

## **CHAPTER 6**

### **EFFECTS OF COMMERCIALIZATION ON AGRICULTURE AND VIEWS RELATED TO AGRICULTURAL SUSTAINABILITY**

A farm household is generally considered commercialised if it is growing considerable amount of cash commodities, earmarking proportion of its resources to marketable commodities (Immink and Alarcon, 1993; Strasberg et al., 1999). However, commercialisation is not just supplying surplus products to the markets but it involves both input and output aspect of production, decision making of farm households with regard to production and marketing simultaneously (Von Braun et al., 1994; Pingali, 1997). It is worth noticing that commercialisation is not prescribed to cash crop only, in fact traditional food crops are marketed to a large extent as well (Von Braun et al., 1994; Gabre-Madhin et al., 2007). In other words, commercialized households targets market in their production decisions rather than simply supplying surplus. (Pingali and Rosegrant, 1995). The decision related to commercialised farming productions depends on market signals and comparable advantages. Whereas feasibility of production and subsistence requirements of household consumption determine the decision of subsistence farming (Jaleta et al., 2009).

For this research, “wheat” and “rice” are considered as commercial crops as they are grown in Punjab primarily for commercial selling apart from self-consumption of the farmer. Moreover, “wheat” and “rice” are major crops primarily produced in this area, as such these crops were considered as commercial crops for the present study.

In this chapter, the focus shall be on use of commercial crops by the respondents, its influence on their life-style, use of various modes of sale of their crops, presence of credit/loans in order to carry out their new agricultural activities etc.

#### **USE OF COMMERCIAL CROPS:**

The present study considers “wheat” and “rice” as the commercial crops as these crops are grown predominantly in this area. These crops are primarily grown for the purpose of selling in the market for earning profit.

**Table 6.1**  
**Distribution of Respondents on the basis of whether they are opting for commercial crops or not**

Commercial crops only	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Yes</b>	133 (88.7%)	15 (100.0%)	148 (89.7%)	100 (97.1%)	12 (100.0%)	112 (97.4%)	<b>260</b> <b>(92.9%)</b>
<b>No</b>	17 (11.3%)	0 (0.0%)	17 (10.3%)	3 (2.9%)	0 (0.0%)	3 (2.6%)	<b>20</b> <b>(7.1%)</b>
<b>Total</b>	<b>150</b> <b>(53.5%)</b>	<b>15</b> <b>(5.3%)</b>	<b>165</b> <b>(58.9%)</b>	<b>103</b> <b>(36.7%)</b>	<b>12</b> <b>(4.2%)</b>	<b>115</b> <b>(41.1%)</b>	<b>280</b> <b>(100%)</b>

Table 6.1 depicts the number of respondents opting for commercial crops, that is, wheat and rice. Table shows that higher proportion of respondents 260 (92.9%) were growing only commercial crops alone in their field, that is, they were growing the crops for the purpose of selling in the market and not just for the personal consumption. A less proportion of respondents, that is, 23 (8.2%) were found not growing commercial crops alone they were growing other crops as well. It was found that a higher proportion of respondents, that is, 112 (97.4%) from Ajnala block were opting more for commercial crops than in Jandiala block which accounts to 148 (89.7%). The reason could be attributed to varied crops grown by respondents from Jandiala block other than commercial crops, whereas the majority of respondents of Ajnala block grew commercial crops or the conventional crops for their sustenance. Perhaps because it involves less risk, remunerative prices of commercial crops, therefore they had less inclination towards growing other crops. Among the villages, Manawala village reported to have a higher proportion of respondents who were growing other crops along with commercial crops. It implies diversification of crops and better management of resources.

The answers of respondents who were adopting commercial crops were further related with their education, income and size of land holdings.

**Table 6.1.1**  
**Distribution of Respondents on the basis adopting commercial crops related with their education, income and size of land holding**

