

BENCH MARK SURVEY REPORT OF THE PROJECT “PROMOTION OF PULSES CULTIVATION IN PUNJAB”.



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Preface

There is a dire need to increase the production of cereals, pulses, fruits and vegetables to meet the food requirement of increasing population. The production of all agricultural commodities except pulses has increased due to efforts of Agriculture Department.

The pulses make the meal delicious and nutritious. Major pulses are Lentil, Gram, Moong and Mash. Pulses are substitutes of other costly sources of protein for poor masses e.g. meat and fish. The pulses are grown on 5% of the country's total cultivated area. Pulses need less irrigation water and nitrogenous fertilizer.

Agriculture is extremely vulnerable to climate change. Production of pulses has also been effected by climatic changes. In severe drought season production of gram and lentil is badly affected. Similarly other climatic changes like floods, untimely and heavy rains affect the production of Moong and Mash crops. Fluctuation in prices, no support prices from the government for the pulses, better production of cotton, wheat and rice crops and fetching reasonable prices, growing of mango, citrus and guava orchards, shifting of area towards vegetables due to provision of better production technologies by government such as tunnel technology and improved methods of production enhanced profits which compelled the farmers to reduce the area under pulses.

Keeping in view low production of pulses and to save the country from pressure of foreign exchange due to increased imports, Government of the Punjab; Agriculture Department designed a project "Promotion of Pulses Cultivation in Punjab" under the instructions enunciated by the Chief Minister Punjab. The cost of project is Rs.127.260 million and its period is 4 years. The project came on road on 01-01-2014. The main activities of the project are provision of certified seed, transfer of latest production technology through demonstration plots, general training of farmers through meetings, seminar/farmers day, supply of seed drills and threshers for demonstration purposes.

Director General Agriculture (Ext. & A.R.) Punjab is the overall operational head of the project activities both for financial and administrative matters. The activities related to Extensions Wing are to be implemented through District Agriculture Services. For research activities the Director Pulses Research Institute, Faisalabad and for certified seed production and multiplication Punjab Seed Corporation are involved. Bench Mark Survey is to be conducted by the Planning & Evaluation Cell.

Bench mark survey states the position of indicators before the start of project. The survey of the project was started in December 2014 and was completed in mid-January 2015 while data of Moong& Mash for Kharif 2013 and Gram & Lentil for Rabi 2013-14 was collected through a questionnaire for each pulse. There were some districts where respondents of only one or two pulses were available. In total 304, 146, 51 and 161 respondents were interviewed in 36 districts of Punjab for Gram, Lentil, Mash and Moong respectively. The report in hand is bench mark of the project which reveals the level of the inputs used, productivity level and knowledge about the production technology of pulses district wise. It will help in diagnosing the impact of the project in future.

**Chief
Planning & Evaluation Cell**

CHAPTER- 1

Introduction

1. The population of Pakistan is increasing rapidly; therefore, it is need of time to increase the production as well as yield of food grains and other agricultural commodities such as pulses, vegetables and fruits to meet the increasing need for human consumption.
2. Agriculture sector provides food, fiber and shelter to human beings. The masses consume a considerable quantity of pluses along with cereals which makes the meal delicious and nutritious in addition to energy for the daily economic activities.
3. Major pulses include Lentil, Gram, Moong and Mash. These pulses are rich source of protein obtained from plants (Bio source). Pulses are substitutes of other costly sources of protein for poor masses of Pakistan e.g. meat and fish. Gram provides 24% protein and 3.5% minor elements. Similarly other pulses contain protein up to 30%. The pulses have been grown on 5% of the country's total cultivated area. Pulses need less amount of irrigation water. It can easily be grown in arid areas of Punjab.
4. Pulses belong to legume family of plants. Nitrogen fixing bacteria in the roots of pulses fix the nitrogen of atmosphere in the soil in the form of Ammonium (NH_4^+) or Nitrogen Dioxide (NO_2) which enhance the fertility of soil naturally. Therefore, it has little nitrogenous fertilizer requirement. Only the application of phosphorous fertilizer is recommended at the time of sowing.
5. Agriculture is extremely vulnerable to climate change. Pakistan is most likely one of the worst hit countries due to adverse effects of climate change. Production of pulses has also been effected by climatic changes. In severe drought season production of gram and lentil is badly effected and similarly other climatic changes like floods, untimely and heavy rains have badly effect the production of moong and mash crops. Fluctuation in prices, no support prices from the government for the pulses, better production of cotton, wheat and rice crops and fetching reasonable prices, growing of mangoes, citrus and guava orchards, shifting of trends towards vegetables due to provision of better production technologies by government such as tunnel technology and improved methods of production and dissemination to the farmers resulted to enhanced profits which compelled the farmers to reduce the area under pulses.
6. Area, production and average yield of different pulses are given as under:

