relation(Awan & Aslam, 2015).

Objectives:

We approach this study with the subsequent key objectives:

- To assess the extent of public investments within the agriculture sector, together with for the empowerment of small-scale farmers, and counsel some way forward.
- To explore changes which require to be created in terms of investments within the agriculture sector in Pakistan visible of the consequences of temperature change on agriculture.

We can concentrate on however climate change has effects on the output and productivity in agriculture. We provide details regarding public investment in each major crops and farm animal. Finally, we have a tendency to discuss gender dimension of agriculture sector. We conclude with transient policy recommendations.

Methodology:

The main process of our research is starting by making questionnaire. Then we fill this questionnaire to different gender with varying different education levels and age differences. Through this questionnaire we get different responses about agriculture condition in Pakistan. It takes 2 week to get different option regarding our questionnaire. Then we enter data in SPSS to review responses and get different results. And data is analysis by using **Chi-squared test**.(Sharpe, 2015). Moreover, Chi-square arithmetic is one way to show the relationship between the variables of the two categories. In arithmetic, there are two types of variables:

numerical variables (calculations) and non-numerical variables (categorized). The double digit is the number one that tells you how much difference there is between your calculated number and the numbers you would expect if there were no human relationships at all. There are two types of chi square test. They both use square and distribution statistics for different purposes: The quality of the chi-square of appropriate testing determines whether the sample data corresponds to the population. For more information Fit Test is used. An independent square test compares the two variables in the table of critical conditions to see if they are related. In a general sense, it is tempting to see if the distribution of class variations differs from one to another. (Sharpe, 2015)

Chi Square P-Value:

The square test of chi will give you the value of p. The p value will tell you whether your test results are important or not. To perform a chi square test and get a p value, you need two pieces of information:

- **Level of freedom:** That's just the number of sections minus 1.
- **Alpha level (α):** This is chosen by you, or the researcher. The average alpha level is 0.05 (5%), but you can also have other levels like 0.01 or 0.10.

Table 1: Chi-Square test of Association of Gender in Pakistan

Cross Tabulation of Gender with Variable	P Value
Current Government Policies	0.36
Farmer Education	0.017
New Technology	0.05
Increase in Export	0.000
Fund for Farmer Betterment	0.000
Climate change	0.020
Fossil fuel	0.040
Government policy Subsidization	0.030
Drought resistance	0.016
Agricultural sector improvement	0.006

Interpretation: It is obvious from table 1 that all variables are highly significantly associated with Gender in Pakistan.

Table 2 Chi-Square test of Association of Age Variable in Pakistan:

Cross Tabulation of Age with Variable	P Value
Framer Education	0.005
New Technology	0.000
Fund for Framer Betterment	0.000
Land erosion	0.048
Climate change	0.001
Fossil Fuel	0.023

Government policy Subsidization	0.09

Interpretation: It is obvious from table 2 that all variables are highly significantly associated with Age variable in Pakistan.

Table 3 Chi-Square test of Association of Education level Variable in Pakistan:

Cross Tabulation of Age with Variable	P Value
Framer Education	0.017
New Technology	0.08
Increase in Export	0.041
Fund for Framer Betterment	0.017
Land erosion	0.000
Climate change	0.000
Government policy Subsidization	0.05
Agriculture sector improvement	0.003

Interpretation: It is obvious from table 3 that all variables are highly significantly associated with Age variable in Pakistan.

Table 4 Chi-Square test of Association of Science Group Variable in Pakistan:

Cross Tabulation of Science Group with Variable	P Value
New Technology	0.013
Increase in Export	0.000
Fund for Farmer Betterment	0.041
Government coping problem	0.091
Land erosion	0.036
Climate change	0.014
Fossil Fuel	0.033
Fertilizer Expense	0.041
Drought Resistance	0.000
Improving crop quality	0.036
Agriculture sector improvement	0.033

Interpretation: It is obvious from table 4 that all variables are highly significantly associated with Science Group variable in Pakistan.

Results:

Frequency Distribution Table:

Variable	Possible Categories	Percentage	Frequency
Gender	Male	32.0%	64
	Female	68.0%	136
		Total: 100n	Total: 200n
Age	35-40	6.0%	12
	30-35	7.0%	14

	25-30	13.0%	26
	20-25	52.5%	105
	15-20	21.5%	46
		Total: 100n	Total: 200n
Education level	Bachelor	63.0%	126
	HNC	12.0%	24
	HND	6.5%	13
	Post graduate	18.5%	37
		Total: 100n	Total: 200n
Science Group	Science	63.0%	126
	Math	17%	34
	Law	8.0%	16
	Art	12.0%	24
		Total: 100n	Total: 200n
Government Policies	Strongly Disagree	11.5%	23
	Disagree	6.5%	13
	Neutral	3.8%	77
	Agree	20.5%	41
	Strongly Agree	23.0%	46
		Total: 100n	Total: 200n
Farmer Education	Strongly Disagree	3.5%	7
	Disagree	47.5%	95
	Neutral	15.5%	24
	Agree	3.5%	6
	Strongly Agree	13.5%	28
		Total: 100n	Total: 200n
New Technology	Strongly Disagree	6.0%	12
	Disagree	42.0%	84
	Neutral	15.5%	31
	Agree	3.5%	7
	Strongly Agree	33.0%	66
		Total: 100n	Total: 200n
Increase in Export	Yes	89.5%	179
	No	10.5%	21
		Total: 100n	Total: 200n
Fund for Farmer Betterment	Strongly Disagree	4.5%	9
	Disagree	32.5%	65
	Neutral	15.5%	31
	Agree	4.0%	8
	Strongly Agree	43.5%	87
		Total: 100n	Total: 200n
Government Coping Problem	Yes	70.5%	141
	No	29.5%	59
		Total: 100n	Total: 200n
Climate Change	Yes	88.5%	177
	No	11.5%	23
		Total: 100n	Total: 200n
Fossil Fuel	Strongly Disagree	4.0%	8
	Disagree	25.0%	50
	Neutral	23.5%	47
	Agree	7.0%	14
	Strongly Agree	40.5%	81
		Total: 100n	Total: 200n
Government Subsidizes	Strongly Disagree	9.0%	18

	Disagree	15.0%	31
	Neutral	31.0%	63
	Agree	13.3%	27
	Strongly Agree	30.5%	61
		Total: 100n	Total: 200n
Expense of Fertilizer	Strongly Disagree	1.5%	3
	Disagree	23.5%	47
	Neutral	26.5%	53
	Agree	6.5%	13
	Strongly Agree	42.5%	84
		Total: 100n	Total: 200n
Drought Resistance	Strongly Disagree	1.0%	2
	Disagree	18.0%	36
	Neutral	23.0%	46
	Agree	7.0%	14
	Strongly Agree	51.0%	102
		Total: 100n	Total: 200n
Providing Guideline	Strongly Disagree	3.5%	7
	Disagree	27.5%	54
	Neutral	20.5%	41
	Agree	3.5%	7
	Strongly Agree	40.5%	91
		Total: 100n	Total: 200n
Endangered Plant	Yes	81.5%	163
	No	18.5%	37
		Total: 100n	Total: 200n
Improving Crop Quality	Strongly Disagree	4.5%	9
	Disagree	24.5%	49
	Neutral	28.5%	57
	Agree	4.5%	9
	Strongly Agree	38.5%	76
		Total: 100n	Total: 200n
Agricultural Sector	Strongly Disagree	6.5%	13
	Disagree	14.5%	29
	Neutral	26.0%	52
	Agree	26.0%	52
	Strongly Agree	27.0%	54
		Total: 100n	Total: 200n
Land Erosion	Yes	70.5%	176
	No	29.5%	24
		Total: 100n	Total: 200n

Interpretation:

It is reported in Gender Male percentage is 32.0% and Female percentage is 68.0%. I n Age 35-40, 30-35, 25-30, and 15-20 age difference give various percentage such as 6%, 7%, 13%, 52.5 %, and 21.5% respectively. In Education level Bachelor give 63.0%, HNC give12.0%, HND give 6.5% and Post graduate level give 18.5%. In Science Group percentage for Science, Math, Law and Art is 63%, 3 %, 8% and 12% respectively. In Government policies we get 11.5%, 6.5%, 3.8%, 20.5%, and 23.0 % based on different option. In Farmer education we get 3.5%, 47.5%, 15.5%, 3.5%, and 13.5%. In new technology question we get 6%, 42%, 15.5%, 3.5%,

and 33.0% respectively. Whereas increase of export thing percentage such as 89.5% and 10.5%. Climate change which affects agricultural give 88.5% and 11.5%. For Agricultural sector betterment by providing new technology providing various responses and give different percentage value such as 6.5%, 14.5%, 26.0%, 26.0% and 27.0%. Land Erosion affect agriculture sector and responses give percentage such as 70.5% and 29.5%. For Government coping problem question we get 70.5% and 29.5% respectively. For other question we get various percentage values on basis of public option regarding Agriculture investment in Pakistan.