	Adopting commercial crops													
	Manawala		Dhirakot		Total		Panj garain wala		Kotli jimmat singh		Total		Grand total	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
<b>Education</b>														
<b>Illiterate</b>	25 (18.8%)	0 (0.0%)	3 (25.0%)	0 (0.0%)	28 (18.9%)	0 (0.0%)	29 (29.0%)	0 (0.0%)	3 (25.0%)	0 (0.0%)	32 (28.6%)	0 (0.0%)	60 (23.1%)	0 (0.0%)
<b>Literate</b>	4 (3.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (2.7%)	0 (0.0%)	9 (9.0%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	10 (8.9%)	0 (0.0%)	14 (5.4%)	0 (0.0%)
<b>Primary</b>	39 (29.3%)	0 (0.0%)	6 (50.0%)	0 (0.0%)	45 (30.4%)	0 (0.0%)	25 (25.0%)	0 (0.0%)	3 (25.0%)	0 (0.0%)	28 (25.0%)	0 (0.0%)	73 (28.1%)	0 (0.0%)
<b>Secondary</b>	24 (18.0%)	0 (0.0%)	4 (33.3%)	0 (0.0%)	28 (18.9%)	0 (0.0%)	17 (17.0%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	18 (16.1%)	0 (0.0%)	46 (17.7%)	0 (0.0%)
<b>Higher Secondary</b>	22 (16.5%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	23 (15.5%)	0 (0.0%)	5 (5.0%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	6 (5.4%)	0 (0.0%)	29 (11.2%)	0 (0.0%)
<b>Graduation</b>	17 (12.8%)	14 (82.4%)	1 (8.3%)	0 (0.0%)	18 (12.2%)	14 (82.4%)	14 (14.0%)	3 (100%)	3 (25.0%)	0 (0.0%)	17 (15.2%)	3 (100%)	35 (13.5%)	17 (85.0%)
<b>Any other*</b>	2 (1.5%)	3 (17.6%)	0 (0.0%)	0 (0.0%)	2 (1.4%)	3 (17.6%)	1 (1.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.9%)	0 (0.0%)	3 (1.2%)	3 (15.0%)
<b>Total</b>	<b>133</b> <b>(88.7%)</b>	<b>17</b> <b>(11.3%)</b>	<b>15</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>148</b> <b>(89.7%)</b>	<b>17</b> <b>(10.3%)</b>	<b>100</b> <b>(97.1%)</b>	<b>3</b> <b>(2.9%)</b>	<b>12</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>112</b> <b>(97.4%)</b>	<b>3</b> <b>(2.6%)</b>	<b>260</b> <b>(92.9%)</b>	<b>20</b> <b>(7.1%)</b>
<b>Income (in Rupees)</b>														
<b>Upto 1 lakh</b>	1 (0.8%)	3 (17.6%)	0 (0.0%)	0 (0.0%)	1 (0.7%)	3.0 (17.6%)	7 (7.0%)	1 (33.3%)	3 (25.0%)	0 (0.0%)	10 (8.9%)	1 (33.3%)	11.0 (4.2%)	4.0 (20.0%)
<b>1-2 lakhs</b>	12 (9.0%)	2 (11.8%)	1 (6.7%)	0 (0.0%)	13 (8.8%)	2.0 (11.8%)	13 (13.0%)	1 (33.3%)	0 (0.0%)	0 (0.0%)	13 (11.6%)	1 (33.3%)	26.0 (10.0%)	3.0 (15.0%)
<b>2-3 lakhs</b>	12 (9.0%)	1 (5.9%)	6 (40.0%)	0 (0.0%)	18 (12.2%)	1.0 (5.9%)	19 (19.0%)	1 (33.3%)	3 (25.0%)	0 (0.0%)	22 (19.6%)	1 (33.3%)	40.0 (15.4%)	2.0 (10.0%)
<b>3-4 lakhs</b>	22 (16.5%)	3 (17.6%)	4 (26.7%)	0 (0.0%)	26 (17.6%)	3.0 (17.6%)	18 (18.0%)	0 (0.0%)	5 (41.7%)	0 (0.0%)	23 (20.5%)	0 (0.0%)	49.0 (18.8%)	3.0 (15.0%)
<b>4-5 lakhs</b>	24 (18.0%)	0 (0.0%)	3 (20.0%)	0 (0.0%)	27 (18.2%)	0.0 (0.0%)	20 (20.0%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	21 (18.8%)	0 (0.0%)	48.0 (18.5%)	0.0 (0.0%)
<b>More than 5 lakhs</b>	62 (46.6%)	8 (47.1%)	1 (6.7%)	0 (0.0%)	63 (42.6%)	8.0 (47.1%)	23 (23.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	23 (20.5%)	0 (0.0%)	86.0 (33.1%)	8.0 (40.0%)
<b>Total</b>	<b>133</b> <b>(88.7%)</b>	<b>17</b> <b>(11.3%)</b>	<b>15</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>148</b> <b>(89.7%)</b>	<b>17</b> <b>(10.3%)</b>	<b>100</b> <b>(97.1%)</b>	<b>3</b> <b>(2.9%)</b>	<b>12</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>112</b> <b>(97.4%)</b>	<b>3</b> <b>(2.6%)</b>	<b>260</b> <b>(92.9%)</b>	<b>20</b> <b>(7.1%)</b>
<b>Size of land holding</b>														
<b>Marginal (&lt;1 hectare)</b>	3 (2.3%)	1 (5.9%)	0 (0.0%)	0 (0.0%)	3 (2.0%)	1 (5.9%)	5 (5.0%)	1 (1.7%)	3 (25.0%)	0 (0.0%)	8 (7.1%)	1 (1.7%)	11 (4.2%)	2 (10.0%)
<b>Small (1-2 hectares)</b>	8 (6.0%)	0 (0.0%)	3 (25.0%)	0 (0.0%)	11 (7.4%)	0 (0.0%)	7 (7.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	7 (6.3%)	0 (0.0%)	18 (6.9%)	0 (0.0%)
<b>Semi-medium (2-4 hectares)</b>	33 (24.8%)	5 (29.4%)	1 (8.3%)	0 (0.0%)	34 (23.0%)	5 (29.4%)	19 (19.0%)	1 (1.7%)	3 (25.0%)	0 (0.0%)	22 (19.6%)	1 (1.7%)	56 (21.5%)	6 (30.0%)
<b>Medium (4-10 hectares)</b>	54 (40.6%)	5 (29.4%)	7 (58.3%)	0 (0.0%)	61 (41.2%)	5 (29.4%)	41 (41.0%)	1 (1.7%)	4 (33.3%)	0 (0.0%)	45 (40.2%)	1 (1.7%)	106 (40.8%)	6 (30.0%)
<b>Large (10&gt; hectares)</b>	35 (26.3%)	6 (35.3%)	4 (33.3%)	0 (0.0%)	39 (26.4%)	6 (35.3%)	28 (28.0%)	0 (0.0%)	2 (16.7%)	0 (0.0%)	30 (26.8%)	0 (0.0%)	69 (26.5%)	6 (30.0%)
<b>Total</b>	<b>133</b> <b>(88.7%)</b>	<b>17</b> <b>(11.3%)</b>	<b>15</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>148</b> <b>(89.7%)</b>	<b>17</b> <b>(10.3%)</b>	<b>100</b> <b>(97.1%)</b>	<b>3</b> <b>(2.9%)</b>	<b>12</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>112</b> <b>(97.4%)</b>	<b>3</b> <b>(2.6%)</b>	<b>260</b> <b>(92.9%)</b>	<b>20</b> <b>(7.1%)</b>

Table 6.1.1 indicates that higher proportion of respondents growing commercial crops were educated upto primary level, that is, 73 (28.1%) followed by respondents who were illiterate, that is, 60 (23.1%). As many as 46 (17.7%) respondents growing commercial crops were educated till secondary level. In Jandiala block, higher proportion of respondents growing commercial crops were educated upto primary level, that is, 45 (30.4%). Equal number of respondents were found illiterate and secondary level educated amounting to 28 (18.9%). However, higher proportion of respondents who were illiterate were seen growing commercial crops that is, 32 (28.6%) followed by respondents who were educated upto primary level that is, 28 (25%). Result of chi-square,  $\chi^2 = 84.87$ ,  $df=6$ ,  $p$ -value at 0.05 (level of significance =12.59) shows that there is a significant association between education and use of commercial crops.

However, in terms of agricultural income, higher proportion of respondents having income more than Rupees 5 lakhs per annum, that is, 86 (33.1%) were growing commercial crops, followed by 49 (18.8%) respondents having income of Rupees 3-4 lakhs per annum. As many as 48 (18.5%) respondents growing commercial crops were having income Rupees 4-5 lakhs per annum. However, more respondents growing commercial crops were found having income of more than Rupees 5 lakhs per annum in Jandiala block that is, 63 (42.6%) in comparison to 23 (20.5%) in Ajnala block. Result of chi-square,  $\chi^2 = 13.5$ ,  $df=5$ ,  $p$ -value at 0.05 (level of significance =11.07) shows that there is significant association between income and use of commercial crops. This lends support to the hypothesis that Socio-economic profile of farmers' is likely to vary with the adoption of commercialisation of agriculture.

Moreover, higher proportion of farmers having medium size land holdings, that is, 106 (40.8%) were growing commercial crops followed by large size land holdings farmers that is, 69 (26.5%). Both of the blocks were in consonance with higher proportion of medium farmers followed by large farmers growing the commercial crops. Result of chi-square,  $\chi^2 = 3.9$ ,  $df=4$ ,  $p$ -value at 0.05 (level of significance =9.49) shows that there is no significant association between size of land holding and use of commercial crops.

A majority of respondents (260) who were growing commercial crops were further asked the reasons for opting them. Table 6.1.2 describes the reasons stated by the respondents for selection of commercial crops.