CHAPTER-4

Recommendations

41. Pockets/areas of pulses sowing in each district should be explored fully. Moreover, process of cluster formation especially only for pulses should be strengthened. Farmers should be enlisted who grow pulses and separate trainings should be given. The work on Mash pulses needs more attention as there were 17 districts where respondents were not available for interview.

41.1. Only 19 DOA's have supplied the list of farmers whom they have imparted trainings. Some DOA's have sent the list of wheat and Cotton training programs. The list of DOA's who have not provided the list of pulses farmers is as Bahawalpur, Bahawal Nagar, Rahim Yar Khan, Chiniot, Faisalabad, Jhang, MandiBahauddin, Sialkot, Narowal, Hafizabad, Nankana, Sahiwal, Pakpattan, Khanewal, Lodhran and Kasur.

42. Proper sowing time of pulses is very important. In training programs/seminars/farmer days this aspect should be more highlighted.

43. The ratio of Fungicide users before sowing seed is very poor. Farmers should be motivated to use Fungicide.

44. The ratio of inoculum users to seed is also poor. Farmers should be motivated to use inoculum. The quality of inoculum available in the market should also be checked by the Extension staff.

45. The ratio of certified seed user is also poor. Farmer should be motivated to use certified seed. As per report of DGA (Ext. & AR), 288560 Kg of seed was distributed to farmers on 50% subsidy to farmers in years 2014-15. Whereas reports of DOA's and farmers interviewed revealed that no seed was supplied to the farmers on 50% subsidy, as of December 2014 i.e. at the time of data collection.

46. The farmers should be motivated for drill sowing.

47. The farmers should be taught about proper row to row and plant to plant distances.

48. The farmers should be taught about intercropping and between two major crops.

49. The farmers should be taught about use of recommended dose of DAP and Potash fertilizers.

50. The farmers should be motivated to use weedicides as pre-emergence of weeds.

51. The knowledge about pests and diseases controls should be given higher priority. Most of the losses reported are due to pests and diseases.

52. Training programs should be extended to 100% farmers.

53. Training Programs should be started before proper sowing time and review training programs during the cropping season.

54. Distribution of literature in Urdu is also very important and 100% farmers should be given literature during training programs.

55. The timings of TV and Radio programs should be told in training programs, so that maximum number of farmers could see and hear the program.

56. The district area under different pulses reported by DOA's and crop reporting services has differences. DOA (Ext.) Bhakkar has reported 2 acres of Moong crop only. Whereas crop reporting services has reported 140000 acres. It is a huge difference. It is strongly recommended that DOA (Ext.) should revisit the area for cluster formation. Similar request may also be made to Director Crop Reporting Services.

57. Demonstration Plots (D-plot) should be laid out in time along with all inputs(certified seed, weedicide and inoculum) to 100% D-plot farmers to be provided by the project.