Discussion:

While analyzing the impact of agriculture and subsectors of agriculture on economic growth, we noticed a pattern that our overall agricultural output is not seeing the growth as compared to the potential it has. When Pakistan came into being the contribution of agriculture in GDP was more than 50% but now it has come down to only 21%. There are some issues concerned with it. One of reason or problem faced, is the lack of knowledge of people (particularly females). When any survey is conducted for useful research or by the government for the betterment of agriculture sector, females' responses are not too accurate as they have very little knowledge about it. Due to this, some of them give unusual and opposite responses and the rest fill the survey unintentionally. It would affect the results. Many people do not take it seriously and with very basic knowledge they vote in the survey against the betterment. For example, in our survey, we asked that, for the betterment or success of agriculture, the education of farmers is necessary. Some of the female responses are 'NO'. But in actual the education of farmers is very necessary as they have known how of some new technologies or techniques as they will be very useful in the improvement of agriculture sector and crop yield will be increased. For this research and to analyze the impact of agriculture on economy, we perform the CHI SQUARE TEST.

Conclusion:

This article is all about the government policies towards agriculture sector and investment in agriculture, problems and solution of agriculture and people perception about that. A survey was taken with the help of closed ended questionnaire to check the people perception. This turns out that some people know about the difficulties, innovation, and investment in agriculture sector but

most of the people are unaware about agriculture sector even if they are educated. Government need a to invest on agriculture sector with powerful and innovative tools like using biotechnology techniques to increase the productivity as our country is agriculture based and to increase GDP, strengthen of agriculture is necessary.

References:

Awan, A. G., & Aslam, A. (2015). Impact of agriculture productivity on economic growth: A case study of Pakistan. *Global Journal of Management and Social Sciences, 1*(1), 57-71.

Chaudhry, M. G., & Chaudhry, G. M. (1997). Pakistan's agricultural development since independence: Intertemporal trends and explanations. *The Pakistan Development Review*, 593-612.

Maxwell, S. (1991). To cure all hunger: food policy and food security in Sudan.

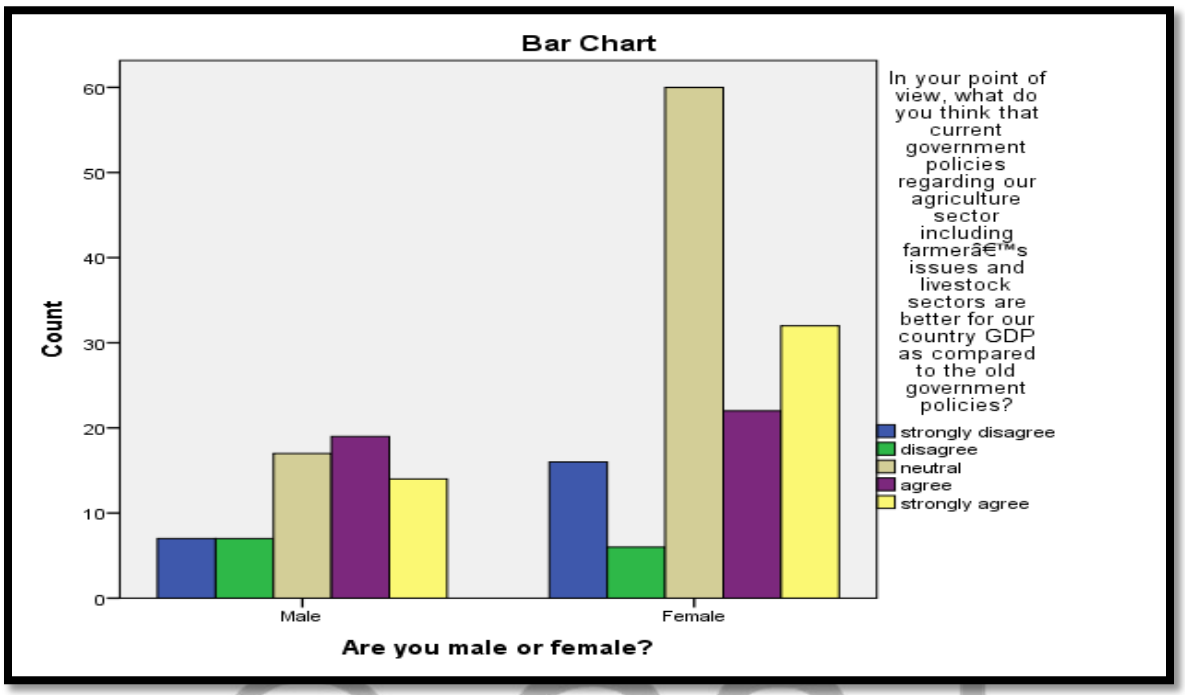
Osmond, D., Meals, D., Hoag, D., Arabi, M., Luloff, A., Jennings, G., . . . Line, D. (2012). Improving conservation practices programming to protect water quality in agricultural watersheds: Lessons learned from the National Institute of Food and Agriculture–Conservation Effects Assessment Project. *Journal of Soil and Water Conservation, 67*(5), 122A-127A.

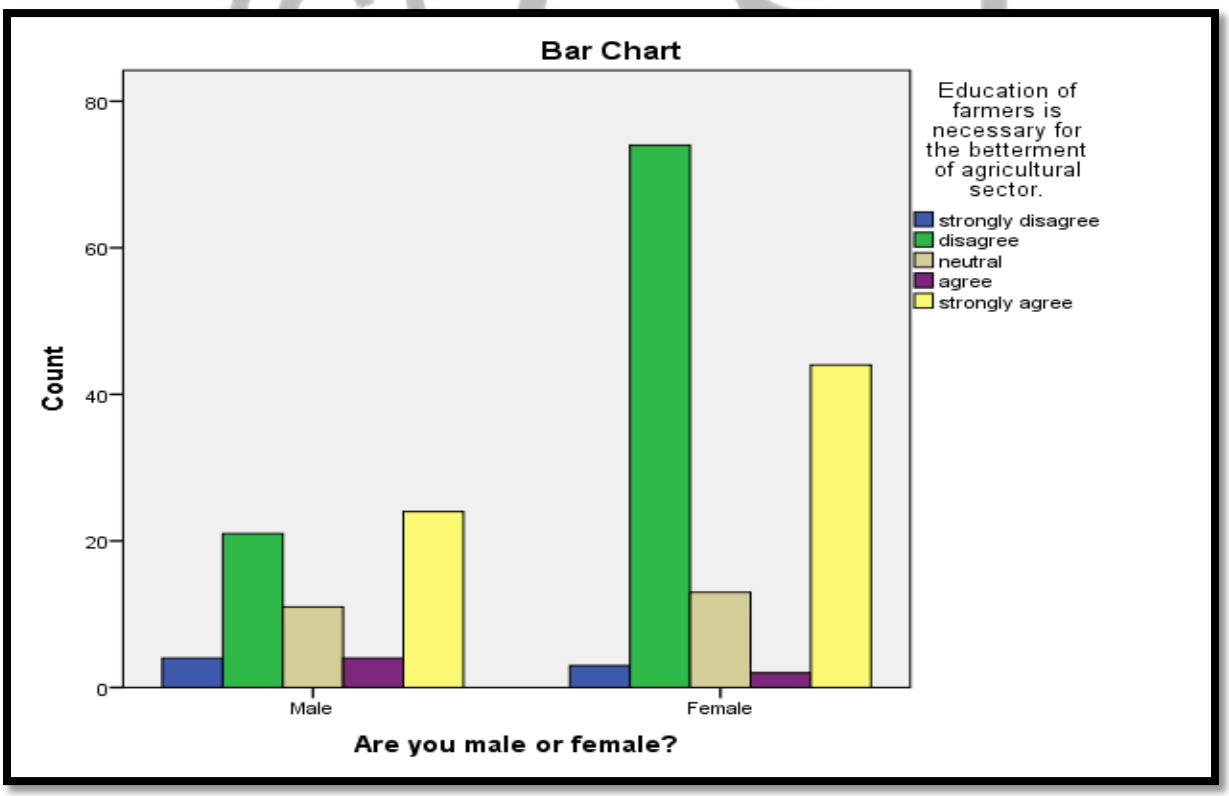
Rehman, A., Jingdong, L., Du, Y., Khatoon, R., Wagan, S. A., & Nisar, S. K. (2016). Flood disaster in Pakistan and its impact on agriculture growth (a review). *Environ Dev Econ, 6*(23), 39-42.