**Table 6.1.2**

**Distribution of Respondents on the basis of reasons opting for the commercial crops**

Reasons of selecting commercial crops	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>More profitable</b>	63 (47.4%)	8 (53.3%)	71 (48.0%)	52 (52.0%)	5 (41.7%)	57 (50.9%)	<b>128</b> <b>(49.2%)</b>
<b>Readily sold</b>	42 (31.6%)	2 (13.3%)	44 (29.7%)	32 (32.0%)	6 (50.0%)	38 (33.9%)	<b>82</b> <b>(31.5%)</b>
<b>Require less inputs</b>	7 (5.3%)	3 (20.0%)	10 (6.8%)	10 (10.0%)	1 (8.3%)	11 (9.8%)	<b>21</b> <b>(8.1%)</b>
<b>Assured income</b>	5 (3.8%)	2 (13.3%)	7 (4.7%)	2 (2.0%)	0 (0.0%)	2 (1.8%)	<b>9</b> <b>(3.5%)</b>
<b>Any other reasons</b>	16 (12.0%)	0 (0.0%)	16 (10.8%)	4 (4.0%)	0 (0.0%)	4 (3.6%)	<b>20</b> <b>(7.7%)</b>
<b>TOTAL</b>	<b>133</b> <b>(51.2%)</b>	<b>15</b> <b>(5.8%)</b>	<b>148</b> <b>(56.9%)</b>	<b>100</b> <b>(38.5%)</b>	<b>12</b> <b>(4.6%)</b>	<b>112</b> <b>(43.1%)</b>	<b>260</b> <b>(100%)</b>

Table 6.1.2 highlights the responses of the respondents during field survey. The table shows that a higher proportion of respondents, that is, 128 (49.8%) advocated the reason that commercial crops were more profitable than other crops, followed by 82 (31.5%) respondents who conceded that these crops are readily sold in the market. It means they are in more demand than other crops as the most procurement agencies can easily procure these crops and store them. As many as 21 (8.1%) respondents said that these crops required a fewer inputs in comparison to other crops such as sugarcane which is labour intensive crop and requires good amount of irrigation as well. A less proportion, 9(3.5%) respondents said these crops provide assured income to households. As many as 20 (7.8%) respondents expressed that these crops could be easily stored as they were not perishable while other crops were either semi perishable or perishable. The government also provides support in the form of Minimum Support Price (MSP), and that there was not much profit in other crops as there were more risks involved. The table highlights that earning more profit is the primary reason of respondents encouraging them to grow commercial crops. Secondly, these crops were sold immediately after harvest as buyers were already ready to buy these crops, whereas they may have to wait or negotiate to sell other crops. Thus, monetary gains and expedient purchasing of these crops promote the producer to produce these crops.

**Table 6.1.3**  
**Distribution of Respondents on the basis of whether they found commercial crops beneficial or not**

Found Commercial crops beneficial	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
Yes	134 (89.3%)	15 (100.0%)	149 (90.3%)	99 (96.1%)	9 (75.0%)	108 (93.9%)	<b>257</b> <b>(91.8%)</b>
No	16 (10.7%)	0 (0.0%)	16 (9.7%)	4 (3.9%)	3 (25.0%)	7 (6.1%)	<b>23</b> <b>(8.2%)</b>
<b>Total</b>	<b>150</b> <b>(53.5%)</b>	<b>15</b> <b>(5.3%)</b>	<b>165</b> <b>(58.9%)</b>	<b>103</b> <b>(36.7%)</b>	<b>12</b> <b>(4.2%)</b>	<b>115</b> <b>(41.1%)</b>	<b>280</b> <b>(100%)</b>

To determine if the respondents found commercial crops beneficial, they were asked whether they thought commercial crops were beneficial and what were the benefits of choosing commercial crops over other crops.

Table 6.1.3 highlights the numbers of respondents who think that commercial crops are beneficial. It is observed from the table that an overwhelming majority, 257 (91.8%) respondents mentioned that commercial crops were beneficial to them while a less proportion of respondents, that is, 23 (8.2%) did not find commercial crops beneficial to them.

**Table 6.1.4**  
**Distribution of Respondents on the basis of benefits derived from opting for commercial crops**

Benefits choosing commercial crops	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
More profit	44 (32.8%)	4 (26.7%)	48 (32.2%)	28 (28.3%)	1 (11.1%)	29 (26.7%)	<b>77</b> <b>(30.0%)</b>
Prompt payments	43 (32.1%)	2 (13.3%)	45 (30.2%)	25 (25.3%)	3 (33.3%)	28 (25.9%)	<b>73</b> <b>(28.4%)</b>
Market available to sell	19 (14.2%)	5 (33.3%)	24 (16.1%)	34 (34.3%)	4 (44.4%)	38 (35.2%)	<b>62</b> <b>(24.1%)</b>
Less risk involved	18 (13.4%)	0 (0.0%)	18 (12.1%)	6 (6.1%)	0 (0.0%)	6 (5.6%)	<b>24</b> <b>(9.3%)</b>
Can be exported	5 (3.7%)	2 (13.3%)	7 (4.7%)	6 (6.1%)	1 (11.1%)	7 (6.5%)	<b>14</b> <b>(5.4%)</b>
Other benefits	5 (3.7%)	2 (13.3%)	7 (4.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	<b>7</b> <b>(2.7%)</b>
<b>TOTAL</b>	<b>134</b> <b>(52.1%)</b>	<b>15</b> <b>(5.8%)</b>	<b>149</b> <b>(57.9%)</b>	<b>99</b> <b>(38.5%)</b>	<b>9</b> <b>(3.2%)</b>	<b>108</b> <b>(42.1%)</b>	<b>257</b> <b>(100%)</b>

All the respondents who admitted that commercial crops are beneficial were further inquired as to what benefits they associate with these crops over other crops. The table 6.1.4 displays the responses of the respondents when asked about the benefits of commercial crops. A higher proportion of respondents 77 (30%) said that they derived more profits from these commercial crops, followed by 73 (28.4%) respondents who said they got prompt payments of their produce in lieu of these crops as these crops had high demand and more security was attached to these crops that these would be purchased. As many as 62 (24.1%) respondents found that these crops had better market than other crops because they were assured of the government procurement agencies that their produce would be procured if not sold in the private market. As many as 24 (9.3%) respondents declared that these crops involved less risk in comparison to other crops. As many as 14 (5.4%) respondents believed that these crops had demand overseas and hence could be exported as well. A very less proportion of respondents, 7(2.7) mentioned some other benefits such as these crops required less inputs, labour was easily available for these crops and they could be easily stored etc.

### **CHANGES IN LIFESTYLE:**

When we select any crop for cultivation it entails economic significance in the farmers' life. Profit gained or loss incurred bear huge impressions in the pocket of the farmer. Rising income or plunging profits effects the lifestyle of the farmers' and their families. Social class of an individual is determined by the economic status of an individual and therefore the economic gains earned in the farming can have an effect on the social status of the family as well. Apart from the social status, education level, expenditure on leisure activities and living also undergo change. In the present study an attempt was made to ponder on such changes associated with lifestyle due to selection of any particular crop. Hence, respondents were probed about the changes in their lifestyle observed on the selection of commercial crops and the following table will highlight the respondents who admitted changes in lifestyle and the changes observed in the lifestyle.