58. Participation of 100% cluster farmers in Farmer Days/seminars should be ensured.

List of Contents

#	Title	Page
	Preface	
1	Introduction	1
	Moong	2
	Mash	3
	Gram	5
	Lentil	6
	Objectives of the Project	10
	Project implementation and interventions	11
	Project interventions	11
	1. Development of basic seed of high yielding varieties of pulses	11
	2. Weed Control in Pulses.....	11
	3. Promotion of certified seed of Lentil, Moong and Mash by its distribution among farmers at subsidized rates.....	11
	4. Dissemination of improved technology.....	12
	5. Training of Farmers.....	12
	6. Pulses Drill for Line sowing.....	12
	7. Multiple Crop Thresher (for Pulses).....	12
	8. Pulses Cluster Development.....	12
	9. Promotion of Pulses in Association of other Crops in Irrigated Areas.....	13
	10. Holding of Farmers Days and use of other Extension Tools To Lure Farmers on Adoption of Pulses Cultivation.....	13
	11. Processing and Grading.....	13
	12. Announcement of Procurement Price and Purchase of Produce by Public Sector.....	14
	Physical Targets and Achievements of Interventions	14
	Financial Allocation & Utilization	15
2	Methodology	17
3	Results and Discussion	19
	Bench Mark Survey Report (Moong)	19
	Availability of Respondents.....	19
	Socio-Economics Characteristics.....	19
	Soil Type and Topography.....	20
	Area Under Moong Cultivation.....	20
	Yield of Moong.....	20
	Seed Rate.....	20
	Sowing Time.....	20
	Source of Irrigation.....	21
	Seed Treatment.....	21

#	Title	Page
	<i>a. Fungicide Use</i>	21
	<i>b. Inoculum Use</i>	21
	Certified Seed Use.....	21
	Sowing Technique.....	22
	Fertilizer Use.....	22
	<i>a. Chemical Fertilizer</i>	22
	<i>b. Farm Yard Manure</i>	22
	Pre-Emergence Weedicide Use.....	23
	Agricultural Activities Performed by Moong Respondents.....	23
	Weedicide and Pesticide Use.....	23
	Sale Price.....	23
	Quantity of Moong Consumed in Home.....	23
	Satisfaction from Production Level.....	23
	Factors of Low Production.....	23
	Steps Required for Enhancement of Moong Production.....	23
	Source of Income.....	24
	Knowledge of Respondent About Moong Variety.....	24
	Cropping Pattern.....	24
	Cropping Intensity.....	24
	Knowledge of Respondents About Moong Diseases and Their Control.....	24
	Knowledge of Respondents About Moong Insects and Their Control.....	24
	Bench Mark Survey Report (Mash)	25
	Availability of Respondents.....	25
	Socio-Economics Characteristics.....	25
	Soil Type and Topography.....	25
	Area Under Mash Cultivation.....	25
	Yield of Mash.....	25
	Source of Irrigation.....	26
	Sowing Time.....	26
	Seed Rate.....	26
	Seed Treatment.....	26
	<i>a. Fungicide Use</i>	26
	<i>b. Inoculum Use</i>	26
	Certified Seed Use.....	27
	Sowing Technique.....	27
	Fertilizer Use.....	27
	<i>a. Chemical Fertilizer</i>	27
	<i>b. Farm Yard Manure</i>	28
	Pre-Emergence Weedicide Use.....	28

#	Title	Page
	Agricultural Activities Performed by Moong Respondents.....	28
	Weedicide and Pesticide Use.....	28
	Sale Price.....	28
	Quantity of Mash Consumed in Home.....	28
	Satisfaction from Production Level.....	28
	Factors of Low Production.....	29
	Steps Required for Enhancement of Moong Production.....	29
	Source of Income.....	29
	Knowledge of Respondent About Mash Variety.....	29
	Cropping Pattern.....	29
	Cropping Intensity.....	29
	Knowledge of Respondents About Mash Diseases and Their Control.....	29
	Knowledge of Respondents About Mash Insects and Their Control.....	30
	Bench Mark Survey Report (Gram).....	30
	Availability of Respondent.....	30
	Socio-Economics Characteristics.....	30
	Soil Type and Topography.....	30
	Area Under Gram Cultivation.....	31
	Yield of Gram.....	31
	Source of Irrigation.....	31
	Sowing Time.....	31
	Seed Rate.....	32
	Seed Treatment.....	32
	<i>a. Fungicide Use.....</i>	<i>32</i>
	<i>b. Inoculum Use.....</i>	<i>32</i>
	Certified Seed Use.....	32
	Sowing Technique.....	33
	Fertilizer Use.....	33
	<i>a. Chemical Fertilizer.....</i>	<i>33</i>
	<i>b. Farm Yard Manure.....</i>	<i>33</i>
	Pre-Emergence Weedicide Use.....	34
	Agricultural Activities Performed by Gram Respondents.....	34
	Weedicide and Pesticide Use.....	34
	Sale Price.....	34
	Quantity of Gram Consumed in Home.....	34
	Satisfaction from Production Level.....	34
	Factors of Low Production.....	34
	Steps Required for Enhancement of Gram Production.....	34
	Source of Income.....	35