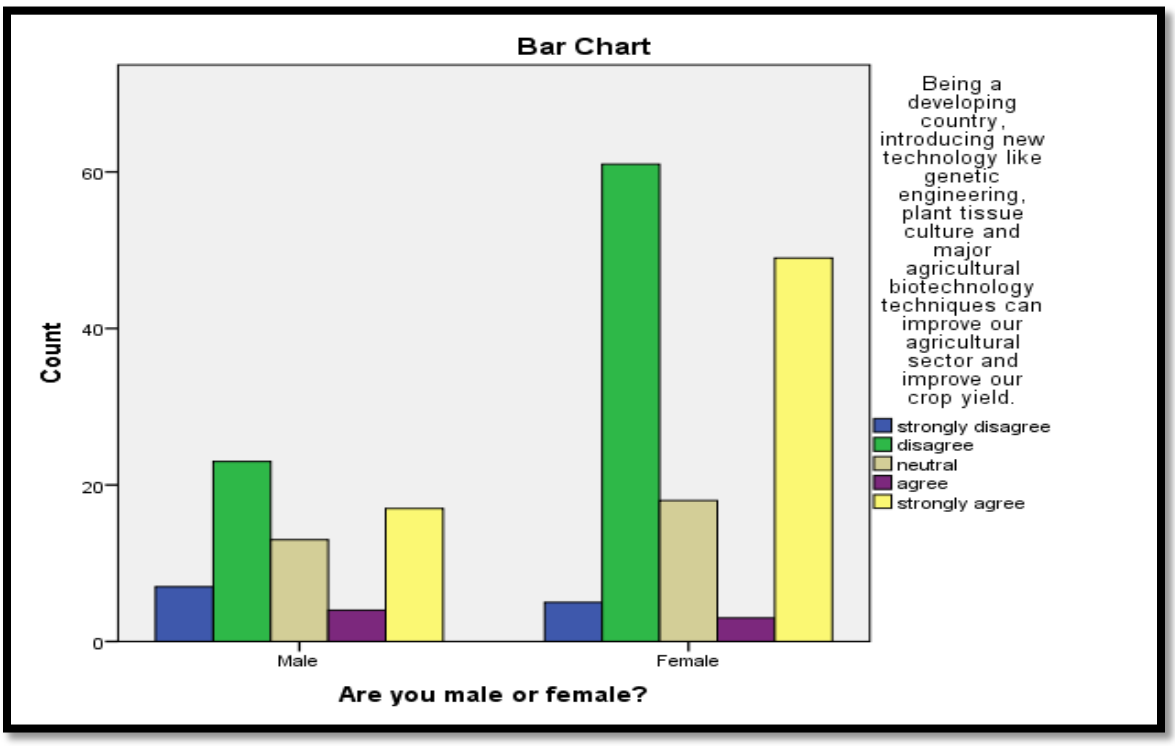
Sharpe, D. (2015). Chi-square test is statistically significant: Now what? *Practical Assessment, Research, and Evaluation, 20*(1), 8.

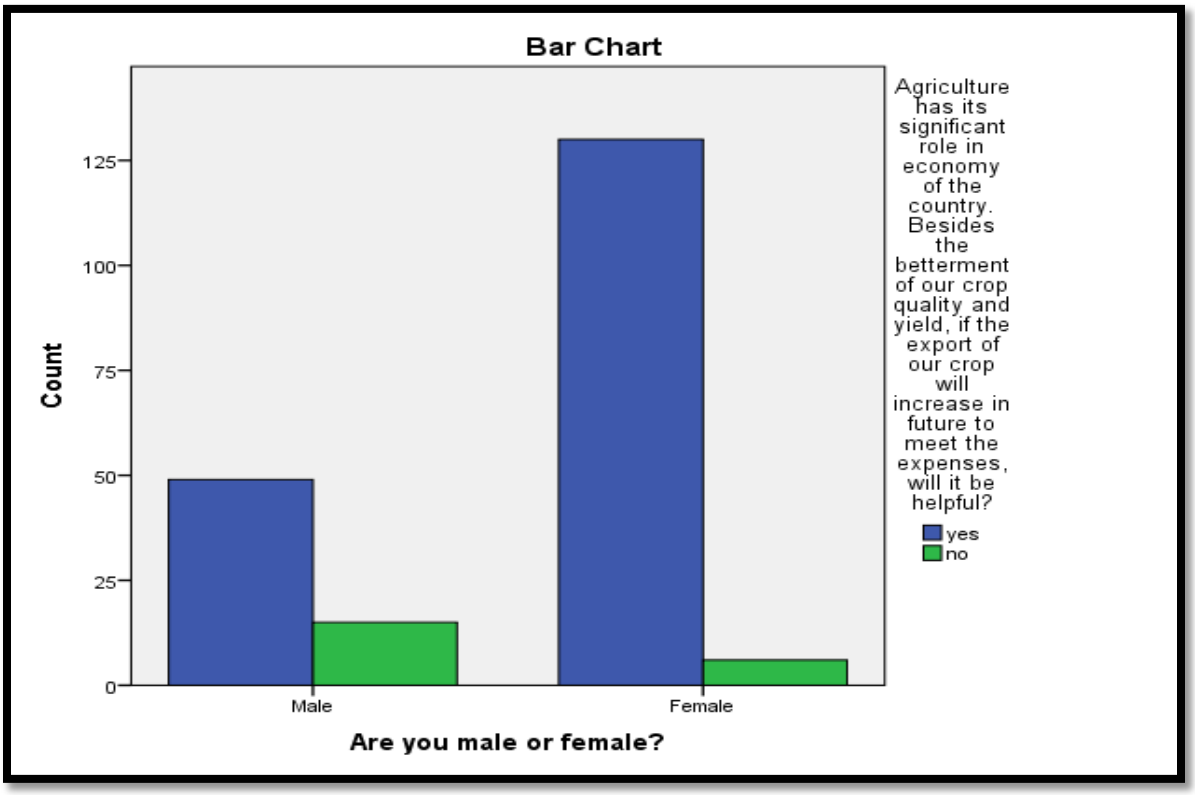
Zafar, Y. (2007). Development of agriculture biotechnology in Pakistan. *Journal of AOAC International, 90*(5), 1500-1507.