**Table 6.2**  
**Distribution of Respondents on the basis of whether they found lifestyle changes**  
**due to use of commercial crops**

Change in lifestyle observed	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
Yes	130 (86.7%)	15 (100.0%)	145 (87.9%)	101 (98.1%)	12 (100.0%)	113 (98.3%)	<b>258</b> <b>(92.1%)</b>
No	20 (13.3%)	0 (0.0%)	20 (12.1%)	2 (1.9%)	0 (0.0%)	2 (1.7%)	<b>22</b> <b>(7.9%)</b>
<b>Total</b>	<b>150</b> <b>(53.5%)</b>	<b>15</b> <b>(5.3%)</b>	<b>165</b> <b>(58.9%)</b>	<b>103</b> <b>(36.7%)</b>	<b>12</b> <b>(4.2%)</b>	<b>115</b> <b>(41.1%)</b>	<b>280</b> <b>(100%)</b>

Table 6.2 describes the respondents who admitted that they had experienced lifestyle changes by virtue of adopting commercial crops. It is observed from the table that the majority of respondents 258 (92.1%) accepted that they had experienced lifestyle changes since they have started growing commercial crops as these crops sold at higher prices. Besides these prices are guaranteed as they are also backed by government authorities which considerably reduce the risk involved in the crop production. A small proportion of the respondents, that is, 22 (7.9%) argued that they have not faced any lifestyle changes due to use of commercial crops may be because they had not found them lucrative or maybe they associated the changes in lifestyle to some other reasons instead of adopting commercial crops only.

**Table 6.2.1**  
**Distribution of Respondents on the basis of changes in lifestyle observed due to**  
**opting commercial crops**

Changes in lifestyle	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
Elevation in the social class of the family	44 (33.8%)	6 (40.0%)	50 (34.5%)	43 (42.6%)	3 (25.0%)	46 (40.7%)	<b>96</b> <b>(37.2%)</b>
Better educational attainment	41 (31.5%)	1 (6.7%)	42 (29.0%)	36 (35.6%)	3 (25.0%)	39 (34.5%)	<b>81</b> <b>(31.4%)</b>
Enhanced expenditure on luxuries	41 (31.5%)	7 (46.7%)	48 (33.1%)	21 (20.8%)	6 (50.0%)	27 (23.9%)	<b>75</b> <b>(29.1%)</b>
Changes in the family structure from joint to nuclear	3 (2.3%)	0 (0.0%)	3 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	<b>3</b> <b>(1.2%)</b>
Any other changes	1 (0.8%)	1 (6.7%)	2 (1.4%)	1 (1.0%)	0 (0.0%)	1 (0.9%)	<b>3</b> <b>(1.2%)</b>
<b>Total</b>	<b>130</b> <b>(50.6%)</b>	<b>15</b> <b>(5.8%)</b>	<b>145</b> <b>(56.4%)</b>	<b>101</b> <b>(39.1%)</b>	<b>12</b> <b>(4.6%)</b>	<b>113</b> <b>(43.8%)</b>	<b>258</b> <b>(100%)</b>



Farmers who accepted that they had encountered lifestyle changes since the adoption of commercial crops were further asked to specify the changes experienced. The table 6.2.1 illustrated the lifestyle changes as described by the respondents. It is observed from the table that a higher proportion of respondents, that is, 96 (37.2%) experienced elevation in the social class of the family, followed by, 81 (31.4%) respondents who thought that there was a change in educational level of the family as more persons of the family got educated or pursues higher education. As many as 75 (29.1%) respondents admitted that there was considerable increase in the expenditure on the luxurious things such as buying cars, clothes, spending lavishly on weddings etc which they could not afford earlier. It shows they are economically better off because of these crops. A very less proportion of respondents that is, only 3 (1.2%) said there was change in family structure from joint family to nuclear family which shows that most of the changes observed were materialistic but there are less changes in the terms of family structure and 3 (1.2%) respondents mentioned other reasons such as they got better equipments and more properties in hand.

**ECONOMIC SUSTAINABILITY OF AGRICULTURE:**

Agriculture is sustainable economically if the profits earned from the agriculture are adequate enough to meet the requirements of the farmer. If agriculture is not economically sufficing it would be unfeasible for any farmer to carry out agriculture. In order to gain insight on the economic sustainability of the respondents, they were asked about the sufficiency of profit and whether they were pursuing any other vocation besides agriculture.

**Table 6.3**  
**Distribution of Respondents on the basis of whether they found profit sufficient**  
**from commercial crops or not**

Found profit sufficient from commercial crops	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Yes</b>	75 (50.0%)	2 (13.3%)	77 (46.7%)	29 (28.2%)	4 (33.3%)	33 (28.7%)	<b>110 (39.3%)</b>
<b>No</b>	75 (50.0%)	13 (86.7%)	88 (53.3%)	74 (71.8%)	8 (66.7%)	82 (71.3%)	<b>170 (60.7%)</b>
<b>Total</b>	<b>150 (53.5%)</b>	<b>15 (5.3%)</b>	<b>165 (58.9%)</b>	<b>103 (36.7%)</b>	<b>12 (4.2%)</b>	<b>115 (41.1%)</b>	<b>280 (100%)</b>

The Table 6.3 shows that a fair proportion of respondents, 110 (39.3%) were content with income earned from the agriculture but a higher proportion, 170 (60.7%) respondents were not satisfied with the income earned from agriculture, that is, they thought the profit earned is not sufficient to meet their requirements and hence not sustainable. It was observed that a higher proportion of respondents, 82 (71.3%) of Ajnala block were not satisfied with the income earned from the agriculture alone as compared to respondents from Jandiala block which accounts to 88 (53.3%). The table also highlights disproportionate level of economic gains as respondents of Ajnala block did not find profit from agriculture sustainable in comparison to respondents of Jandiala block. Lack of economic sustainability can lead to feeling of dissatisfaction and indifference among the respondents, which in turn could influence their level of enthusiasm to pursue agriculture.

Table 6.3.1

**Distribution of Respondents according to those who found profit sufficient from commercial crops related with their education, income and size of land holding**