#	Title	Page
	Knowledge of Respondent About Gram Variety.....	35
	Cropping Pattern.....	35
	Cropping Intensity.....	35
	Knowledge of Respondents About Gram Diseases and Their Control.....	35
	Knowledge of Respondents About Gram Insects and Their Control.....	35
	Bench Mark Survey Report (Lentil)	36
	Availability of Respondents.....	36
	Socio-Economics Characteristics.....	36
	Soil Type and Topography.....	36
	Area Under Lentil Cultivation.....	36
	Yield of Lentil.....	37
	Source of Irrigation.....	37
	Sowing Time.....	37
	Seed Rate.....	37
	Seed Treatment.....	38
	<i>a. Fungicide Use</i>	38
	<i>b. Inoculum Use</i>	38
	Certified Seed Use.....	38
	Sowing Technique.....	38
	Fertilizer Use.....	39
	<i>a. Chemical Fertilizer</i>	39
	<i>b. Farm Yard Manure</i>	39
	Pre-Emergence Weedicide Use.....	39
	Agricultural Activities Performed by Lentil Respondents.....	39
	Weedicide and Pesticide Use.....	39
	Sale Price.....	39
	Quantity of Lentil Consumed in Home.....	40
	Satisfaction from Production Level.....	40
	Factors of Low Production.....	40
	Steps Required for Enhancement of Lentil Production.....	40
	Source of Income.....	40
	Knowledge of Respondent About Lentil Variety.....	40
	Cropping Pattern.....	40
	Cropping Intensity.....	41
	Knowledge of Respondents About Lentil Diseases and Their Control.....	41
	Knowledge of Respondents About Lentil Insects and Their Control.....	41

#	Title	Page
	Average Prices per Acre of Agricultural Activities and Price Per Bag of Fertilizers Reported By DOA's.....	41
4	Recommendations	42

List of Tables

#	Title	Page
I	Area, Production and Yield of Moong in Punjab.....	2
II.	Area, Production and Yield of Mash in Punjab.....	3
III.	Area, Production and Yield of Gram in Punjab.....	5
IV.	Area, Production and Yield of Lentil in Punjab.....	6
V.	Import Quantity of Pulses of Pakistan.....	8
VI.	Export Quantity of Pulses of Pakistan.....	9
VII.	Year Wise / Component Wise Physical Targets & Achievement of Project Interventions.....	14
VIII.	Year Wise/Component Wise Financial Phasing & Utilization for the Scheme "Promotion of Pulses Cultivation in Punjab".....	16
IX.	District Wise Sample Size of Pulses Respondents.....	17
1	Education Status of Moong Farmers (percentage).....	44
2	Average Family Size of Moong farmers.....	45
3	Land Utilization of Moong farmers (sum).....	46
4	Average Rent of Moong farmers.....	47
5	Average Value of Land of Moong farmers.....	48
6	Soil Type of Moong farmers (Percentage).....	49
7	Soil Topography of Moong farmers (Sum).....	50
8	Sowing Area of Moong (Sum).....	51
9	Weighted Average of Production of Moong.....	52
10	Average Seed rate of Moong.....	53
11	Sowing Time of Moong on Leveled Area sown in Kharif 2013 (Percentage).....	54
12	Sowing Time of Moong on Uneveled Area sown in Kharif 2013 (Percentage).....	55
13	Sowing Time of Moong on Leveled Area sown in Rabi 2013-14 (Percentage).....	56
14	Average Number of Rains in Moong Growing Areas.....	57
15	Main Source of Irrigation on Leveled Area of Moong farmers (percentage).....	58
16	Main Source of Irrigation on Unleveled Area of Moong farmers (percentage).....	59
17	Use of Fungicide on Moong Seed before Sowing (percentage).....	60
18	Use of Inoculum on Moong Seed before Sowing (percentage).....	61
19	Average quantity of Water and Sugar used to inoculate the Seed of Moong.....	62
20	Source of Inoculum Injection Purchase of Moong farmers	63