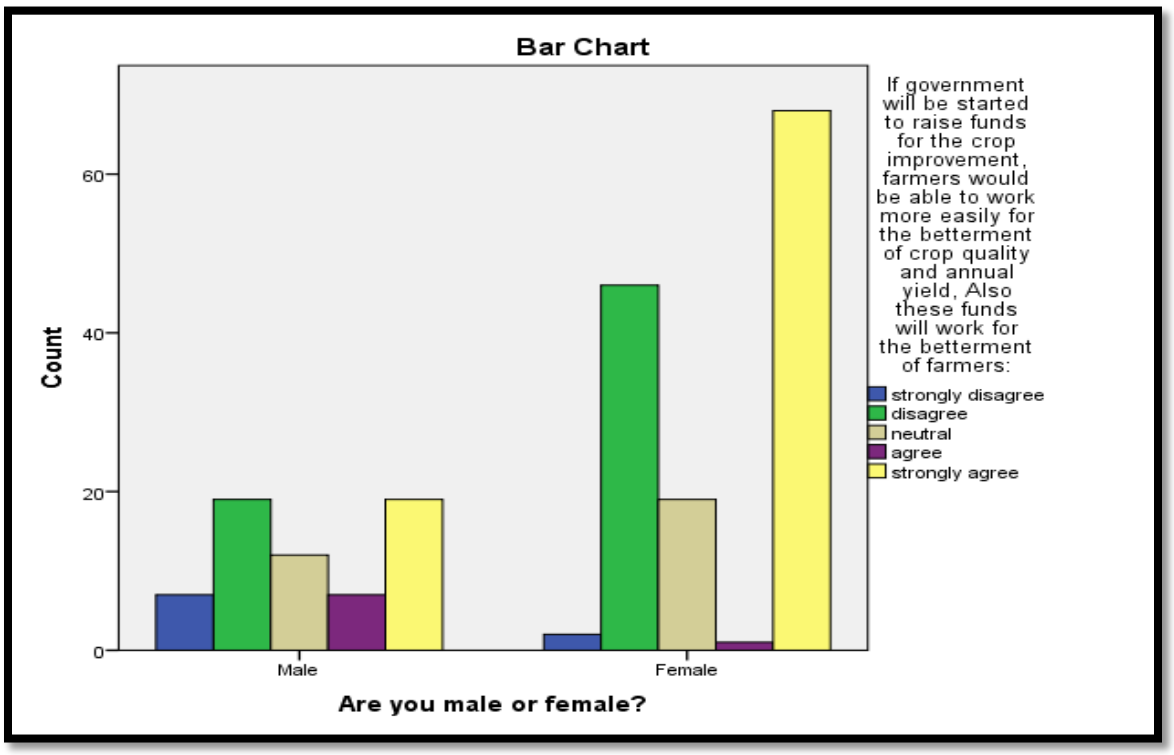
Appendix

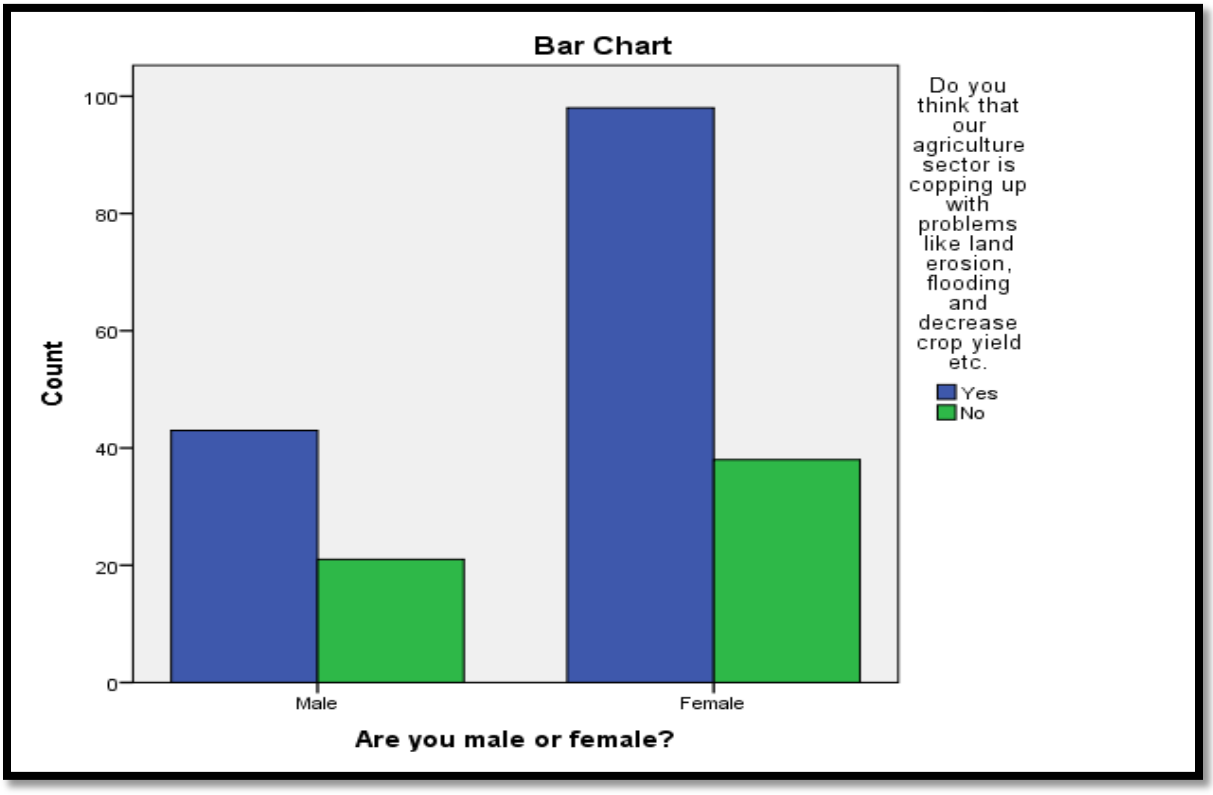

Bar Chart
Count
60
50
40
30
20
10
0
Male
Female
Are you male or female?
In your point of view, what do you think that current government policies regarding our agriculture sector including farmerâ€™s issues and livestock sectors are better for our country GDP as compared to the old government policies?
strongly disagree
disagree
neutral
agree
strongly agree

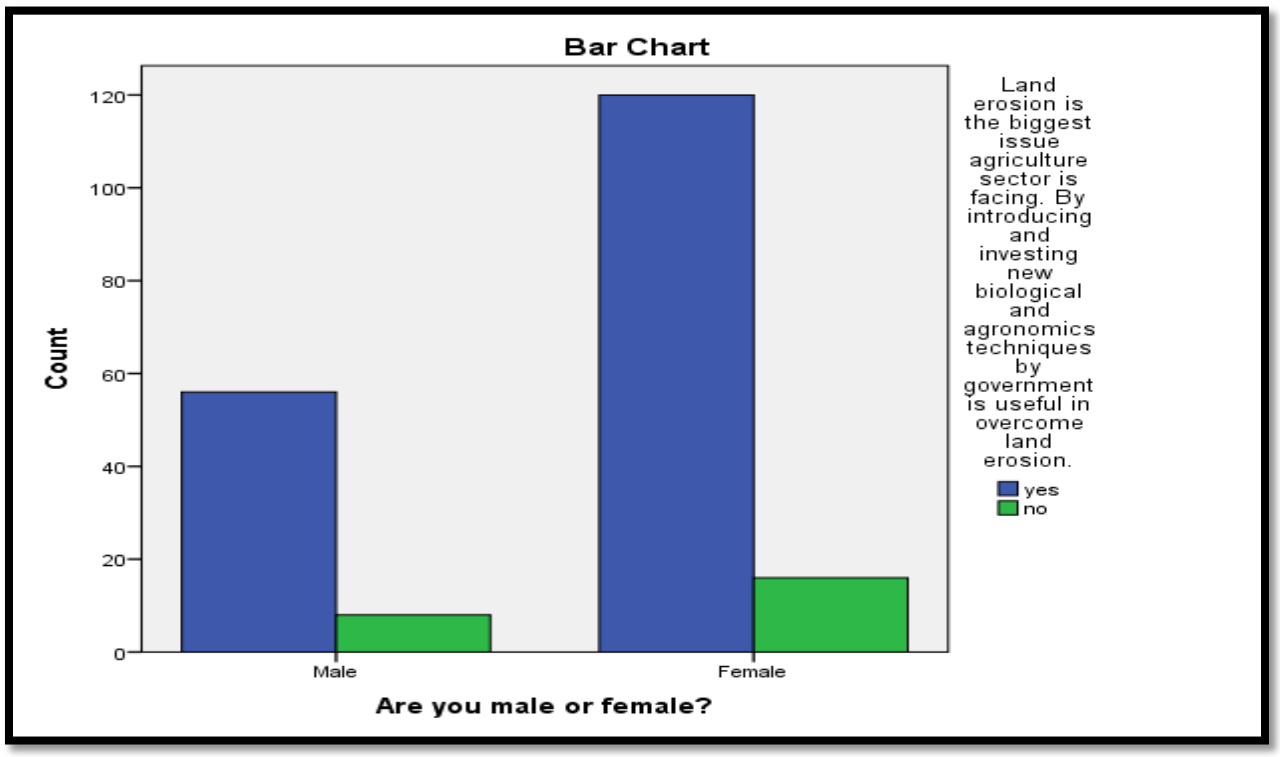

Bar Chart
Count
80
60
40
20
0
Male
Female
Are you male or female?
Education of farmers is necessary for the betterment of agricultural sector.
strongly disagree
disagree
neutral
agree
strongly agree