	Sufficiency of profit gained from commercial crops													
	Manawala		Dhirakot		Total		Panj garain wala		Kotli jimmat singh		Total		Grand total	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
<b>Education</b>														
<b>Illiterate</b>	16 (21.3%)	9 (12.0%)	0 (0.0%)	3 (23.1%)	16 (20.8%)	12 (13.6%)	6 (20.7%)	23 (31.1%)	0 (0.0%)	3 (37.5%)	6 (18.2%)	26 (31.7%)	22 (20.0%)	38 (22.4%)
<b>Literate</b>	1 (1.3%)	3 (4.0%)	0 (0.0%)	0 (0.0%)	1 (1.3%)	3 (3.4%)	3 (10.3%)	6 (8.1%)	0 (0.0%)	1 (12.5%)	3 (9.1%)	7 (8.5%)	4 (3.6%)	10 (5.9%)
<b>Primary</b>	21 (28.0%)	18 (24.0%)	1 (50.0%)	5 (38.5%)	22 (28.6%)	23 (26.1%)	8 (27.6%)	17 (23.0%)	3 (75.0%)	0 (0.0%)	11 (33.3%)	17 (20.7%)	33 (30.0%)	40 (23.5%)
<b>Secondary</b>	13 (17.3%)	11 (14.7%)	0 (0.0%)	4 (30.8%)	13 (16.9%)	15 (17.0%)	4 (13.8%)	13 (17.6%)	1 (25.0%)	0 (0.0%)	5 (15.2%)	13 (15.9%)	18 (16.4%)	28 (16.5%)
<b>Higher Secondary</b>	10 (13.3%)	12 (16.0%)	0 (0.0%)	1 (7.7%)	10 (13.0%)	13 (14.8%)	2 (6.9%)	3 (4.1%)	0 (0.0%)	1 (12.5%)	2 (6.1%)	4 (4.9%)	12 (10.9%)	17 (10.0%)
<b>Graduation</b>	13 (17.3%)	18 (24.0%)	1 (50.0%)	0 (0.0%)	14 (18.2%)	18 (20.5%)	6 (20.7%)	11 (14.9%)	0 (0.0%)	3 (37.5%)	6 (18.2%)	14 (17.1%)	20 (18.2%)	32 (18.8%)
<b>Any other*</b>	1 (1.3%)	4 (5.3%)	0 (0.0%)	0 (0.0%)	1 (1.3%)	4 (4.5%)	0 (0.0%)	1 (1.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.2%)	1 (0.9%)	5 (2.9%)
<b>Total</b>	<b>75</b> <b>(50.0%)</b>	<b>75</b> <b>(50.0%)</b>	<b>2</b> <b>(13.3%)</b>	<b>13</b> <b>(86.7%)</b>	<b>77</b> <b>(46.7%)</b>	<b>88</b> <b>(53.3%)</b>	<b>29</b> <b>(28.2%)</b>	<b>74</b> <b>(71.8%)</b>	<b>4</b> <b>(33.3%)</b>	<b>8</b> <b>(66.7%)</b>	<b>33</b> <b>(28.7%)</b>	<b>82</b> <b>(71.3%)</b>	<b>110</b> <b>(39.3%)</b>	<b>170</b> <b>(60.7%)</b>
<b>Income (in Rupees)</b>														
<b>Upto 1 lakh</b>	2 (2.7%)	2 (2.7%)	0 (0.0%)	0 (0.0%)	2 (2.6%)	2.0 (2.3%)	1 (3.4%)	7 (9.5%)	0 (0.0%)	3 (37.5%)	1 (3.0%)	10 (12.2%)	3 (2.7%)	12 (7.1%)
<b>1-2 lakhs</b>	0 (0.0%)	14 (18.7%)	0 (0.0%)	1 (7.7%)	0 (0.0%)	15.0 (17.0%)	2 (6.9%)	12 (16.2%)	0 (0.0%)	0 (0.0%)	2 (6.1%)	12 (14.6%)	2 (1.8%)	27 (15.9%)
<b>2-3 lakhs</b>	3 (4.0%)	10 (13.3%)	0 (0.0%)	6 (46.2%)	3 (3.9%)	16.0 (18.2%)	3 (10.3%)	17 (23.0%)	2 (50.0%)	1 (12.5%)	5 (15.2%)	18 (22.0%)	8 (7.3%)	34 (20.0%)
<b>3-4 lakhs</b>	6 (8.0%)	19 (25.3%)	0 (0.0%)	4 (30.8%)	6 (7.8%)	23.0 (26.1%)	5 (17.2%)	13 (17.6%)	2 (50.0%)	3 (37.5%)	7 (21.2%)	16 (19.5%)	13 (11.8%)	39 (22.9%)
<b>4-5 lakhs</b>	11 (14.7%)	13 (17.3%)	2 (100.0%)	1 (7.7%)	13 (16.9%)	14.0 (15.9%)	6 (20.7%)	14 (18.9%)	0 (0.0%)	1 (12.5%)	6 (18.2%)	15 (18.3%)	19 (17.3%)	29 (17.1%)
<b>More than 5 lakhs</b>	53 (70.7%)	17 (22.7%)	0 (0.0%)	1 (7.7%)	53 (68.8%)	18.0 (20.5%)	12 (41.4%)	11 (14.9%)	0 (0.0%)	0 (0.0%)	12 (36.4%)	11 (13.4%)	65 (59.1%)	29 (17.1%)
<b>Total</b>	<b>75</b> <b>(50.0%)</b>	<b>75</b> <b>(50.0%)</b>	<b>2</b> <b>(13.3%)</b>	<b>13</b> <b>(86.7%)</b>	<b>77</b> <b>(46.7%)</b>	<b>88</b> <b>(53.3%)</b>	<b>29</b> <b>(28.2%)</b>	<b>74</b> <b>(71.8%)</b>	<b>4</b> <b>(33.3%)</b>	<b>8</b> <b>(66.7%)</b>	<b>33</b> <b>(28.7%)</b>	<b>82</b> <b>(71.3%)</b>	<b>110</b> <b>(39.3%)</b>	<b>170</b> <b>(60.7%)</b>
<b>Size of land holding</b>														
<b>Marginal (&lt;1 hectare)</b>	1 (1.3%)	3 (4.0%)	0 (0.0%)	0 (0.0%)	1 (1.3%)	3 (3.4%)	1 (3.4%)	5 (6.8%)	0 (0.0%)	3 (37.5%)	1 (3.0%)	8 (9.8%)	2 (1.8%)	11 (6.5%)
<b>Small (1-2 hectares)</b>	1 (1.3%)	7 (9.3%)	0 (0.0%)	3 (23.1%)	1 (1.3%)	10 (11.4%)	1 (3.4%)	6 (8.1%)	0 (0.0%)	0 (0.0%)	1 (3.0%)	6 (7.3%)	2 (1.8%)	16 (9.4%)
<b>Semi-medium (2-4 hectares)</b>	9 (12.0%)	29 (38.7%)	0 (0.0%)	1 (7.7%)	9 (11.7%)	30 (34.1%)	3 (10.3%)	17 (23.0%)	1 (25.0%)	2 (25.0%)	4 (12.1%)	19 (23.2%)	13 (11.8%)	49 (28.8%)
<b>Medium (4-10 hectares)</b>	36 (48.0%)	23 (30.7%)	1 (50.0%)	6 (46.2%)	37 (48.1%)	29 (33.0%)	7 (24.1%)	35 (47.3%)	2 (50.0%)	2 (25.0%)	9 (27.3%)	37 (45.1%)	46 (41.8%)	66 (38.8%)
<b>Large (10&gt; hectares)</b>	28 (37.3%)	13 (17.3%)	1 (50.0%)	3 (23.1%)	29 (37.7%)	16 (18.2%)	17 (58.6%)	11 (14.9%)	1 (25.0%)	1 (12.5%)	18 (54.5%)	12 (14.6%)	47 (42.7%)	28 (16.5%)
<b>Total</b>	<b>75</b> <b>(50.0%)</b>	<b>75</b> <b>(50.0%)</b>	<b>2</b> <b>(13.3%)</b>	<b>13</b> <b>(86.7%)</b>	<b>77</b> <b>(46.7%)</b>	<b>88</b> <b>(53.3%)</b>	<b>29</b> <b>(28.2%)</b>	<b>74</b> <b>(71.8%)</b>	<b>4</b> <b>(33.3%)</b>	<b>8</b> <b>(66.7%)</b>	<b>33</b> <b>(28.7%)</b>	<b>82</b> <b>(71.3%)</b>	<b>110</b> <b>(39.3%)</b>	<b>170</b> <b>(60.7%)</b>

A cursory look at the Table 6.3.1 highlights that a higher proportion of respondents who had done education till primary level, that is, 33 (30%) were satisfied with the profit gained from the commercial crops, followed by respondents who were illiterate, that is, 22 (20%) who found profit sufficient from the commercial crops. Both the blocks were observed following the same pattern of distribution of respondents in terms of educational qualification with higher proportion of respondents in primary level education followed by illiterate respondents finding profit earned sufficient for sustenance. Result of chi-square,  $\chi^2 = 3.2$ ,  $df=6$ ,  $p$ -value at 0.05 (level of significance =12.59), shows that there is no significant association between education and sufficiency of profit from commercial crops.