#	Title	Page
	(Percentage).....	
21	Use of Certified Seed of Moong (percentage).....	64
22	Area under Certified Seed of Moong (sum).....	65
23	Source of Certified Seed of Moong farmers (Percentage).....	66
24	Sowing Method of Moong farmers (percentage).....	67
25	Row to Row Distance for Drill and Pore Sowing of Moong farmers (Percentage).....	68
26	Plant to Plant Distance for Drill and Pore Sowing of Moong farmers (Percentage).....	69
27	Moong Planted after Wheat Crop before Rice Sowing in Rice Sowing Areas.....	70
28	Average Use of Chemical Fertilizer.....	71
29	Use of Farm Yard Manure (percentage).....	72
30	Average Quantity of Farm Yard Manure by Moong Farmers.....	73
31	Use of Weedicide on Moong as Pre-emergence of Weed (percentage).....	74
32	Average No. of Agricultural Activities by Moong Farmers.....	75
33	Average Quantity of Weedicide and Pesticide Used by Moong Farmers.....	76
34	Average Sale Price of Moong (Rs./Maund).....	77
35	Average Home Consumption of Moong by Moong Farmers.....	78
36	Satisfaction from Current Production Level of Moong (Percentage).....	79
37	Factors of Low Production of Moong (Percentage).....	80
37.a	Factors of Low Production of Moong (Percentage).....	81
38	Steps by Government to Increase the Production Level of Moong (percentage).....	82
38.a	Steps by Government to Increase the Production Level (percentage)..	83
39	Sources of Non-Farm Income of Moong Farmers.....	84
40	Varieties of Moong (Percentage).....	85
40.a	Varieties of Moong (Percentage).....	86
41	Cropping Pattern (% of Cropped Area).....	87
41.a	Cropping Pattern (% of Cropped Area).....	88
41.b	Cropping Pattern (% of Cropped Area).....	89
41.c	Cropping Pattern (% of Cropped Area).....	90
42	Cropping Intensity (% of Cultivated Area).....	91
43	Diseases of Moong known by Respondents (percent).....	92
44	Diseases and their Control (Percentage).....	93
45	Insects of Moong known by Respondents.....	95
45.a	Insects of Moong known by Respondents.....	96