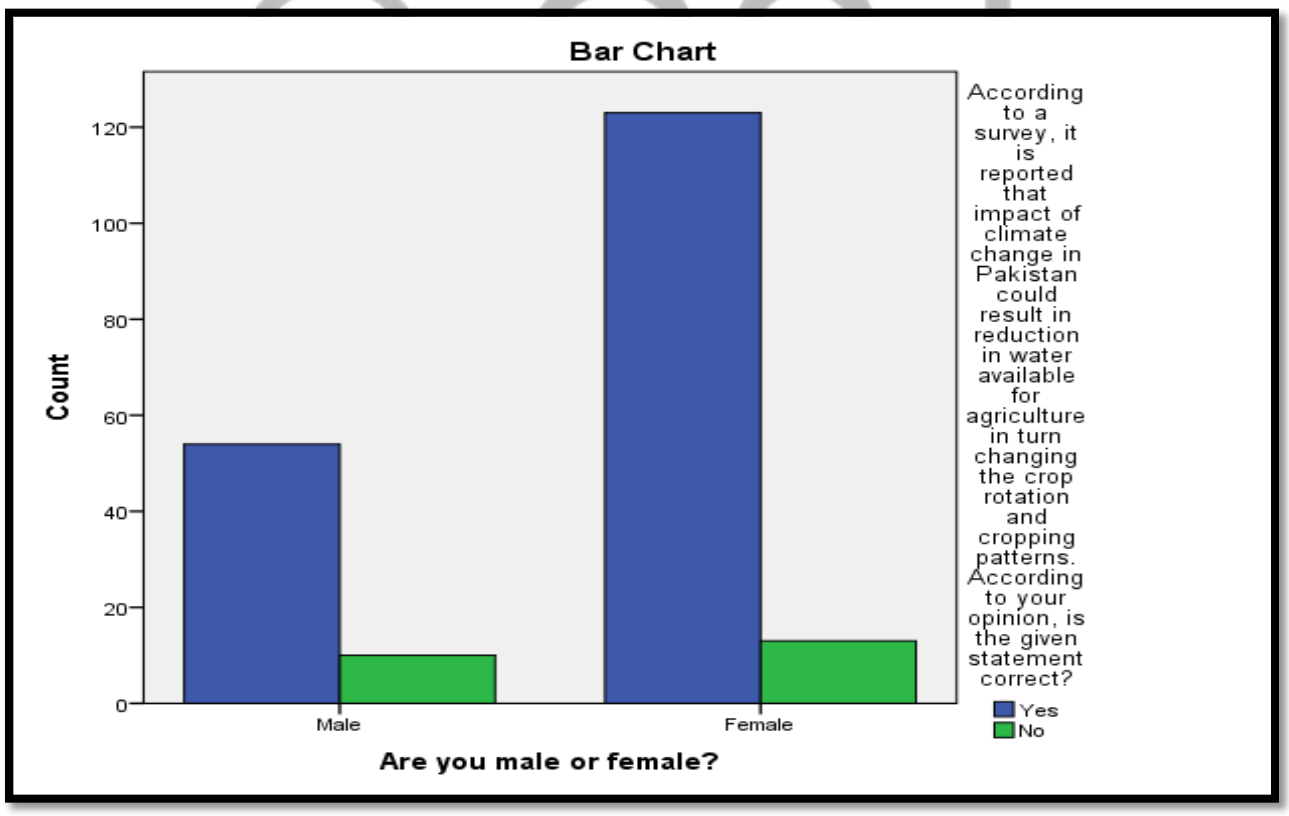

Bar Chart
Count
60
40
20
0
Male
Female
Are you male or female?
Being a developing country, introducing new technology like genetic engineering, plant tissue culture and major agricultural biotechnology techniques can improve our agricultural sector and improve our crop yield.
strongly disagree
disagree
neutral
agree
strongly agree

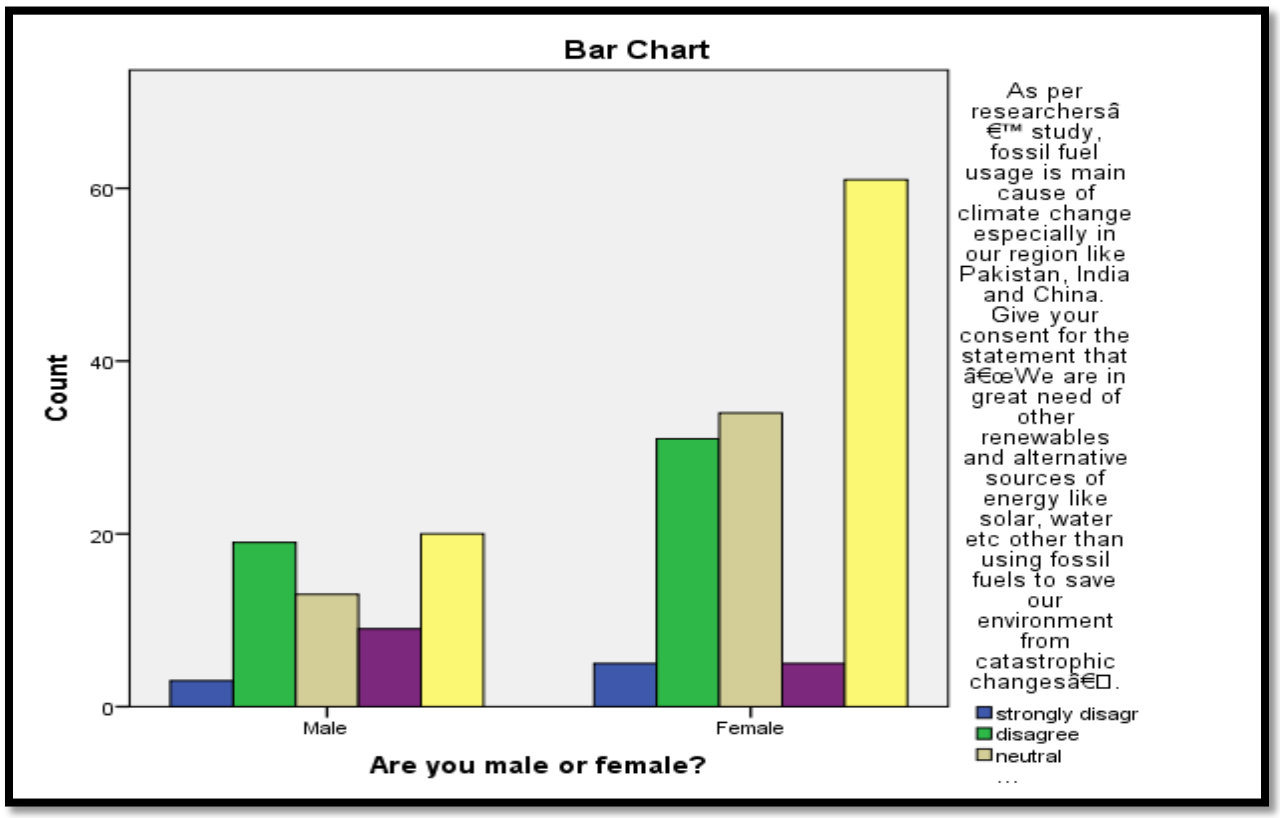

Bar Chart
Count
125
100
75
50
25
0
Male
Female
Are you male or female?
Agriculture has its significant role in economy of the country. Besides the betterment of our crop quality and yield, if the export of our crop will increase in future to meet the expenses, will it be helpful?
yes
no