Moreover, there was a higher proportion of respondents having income more than Rupees 5 lakhs per annum that is, 65 (59.1%) finding profit sufficient, followed by respondents having income Rupees 4-5 lakhs per annum, that is, 19 (17.3%). Respondents having income Rupees 3-4 lakhs per annum, 39 (22.9%) and Rupees 2-3 lakhs per annum, 34 (20.0%) did not find profit sufficient. It can be observed that there was a higher proportion of respondents having income of more than Rupees 5 lakhs per annum, that is, 53 (68.8%) who found profit sufficient in Jandiala block in comparison to 12 (36.4%) in Ajnala block. This shows that those who had higher income annually had earned more profits from commercial crops. Result of chi-square,  $\chi^2 = 61.9$ ,  $df=5$ ,  $p$ -value at 0.05 (level of significance =11.07) shows that there is a significant association between income and sufficiency of profit from commercial crops.

Additionally, higher proportion of respondents having large size land holdings, that is, 47 (42.7%) found profit gained from commercial crops sufficient, followed by respondents having medium size land holdings, that is, 46 (41.8%). However, in Jandiala block a higher proportion of respondents having medium size land holdings, that is, 37 (48.1%) found profit sufficient followed by respondents having large size land holdings, that is, 29 (37.7%). Respondents having large size land holdings who found profit sufficient from the commercial crops were in higher proportion in Ajnala block that is, 18 (54.5%) in comparison to 29 (37.7%) in Jandiala block. Result of chi-square,  $\chi^2 = 35.1$ ,  $df=4$ ,  $p$ -value at 0.05 (level of significance

=9.49), shows that there is a significant association between size of land holding and sufficiency of profit from commercial crops. This lends support to the hypothesis that Socio-economic profile of farmers' is likely to vary with the adoption of commercialisation of agriculture, that is, different income groups and those having varied land size holdings have different perspectives on the profits earned from the commercial crops.

Further, respondents were inquired about the alternative choice of occupation they were pursuing along with agriculture. The following tables bring out the number of respondents who were involved in other occupations apart from agriculture, along with the reasons for adopting other occupations.

**Table 6.3.2**

**Distribution of Respondents on the basis of whether they chose vocations other than agriculture or not**

Vocation other than agriculture	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Yes</b>	23 (15.3%)	6 (40.0%)	29 (17.6%)	16 (15.5%)	4 (33.3%)	20 (17.4%)	<b>49 (17.5%)</b>
<b>No</b>	127 (84.7%)	9 (60.0%)	136 (82.4%)	87 (84.5%)	8 (66.7%)	95 (82.6%)	<b>231 (82.5%)</b>
<b>Total</b>	<b>150 (53.5%)</b>	<b>15 (5.3%)</b>	<b>165 (58.9%)</b>	<b>103 (36.7%)</b>	<b>12 (4.2%)</b>	<b>115 (41.1%)</b>	<b>280 (100%)</b>

Table 6.3.2 illustrates the number of respondents who pursued some other occupations apart from agriculture. It is observed from the table that a small proportion of respondents, 49 (17.5%) were adopting some other occupation such as carpentering, having grocery stores etc. along with pursuing agriculture and a higher proportion of respondents, that is, 231 (82.5%) were pursuing agriculture alone.

It is beneficial to have alternative choice of occupation for dealing with any unforeseen circumstances. As it provides economic back up and support to address any environment hazards and climate adversities. It was observed from the data that the majority of respondents were solely dependent on agriculture as the means of subsistence, which increased their susceptibility and made them economically untenable.

**Table 6.3.3****Distribution of Respondents on the basis of reasons for choosing vocations other than agriculture**

Reason for other vocation	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Additional source of income</b>	14 (60.9%)	3 (50.0%)	17 (58.6%)	7 (43.8%)	3 (75.0%)	10 (50.0%)	<b>27 (55.1%)</b>
<b>For good standard of living</b>	7 (30.4%)	1 (16.7%)	8 (27.6%)	6 (37.5%)	1 (25.0%)	7 (35.0%)	<b>15 (30.6%)</b>
<b>Agriculture is not lucrative</b>	2 (8.7%)	2 (33.3%)	4 (13.8%)	3 (18.8%)	0 (0.0%)	3 (15%)	<b>7 (14.3%)</b>
<b>Total</b>	<b>23 (46.9%)</b>	<b>6 (12.2%)</b>	<b>29 (59.2%)</b>	<b>16 (32.7%)</b>	<b>4 (8.2%)</b>	<b>20 (40.8%)</b>	<b>49 (100%)</b>

Respondents who accepted that they were pursuing some other jobs with agriculture were further asked the reasons for doing these jobs. Table 6.3.3 illustrates the reasons of respondents for doing such jobs. It can be observed that a higher proportion of respondents 27 (55.1%) out of 49 were doing these jobs for earning more income and having additional income source for meeting their requirements, followed by 15 (30.6%) respondents who were doing these jobs for better standard of living and finally, as many as 7 (14.3%) respondents believed that agriculture is not lucrative enough so in order to earn more they had to pursue some other jobs as well.

**SOURCE OF FINANCE AND INDEBTEDNESS AMONG RESPONDENTS:**

Agriculture has become a capital starving occupation due to the onset of high yielding varieties of seeds, chemical required such as fertilizers, insecticides and increased investment in other inputs like tubewell, agricultural machinery (Satish, 2006). Capital starvation can lead to low investment, low productivity and lower income which entails vicious cycles. The cost incurred can be augmented either from own resources or through getting financing from external sources, that is, debt. Further, in the economic sustainability in agriculture, it is vital to estimate the level of indebtedness among the respondents (Kaur et al., 2015).

**Table 6.4**  
**Distribution of Respondents on the basis of source of financing agricultural activities**

Source of financing	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Loans from Government</b>	93 (62.0%)	11 (73.3%)	104 (63.0%)	79 (76.7%)	6 (50.0%)	85 (73.9%)	<b>189</b> <b>(67.5%)</b>
<b>Private lender</b>	29 (19.3%)	1 (6.7%)	30 (18.2%)	11 (10.7%)	1 (8.3%)	12 (10.4%)	<b>42</b> <b>(15.0%)</b>
<b>Agriculture bank</b>	6 (4.0%)	3 (20.0%)	9 (5.5%)	8 (7.8%)	2 (16.7%)	10 (8.7%)	<b>19</b> <b>(6.8%)</b>
<b>Cooperative bank</b>	7 (4.7%)	0 (0.0%)	7 (4.2%)	3 (2.9%)	1 (8.3%)	4 (3.5%)	<b>11</b> <b>(3.9%)</b>
<b>Agriculture bank and Government</b>	8 (5.3%)	0 (0.0%)	8 (4.8%)	2 (1.9%)	1 (8.3%)	3 (2.6%)	<b>11</b> <b>(3.9%)</b>
<b>From Government and private</b>	4 (2.7%)	0 (0.0%)	4 (2.4%)	0 (0.0%)	1 (8.3%)	1 (0.9%)	<b>5</b> <b>(1.8%)</b>
<b>From Government and cooperatives</b>	3 (2.0%)	0 (0.0%)	3 (1.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	<b>3</b> <b>(1.1%)</b>
<b>Total</b>	<b>150</b> <b>(53.5%)</b>	<b>15</b> <b>(5.3%)</b>	<b>165</b> <b>(58.9%)</b>	<b>103</b> <b>(36.7%)</b>	<b>12</b> <b>(4.2%)</b>	<b>115</b> <b>(41.1%)</b>	<b>280</b> <b>(100%)</b>