#	Title	Page
46	Insects of Moong and their Control (Percentage).....	97
47	Education Status of Mash Farmers (percentage).....	99
48	Average Family Size of Mash Farmers.....	100
49	Land Utilization of Mash Farmers (sum).....	100
50	Average Rent of Land of Mash Farmers.....	101
51	Average Value of Land of Mash Farmers.....	102
52	Soil Type of Mash Farmers (Percentage).....	102
53	Soil Topography of Mash Farmers (Sum).....	103
54	Sowing Area of Mash (Sum).....	104
55	Average Production of Mash (Maund/Acre).....	104
56	Main Source of Irrigation of Leveled Area of Mash Farmers (percentage).....	105
57	Main Source of Irrigation of Unleveled Area of Mash Farmers (percentage).....	106
58	Average Number of Rains in Gram Growing Areas.....	106
59	Sowing Time of Mash on Leveled Area Sown in Kharif 2013 (Percentage).....	107
60	Sowing Time of Mash on Unleveled Area Sown in Kharif 2013 (Percentage).....	108
61	Average Seed Rate of Mash (Kg/Acre).....	108
62	Use of Fungicide on Mash Seed before Sowing (percentage).....	109
63	Use of Inoculum on Gram Seed before Sowing (percentage).....	110
64	Average quantity of Water and Sugar used to Inoculate the Seed of Mash.....	110
65	Source of Inoculum injection Purchase of Mash Farmers (Percentage).....	111
66	Use of Certified Seed of Mash (percentage).....	112
67	Area under Certified Seed of Mash (sum).....	112
68	Source of Purchase of Certified Seed of Mash Farmers (Percentage).	113
69	Sowing Method of Mash Farmers (percentage).....	114
70	Row to Row Distance for Drill and Pore Sowing of Mash (Percentage)	114
71	Plant to Plant Distance for Drill and Pore Sowing of Mash (Percentage).....	115
72	Mash Planted after Wheat Crop before Rice Sowing in Rice Sowing Area.....	116
73	Average Use of Chemical Fertilizer by Mash farmers (Bags/Acre).....	116
74	Use of Farm Yard Manure by Mash farmers (percentage).....	117
75	Average Quantity of Farm Yard Manure Applied by Mash Farmers.....	118
76	Use of Weedicide on Mash as Pre-emergence of Weed (percentage).	118
77	Average No. of Agricultural Activities by Mash Farmers.....	119

#	Title	Page
78	Average Quantity of Weedicide and Pesticide Used by Mash farmers (Liter/Kg per Acre).....	120
79	Average Sale Price of Mash (Rs./Maund).....	120
80	Average Home Consumption of Mash by Mash Farmers (Maunds/Year).....	121
81	Satisfaction from Current Production Level of Mash (Percentage).....	122
82	Factors of Low Production of Mash Reported by Mash Farmers (Percentage).....	122
83	Steps Required by Government to Increase the Production Level of Mash (percentage).....	123
83.a	Steps Required by Government to Increase the Production Level of Mash (percentage).....	124
84	Sources of Non-Farm Income of Mash Farmers.....	124
85	Varieties of Mash Cultivated by Mash Farmers (Percentage).....	125
86	Cropping Pattern (% of Cropped Area).....	126
86.a	Cropping Pattern (% of Cropped Area).....	126
86.b	Cropping Pattern (% of Cropped Area).....	127
86.c	Cropping Pattern (% of Cropped Area).....	128
87	Cropping Intensity (% of Cultivated Area).....	128
88	Knowledge of Diseases to Mash Farmers (percentage).....	129
89	Knowledge of Diseases Controlling Techniques to Mash Farmers (Percentage).....	130
90	Knowledge of Insects to Mash Farmers.....	131
91	Knowledge of Insects Controlling Techniques to Mash Farmers (Percentage).....	131
92	Education Status of Gram Farmers (percentage).....	133
93	Average Family Size of Gram Farmers.....	134
94	Land Utilization of Gram Farmers (sum).....	135
95	Average Rent of Land of Gram Farmers.....	136
96	Average Value of Land of Gram Farmers.....	137
97	Soil Type of Gram Farmers (Percentage).....	138
98	Soil Topography of Gram Farmers (Sum).....	139
98.a	Soil Topography of Gram Farmers (Sum).....	140
99	Sowing Area of Gram (Sum).....	141
99.a	Sowing Area of Gram (Sum).....	142
100	Average Production of Gram (Maunds/Acre).....	143
101	Main Source of Irrigation of Leveled Area of Gram Farmers (percentage).....	144
102	Main Source of Irrigation of Unleveled Area of Gram Farmers (percentage).....	145