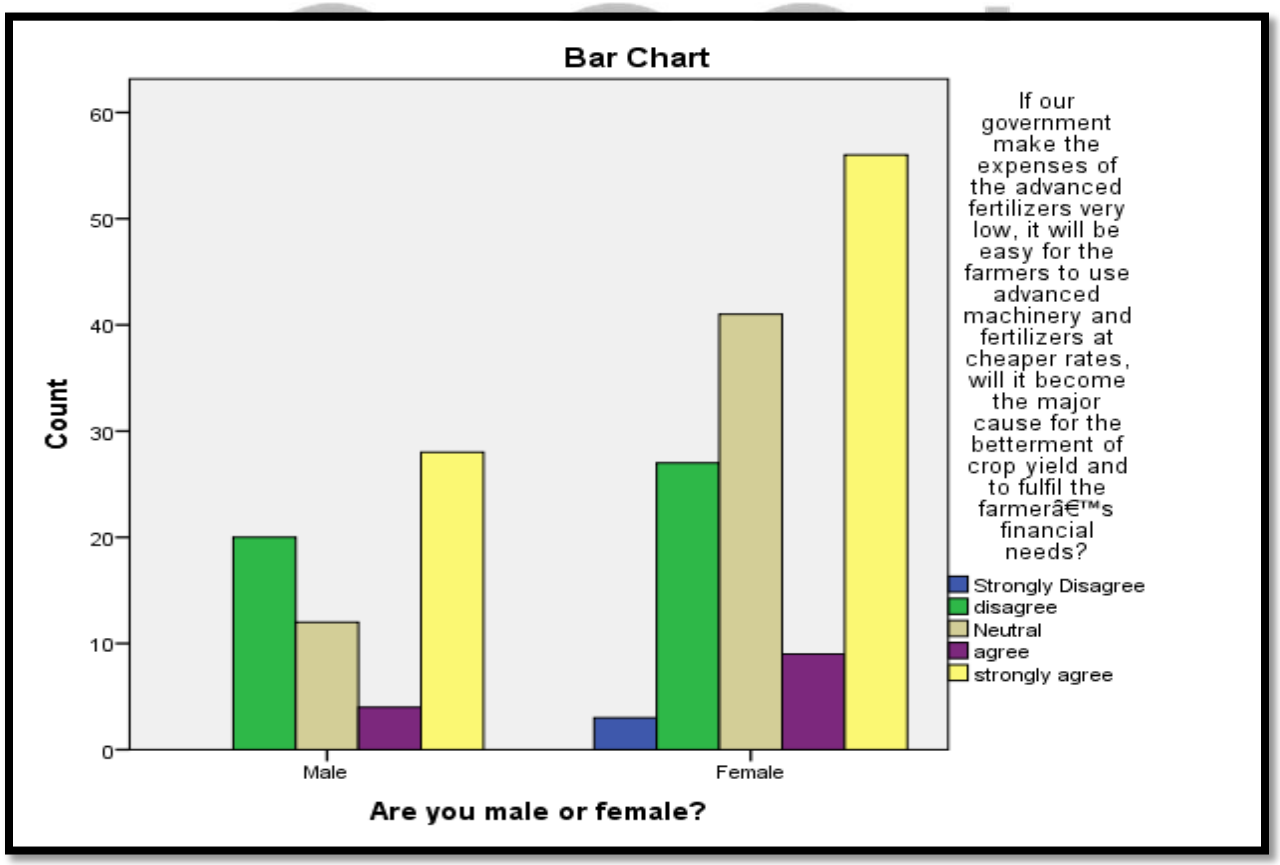

Bar Chart
Count
60
40
20
0
Male
Female
Are you male or female?
If government will be started to raise funds for the crop improvement, farmers would be able to work more easily for the betterment of crop quality and annual yield, Also these funds will work for the betterment of farmers:
strongly disagree
disagree
neutral
agree
strongly agree

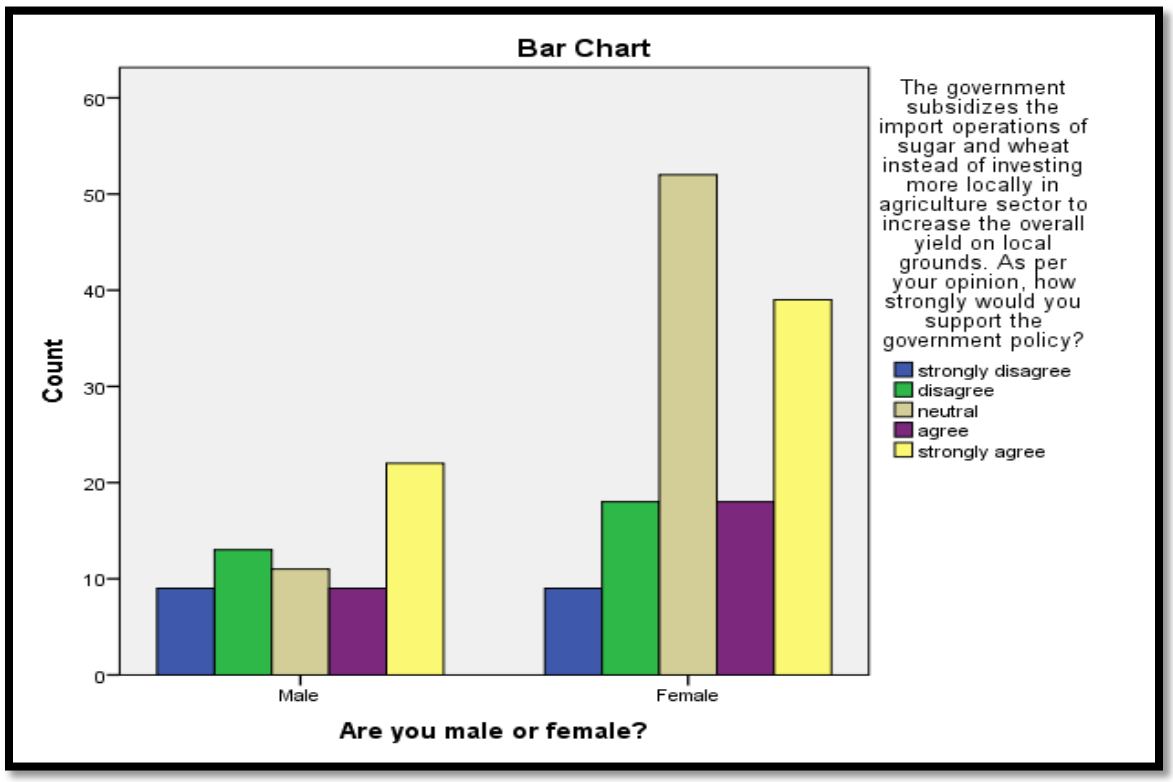

Bar Chart
Count
100
80
60
40
20
0
Male
Female
Are you male or female?
Do you think that our agriculture sector is copping up with problems like land erosion, flooding and decrease crop yield etc.
Yes
No