Financing is imperative in each and every stage of the agriculture. To revert any adversity a farmer needs a source on which he can rely and can have access anytime. In addition to this, farmers cannot take any agricultural activity without proper financing back up. Table 6.4 highlights the sources through which respondents finance their agricultural inputs. As indicated in the above table, it was observed that the majority of respondents, 189 (67.5%) preferred the loans from government sources, that is, government banks etc, followed by 42 (15.0%) respondents who were financing their inputs from private lender such as commission agents also called “Arhatiyas”, traders and from relatives, friends etc. As many as 19 (6.8%) respondents were being financed through Agricultural banks or Gramin banks (these banks provide loans for agricultural purposes). A small proportion, 11 (6.8%) respondents were getting agricultural inputs financed through cooperative banks. It can be discerned from the table that majority of respondents were opting for government sources when it comes to financing the agriculture inputs. The main reason for this could be attributed to lower interest rates charged by government

banks under the interest subvention scheme/ priority lending phenomenon and the lower risk associated with the government banks. It was found that cooperative bank and agricultural banks were not much opted among respondents. It may be because of less popularity or may be the respondent didn't find these institutions accessible. Private lenders were observed having great presence when it comes to financing in agriculture despite of the fact that these lenders charged unreasonable and exorbitant interest rates. The reason could be that these respondents did not have any other option but to take loan from these lenders in the case of exigencies because other institutions require paper work and time to get the loan approved while these lenders become handy in the case of emergencies or when money is required immediately.

**Table 6.4.1**

**Distribution of Respondents on the basis source of finance related with size of land holding**

	Source of finance					
	Marginal	Small	Semi-medium	Medium	Large	Total
<b>Agricultural banks</b>	1 (7.7%)	1 (5.6%)	4 (6.5%)	8 (7.1%)	5 (6.7%)	<b>19</b> <b>(6.8%)</b>
<b>Loan from government sources</b>	6 (46.2%)	11 (61.1%)	45 (72.6%)	85 (75.9%)	42 (56%)	<b>189</b> <b>(67.5%)</b>
<b>Co-operative banks</b>	0 (0.0%)	1 (5.6%)	3 (4.8%)	2 (1.8%)	5 (6.7%)	<b>11</b> <b>(3.9%)</b>
<b>Private lender</b>	6 (46.2%)	5 (27.8%)	8 (12.9%)	8 (7.1%)	15 (20%)	<b>42</b> <b>(15%)</b>
<b>Agricultural banks and govt sources</b>	0 (0.0%)	0 (0.0%)	0 (0.0%)	6 (5.4%)	5 (6.7%)	<b>11</b> <b>(3.9%)</b>
<b>Govt. loans and co-operatives</b>	0 (0.0%)	0 (0.0%)	2 (3.2%)	1 (0.9%)	2 (2.7%)	<b>5</b> <b>(1.8%)</b>
<b>Govt. loans and private lender</b>	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.8%)	1 (1.3%)	<b>3</b> <b>(1.1%)</b>
<b>Total</b>	<b>13</b> <b>(4.6%)</b>	<b>18</b> <b>(6.4%)</b>	<b>62</b> <b>(22.1%)</b>	<b>140</b> <b>(50.0%)</b>	<b>75</b> <b>(26.8%)</b>	<b>280</b> <b>(100%)</b>

Table 6.4.1 presents the financial institutions from which respondents acquired their loans from and its use as source of finance among respondents of various land holdings. Data indicates that majority of marginal farmers, that is, 6 (46.2%) derive their loans either from government sources or from private lender. Whereas, majority of small farmers, 11 (61.1%) get their loans from government sources, followed by 5 (27.8%) respondents who get their loans from the private lender. As many as 45



(72.6%) semi-medium farmers derive their loans from government authorities. Similarly, majority of medium farmers access government authorities for realizing the loans amounting to 85 (75.9%). Large farmers also receive majority of loans from government authorities, that is, 42 (56%), followed by 15 (20%) from private lenders. Table points out that gaining loans from government sources is most preferred among all the categories of farmers. Besides government sources, private lenders are preferred for gaining loans.

**Table 6.4.2****Distribution of Respondents on the basis of indebted with loan**

Indebted with loan	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Yes</b>	116 (77.3%)	15 (100.0%)	131 (79.4%)	93 (90.3%)	12 (100.0%)	105 (91.3%)	<b>236 (84.3%)</b>
<b>No</b>	34 (22.7%)	0 (0.0%)	34 (20.6%)	10 (9.7%)	0 (0.0%)	10 (8.7%)	<b>44 (15.7%)</b>
<b>Total</b>	<b>150 (53.5%)</b>	<b>15 (5.3%)</b>	<b>165 (58.9%)</b>	<b>103 (36.7%)</b>	<b>12 (4.2%)</b>	<b>115 (41.1%)</b>	<b>280 (100%)</b>

The above table highlights the number of respondents in this area who were indebted due to loan. Table 6.4.2 elucidates that the majority of respondents 236 (84.3%) were indebted with loan whereas, a little proportion of respondents that is, 44 (15.7) were not having any burden of loan. The table further highlights the dismal picture of indebtedness among the respondents. It was further observed that a higher proportion of respondents from Ajnala block, that is, 105 (91.3%) were indebted as compared to 131 (79.4%) of respondents from Jandiala block. Perhaps due to inability to meet the requirements, lower income and profit earned from the agriculture, lack of other sources of income, payment of previous debt and buying agriculture inputs may lead to borrowing. Vicious circle of less profits, less income and less production entrap the farmer in the debt trap and, disables the farmer to get out of it easily.