#	Title	Page
103	Main Source of Irrigation of Dunned Area of Gram Farmers (percentage).....	146
104	Main Source of Irrigation of Semi dunned Area of Gram Farmers (percentage).....	147
105	Average Number of Rains in Gram Growing Areas.....	148
106	Sowing Time of Gram Farmers of Leveled Area (Percentage).....	149
107	Sowing Time of Gram Farmers of Unleveled Area (Percentage).....	150
108	Sowing Time of Gram Farmers of Dunned Area (Percentage).....	151
109	Sowing Time of Gram Farmers of Semi dunned Area (Percentage).....	152
110	Average Seed rate of Gram (kg/Acre).....	153
111	Use of Fungicide on Gram Seed before Sowing (percentage).....	154
112	Use of Inoculum on Gram Seed before Sowing (percentage).....	155
113	Average quantity of Water and Sugar used by Gram Farmers to Inoculate the Seed.....	156
114	Source of Inoculum Injection Purchase of Gram Farmers (Percentage).	157
115	Use of Certified Seed of Gram (percentage).....	158
116	Area under Certified Seed of Gram (sum).....	159
117	Source of Purchase of Certified Seed of Gram Farmers (percentage)...	160
118	Sowing Method of Gram Farmers (percentage).....	161
119	Row to Row Distance for Drill and Pore Sowing of Gram Farmers (Percentage).....	162
120	Plant to Plant Distance for Drill and Pore Sowing of Gram Farmers (Percentage).....	163
121	Intercropping of Gram with Sugarcane (percentage).....	164
122	Average Use of Chemical Fertilizer by Gram Farmers (Bags/Acre).....	165
123	Use of Farm Yard Manure by Gram Farmers (percentage).....	166
124	Average Quantity of Farm Yard Manure Applied by Gram Farmers.....	167
125	Use of Weedicide on Gram as Pre-emergence of Weeds (percentage)..	168
126	Average No. of Agricultural Activities by Gram Farmers.....	169
127	Average Quantity of Weedicide and Pesticide Used by Gram Farmers (Liter/Kg per Acre).....	170
128	Average Sale Price of Gram (Rs./Maund).....	171
129	Average Home Consumption of Gram by Gram Farmers (Maunds/Year).....	172
130	Satisfaction from Current Production Level of Gram (Percentage).....	173
131	Factors of Low Production of Gram Reported by Gram Farmers (Percentage).....	174
131.a	Factors of Low Production of Gram reported by Gram Farmers (percentage).....	175
132	Steps Required by Government to Increase the Production Level of	176

#	Title	Page
	Gram (percentage).....	
132.a	Steps Required by Government to Increase the Production Level of Gram.....	177
133	Sources of Non-Farm Income of Gram Farmers.....	178
134	Varieties of Gram Cultivated by Gram Farmers (percentage).....	179
135	Varieties of Gram Cultivated by Gram Farmers (percentage).....	180
136	Cropping Pattern (% of Cropped Area).....	181
136.a	Cropping Pattern (% of Cropped Area).....	182
136.b	Cropping Pattern (% of Cropped Area).....	183
136.c	Cropping Pattern (% of Cropped Area).....	184
136.d	Cropping Pattern (% of Cropped Area).....	185
137	Cropping Intensity (% of Cultivated Area).....	186
138	Knowledge of Diseases to Gram Farmers (percent).....	187
139	Knowledge of Diseases Controlling Techniques to Gram Farmers (Percentage).....	188
140	Knowledge of Insects to Gram Farmers (Percentage).....	190
141	Knowledge of Insects Controlling Techniques to Gram Farmers (Percentage).....	191
142	Education Status of Lentil Farmers (percentage).....	193
143	Average Family Size of Lentil Farmers.....	194
144	Land Utilization of Lentil Farmers (sum).....	195
145	Average Rent of Land of Lentil Farmers.....	196
146	Average Value of Land of Lentil Farmers.....	197
147	Soil Type of Lentil Farmers (Percentage).....	198
148	Soil Topography of Lentil Farmers (Sum).....	199
148.a	Soil Topography of Lentil Farmers (Sum).....	200
149	Sowing Area of Lentil (Sum).....	201
149.a	Sowing Area of Lentil (Sum).....	202
150	Average Production of Lentil (Maunds/Acre).....	203
151	Main Source of Irrigation of Leveled Area of Lentil Farmers (percentage).....	204
152	Main Source of Irrigation of Unleveled Area of Lentil Farmers (percentage).....	205
153	Average Number of Rains in Lentil Growing Areas.....	206
154	Sowing Time of Lentil Farmers of Leveled Area (Percentage).....	207
155	Sowing Time of Lentil Farmers of Unleveled Area (Percentage).....	208
156	Average Seed rate of Lentil (Kg/Acre).....	209
157	Use of Fungicide on Lentil Seed before Sowing (percentage).....	210
158	Use of Inoculum on Lentil Seed before Sowing (percentage).....	211
159	Average quantity of Water and Sugar used by Lentil Farmers to	212