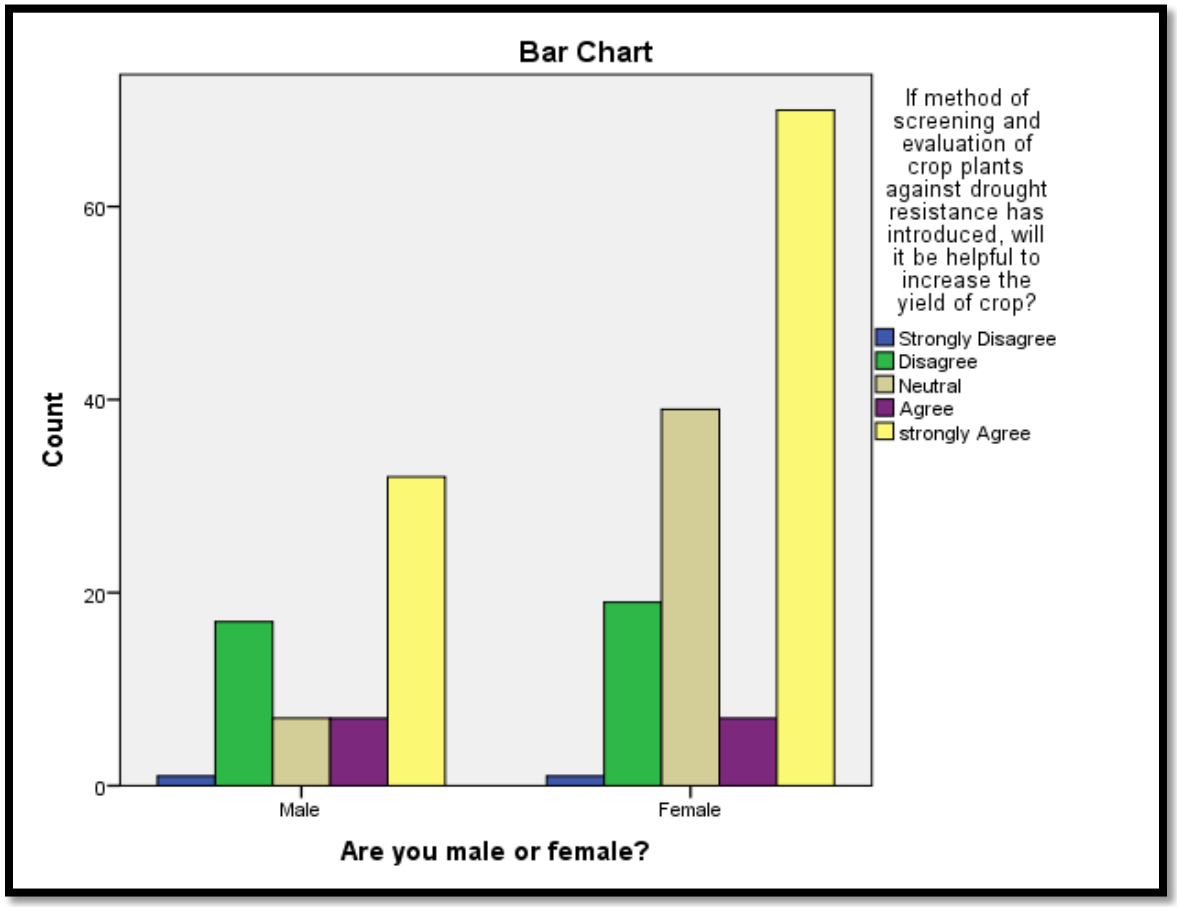

Bar Chart
Count
120
100
80
60
40
20
0
Male
Female
Are you male or female?
Land erosion is the biggest issue agriculture sector is facing. By introducing and investing new biological and agronomics techniques by government is useful in overcome land erosion.
yes
no

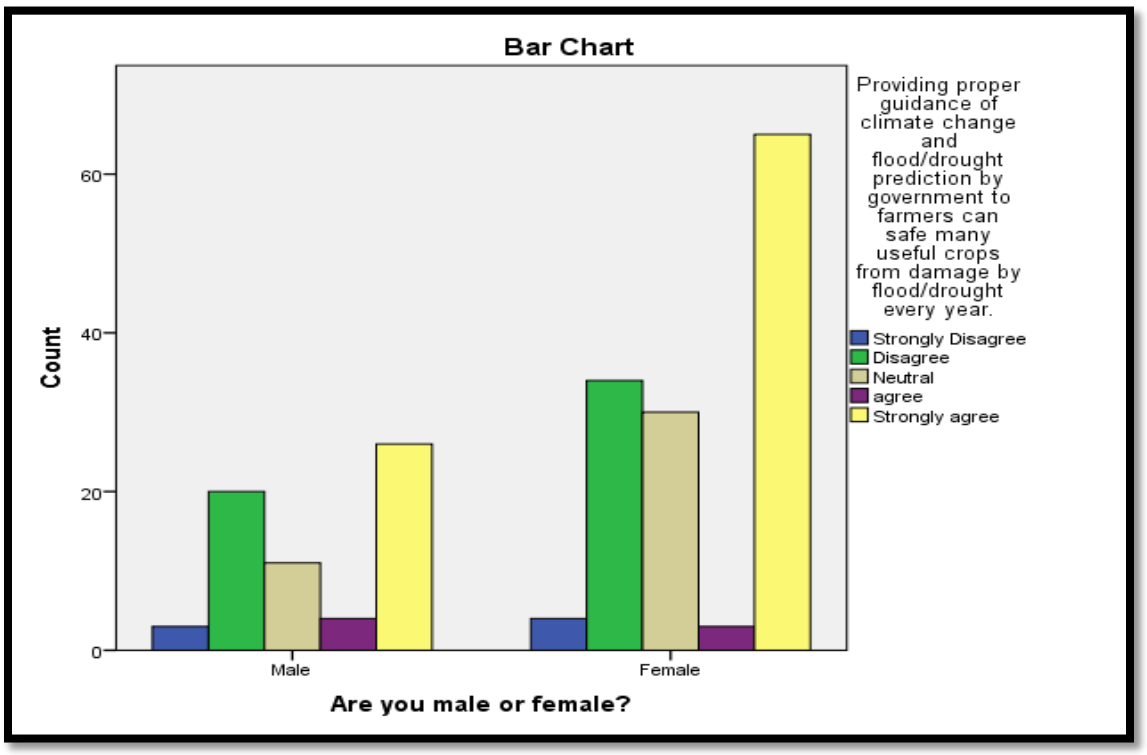

Bar Chart
Count
120
100
80
60
40
20
0
Male
Female
Are you male or female?
According to a survey, it is reported that impact of climate change in Pakistan could result in reduction in water available for agriculture in turn changing the crop rotation and cropping patterns. According to your opinion, is the given statement correct?
Yes
No

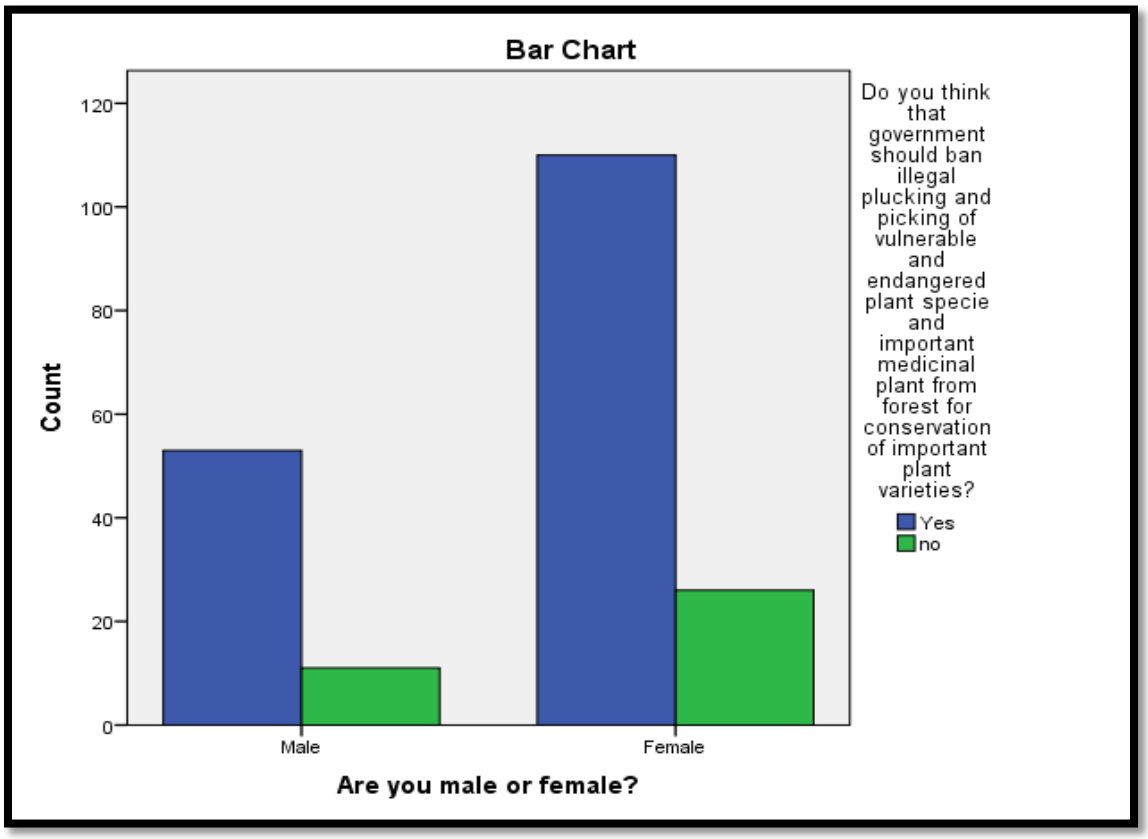

Bar Chart
Count
60
40
20
0
Male
Female
Are you male or female?
As per researchersâ€™ study, fossil fuel usage is main cause of climate change especially in our region like Pakistan, India and China. Give your consent for the statement that â€œWe are in great need of other renewables and alternative sources of energy like solar, water etc other than using fossil fuels to save our environment from catastrophic changesâ€□.
strongly disagr
disagree
neutral
...

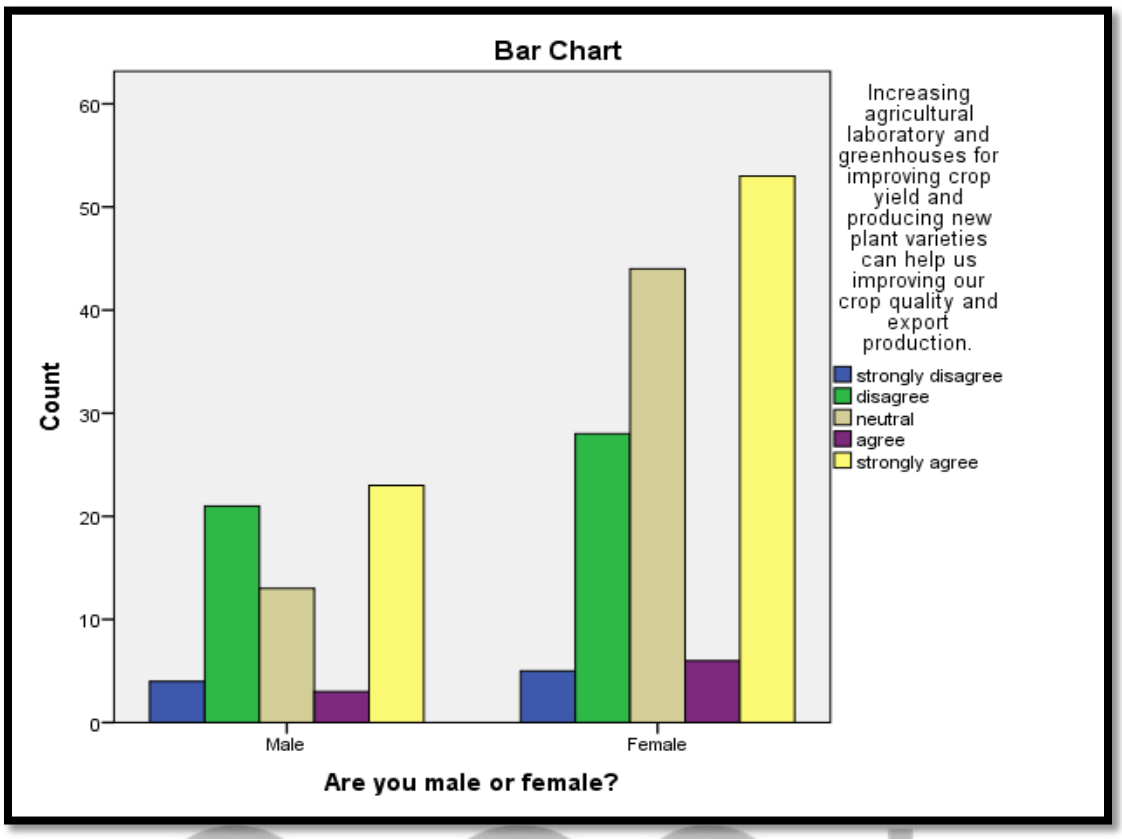

Bar Chart
Count
60
50
40
30
20
10
0
Male
Female
Are you male or female?
If our government make the expenses of the advanced fertilizers very low, it will be easy for the farmers to use advanced machinery and fertilizers at cheaper rates, will it become the major cause for the betterment of crop yield and to fulfil the farmerâ€™s financial needs?
Strongly Disagree
disagree
Neutral
agree
strongly agree

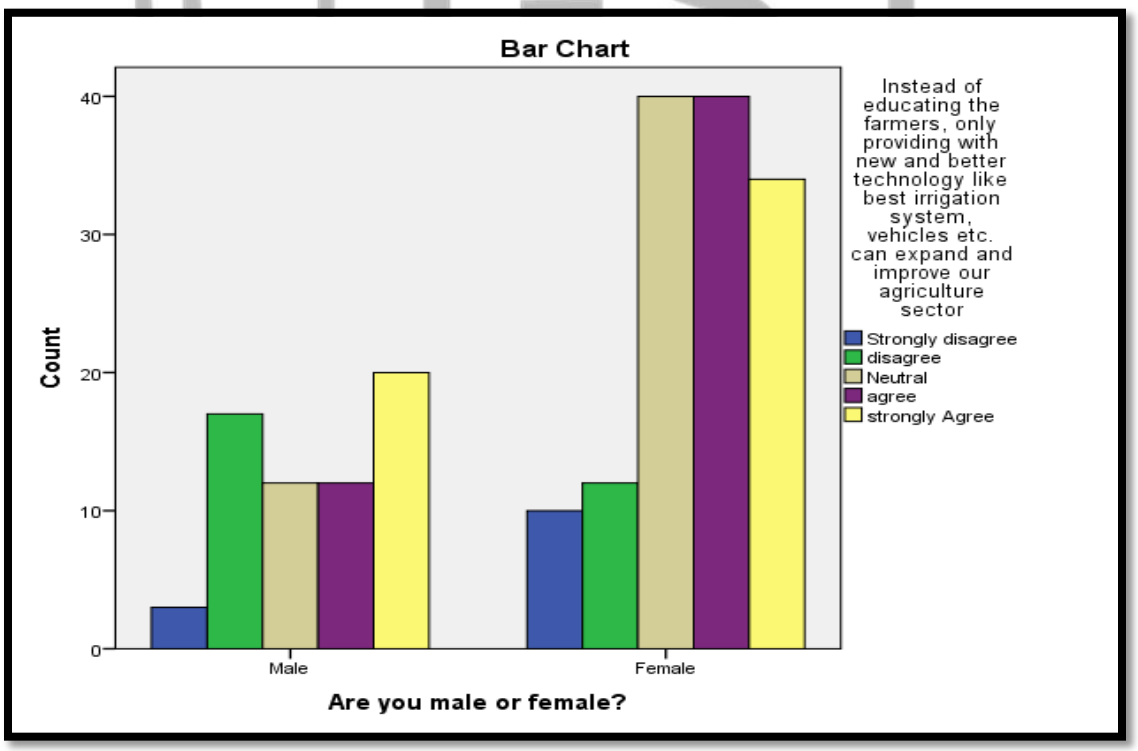

Bar Chart
Count
60
50
40
30
20
10
0
Male
Female
Are you male or female?
The government subsidizes the import operations of sugar and wheat instead of investing more locally in agriculture sector to increase the overall yield on local grounds. As per your opinion, how strongly would you support the government policy?
strongly disagree
disagree
neutral
agree
strongly agree


Bar Chart
Count
60
40
20
0
Male
Female
Are you male or female?
If method of screening and evaluation of crop plants against drought resistance has introduced, will it be helpful to increase the yield of crop?
Strongly Disagree
Disagree
Neutral
Agree
strongly Agree


Bar Chart
Count
60
40
20
0
Male
Female
Are you male or female?
Providing proper guidance of climate change and flood/drought prediction by government to farmers can safe many useful crops from damage by flood/drought every year.
Strongly Disagree
Disagree
Neutral
agree
Strongly agree


Bar Chart
Count
120
100
80
60
40
20
0
Male
Female
Are you male or female?
Do you think that government should ban illegal plucking and picking of vulnerable and endangered plant specie and important medicinal plant from forest for conservation of important plant varieties?
Yes
no


Bar Chart
Count
60
50
40
30
20
10
0
Male
Female
Are you male or female?
Increasing agricultural laboratory and greenhouses for improving crop yield and producing new plant varieties can help us improving our crop quality and export production.
strongly disagree
disagree
neutral
agree
strongly agree


Bar Chart
Count
40
30
20
10
0
Male
Female
Are you male or female?
Instead of educating the farmers, only providing with new and better technology like best irrigation system, vehicles etc. can expand and improve our agriculture sector
Strongly disagree
disagree
Neutral
agree
strongly Agree