#	Title	Page
	Inoculate the Seed.....	
160	Source of Inoculum Injection Purchase of Lentil Farmers (Percentage)..	213
161	Use of Certified Seed of Lentil (percentage).....	214
162	Area under Certified Seed of Lentil (sum).....	215
163	Source of Purchase of Certified Seed of Lentil Farmers (percentage)...	216
164	Sowing Method of Lentil Farmers (percentage).....	217
165	Row to Row Distance for Drill and Pore Sowing of Lentil Farmers (Percentage).....	218
166	Plant to Plant Distance for Drill and Pore Sowing of Lentil Farmers (Percentage).....	219
167	Intercropping of Lentil with Sugarcane (percentage).....	220
168	Average Use of Chemical Fertilizer by Lentil Farmers (Bags/Acre).....	221
169	Use of Farm Yard Manure by Lentil Farmers (percentage).....	222
170	Average Quantity of Farm Yard Manure Applied by Lentil Farmers (Maunds/Acre).....	223
171	Use of Weedicide on Lentil as Pre-emergence of Weeds (percentage)..	224
172	Average No. of Agricultural Activities by Lentil Farmers.....	225
173	Average Quantity of Weedicide and Pesticide Used by Lentil Farmers (Liter/Kg per Acre).....	226
174	Average Sale Price of Lentil (Rs./Maund).....	227
175	Average Home Consumption of Lentil by Lentil Farmers (Maunds/Year)	228
176	Satisfaction from Current Production Level of Lentil (Percentage).....	229
177	Factors of Low Production of Lentil Reported by Lentil Farmers (Percentage).....	230
177.a	Factors of Low Production of Lentil Reported by Lentil Farmers (Percentage).....	231
178	Steps Required by Government to Increase the Production Level of Lentil (percentage).....	232
178.a	Steps Required by Government to Increase the Production Level of Lentil (percentage).....	233
179	Sources of Non-Farm Income of Lentil Farmers.....	234
180	Varieties of Lentil Cultivated by Lentil Farmers (percentage).....	235
181	Cropping Pattern (% of Cropped Area).....	236
181.a	Cropping Pattern (% of Cropped Area).....	237
181.b	Cropping Pattern (% of Cropped Area).....	238
181.c	Cropping Pattern (% of Cropped Area).....	239
182	Cropping Intensity (% of Cultivated Area).....	240
183	Knowledge of Diseases to Lentil Farmers (percent).....	241
184	Knowledge of Diseases Controlling Techniques to Lentil Farmers (Percentage).....	242

#	Title	Page
185	Knowledge of Insects to Lentil Farmers (Percentage).....	243
186	Knowledge of Insects Controlling Techniques to Lentil Farmers (Percentage).....	244
187	Average Prices per Acre of Agricultural Activities Reported By DOA's	246
188	Price per Bag of Fertilizers Reported By DOA's	247

LIST OF FIGURES

#	Title	Page
1	Area, Production and Yield of Moong in Punjab.....	3
2	Area, Production and Yield of Mash in Punjab.....	4
3	Area, Production and Yield of Gram in Punjab.....	6
4	Area, Production and Yield of Lentil in Punjab.....	7
5	Import Quantity of Pulses of Pakistan.....	9
6	Export Quantity of Pulses of Pakistan.....	10

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