**Table 6.4.3**  
**Distribution of Respondents on the basis indebtedness related with their education, income and size of land holding**

	Indebtedness among respondents													
	Manawala		Dhirakot		Total		Panj garain wala		Kotli jimmat singh		Total		Grand total	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
<b>Education</b>														
<b>Illiterate</b>	22 (19.0%)	3 (8.8%)	3 (20.0%)	0 (0.0%)	25 (19.1%)	3 (8.8%)	29 (31.2%)	1 (10.0%)	3 (25.0%)	0 (0.0%)	32 (30.5%)	1 (10.0%)	57 (24.2%)	4 (9.1%)
<b>Literate</b>	4 (3.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (3.1%)	0 (0.0%)	9 (9.7%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	10 (9.5%)	0 (0.0%)	14 (5.9%)	0 (0.0%)
<b>Primary</b>	37 (31.9%)	2 (5.9%)	6 (40.0%)	0 (0.0%)	43 (32.8%)	2 (5.9%)	25 (26.9%)	0 (0.0%)	3 (25.0%)	0 (0.0%)	28 (26.7%)	0 (0.0%)	71 (30.1%)	2 (4.5%)
<b>Secondary</b>	23 (19.8%)	1 (2.9%)	4 (26.7%)	0 (0.0%)	27 (20.6%)	1 (2.9%)	17 (18.3%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	18 (17.1%)	0 (0.0%)	45 (19.1%)	1 (2.3%)
<b>Higher Secondary</b>	17 (14.7%)	5 (14.7%)	1 (6.7%)	0 (0.0%)	18 (13.7%)	5 (14.7%)	5 (5.4%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	6 (5.7%)	0 (0.0%)	24 (10.2%)	5 (11.4%)
<b>Graduation</b>	9 (7.8%)	22 (64.7%)	1 (6.7%)	0 (0.0%)	10 (7.6%)	22 (64.7%)	8 (8.6%)	8 (80.0%)	3 (25.0%)	0 (0.0%)	11 (10.5%)	8 (80.0%)	21 (8.9%)	30 (68.2%)
<b>Any other*</b>	4 (3.4%)	1 (2.9%)	0 (0.0%)	0 (0.0%)	4 (3.1%)	1 (2.9%)	0 (0.0%)	1 (10.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (10.0%)	4 (1.7%)	2 (4.5%)
<b>Total</b>	<b>116</b> <b>(77.3%)</b>	<b>34</b> <b>(22.7%)</b>	<b>15</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>131</b> <b>(79.4%)</b>	<b>34</b> <b>(20.6%)</b>	<b>93</b> <b>(90.3%)</b>	<b>10</b> <b>(9.7%)</b>	<b>12</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>105</b> <b>(91.3%)</b>	<b>10</b> <b>(8.7%)</b>	<b>236</b> <b>(84.3%)</b>	<b>44</b> <b>(15.7%)</b>
<b>Income</b>														
<b>Upto 1 lakh</b>	1 (0.9%)	3 (8.8%)	0 (0.0%)	0 (0.0%)	1 (0.8%)	3.0 (8.8%)	8 (8.6%)	0 (0.0%)	3 (25.0%)	0 (0.0%)	11 (10.5%)	0 (0.0%)	12 (5.1%)	3 (6.8%)
<b>1-2 lakhs</b>	10 (8.6%)	4 (11.8%)	1 (6.7%)	0 (0.0%)	11 (8.4%)	4.0 (11.8%)	12 (12.9%)	2 (20.0%)	0 (0.0%)	0 (0.0%)	12 (11.4%)	2 (20.0%)	23 (9.7%)	6 (13.6%)
<b>2-3 lakhs</b>	8 (6.9%)	5 (14.7%)	6 (40.0%)	0 (0.0%)	14 (10.7%)	5.0 (14.7%)	18 (19.4%)	2 (20.0%)	3 (25.0%)	0 (0.0%)	21 (20.0%)	2 (20.0%)	35 (14.8%)	7 (15.9%)
<b>3-4 lakhs</b>	16 (13.8%)	9 (26.5%)	4 (26.7%)	0 (0.0%)	20 (15.3%)	9.0 (26.5%)	16 (17.2%)	2 (20.0%)	5 (41.7%)	0 (0.0%)	21 (20.0%)	2 (20.0%)	41 (17.%)	11 (25.0%)
<b>4-5 lakhs</b>	19 (16.4%)	5 (14.7%)	3 (20.0%)	0 (0.0%)	22 (16.8%)	5.0 (14.7%)	19 (20.4%)	1 (10.0%)	1 (8.3%)	0 (0.0%)	20 (19.0%)	1 (10.0%)	42 (17.8%)	6 (13.6%)
<b>More than 5 lakhs</b>	62 (53.4%)	8 (23.5%)	1 (6.7%)	0 (0.0%)	63 (48.1%)	8.0 (23.5%)	20 (21.5%)	3 (30.0%)	0 (0.0%)	0 (0.0%)	20 (19.0%)	3 (30.0%)	83 (35.2%)	11 (25.0%)
<b>Total</b>	<b>116</b> <b>(77.3%)</b>	<b>34</b> <b>(22.7%)</b>	<b>15</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>131</b> <b>(79.4%)</b>	<b>34</b> <b>(20.6%)</b>	<b>93</b> <b>(90.3%)</b>	<b>10</b> <b>(9.7%)</b>	<b>12</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>105</b> <b>(91.3%)</b>	<b>10</b> <b>(8.7%)</b>	<b>236</b> <b>(84.3%)</b>	<b>44</b> <b>(15.7%)</b>
<b>Size of land holding</b>														
<b>Marginal (&lt;1 hectare)</b>	3 (2.6%)	1 (2.9%)	0 (0.0%)	0 (0.0%)	3 (2.3%)	1 (2.9%)	4 (4.3%)	0 (0.0%)	3 (25.0%)	0 (0.0%)	7 (6.7%)	0 (0.0%)	10 (4.2%)	1 (2.3%)
<b>Small (1-2 hectares)</b>	5 (4.3%)	3 (8.8%)	3 (20.0%)	0 (0.0%)	8 (6.1%)	3 (8.8%)	6 (6.5%)	1 (10.0%)	0 (0.0%)	0 (0.0%)	6 (5.7%)	1 (10.0%)	14 (5.9%)	4 (9.1%)
<b>Semi-medium (2-4 hectares)</b>	26 (22.4%)	12 (35.3%)	1 (6.7%)	0 (0.0%)	27 (20.6%)	12 (35.3%)	18 (19.4%)	2 (20.0%)	3 (25.0%)	0 (0.0%)	21 (20.0%)	2 (20.0%)	48 (20.3%)	14 (31.8%)
<b>Medium (4-10 hectares)</b>	52 (44.8%)	7 (20.6%)	7 (46.7%)	0 (0.0%)	59 (45.0%)	7 (20.6%)	41 (44.1%)	1 (10.0%)	4 (33.3%)	0 (0.0%)	45 (42.9%)	1 (10.0%)	104 (44.1%)	8 (18.2%)
<b>Large (10&gt; hectares)</b>	30 (25.9%)	11 (32.4%)	4 (26.7%)	0 (0.0%)	34 (26.0%)	11 (32.4%)	22 (23.7%)	6 (60.0%)	2 (16.7%)	0 (0.0%)	24 (22.9%)	6 (60.0%)	58 (24.6%)	17 (38.6%)
<b>Total</b>	<b>116</b> <b>(77.3%)</b>	<b>34</b> <b>(22.7%)</b>	<b>15</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>131</b> <b>(79.4%)</b>	<b>34</b> <b>(20.6%)</b>	<b>93</b> <b>(90.3%)</b>	<b>10</b> <b>(9.7%)</b>	<b>12</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>105</b> <b>(91.3%)</b>	<b>10</b> <b>(8.7%)</b>	<b>236</b> <b>(84.3%)</b>	<b>44</b> <b>(15.7%)</b>

A cursory look at the Table 6.4.3 shows that higher proportion of respondents educated upto primary level, that is, 71 (30.1%) were found indebted followed by respondents who were illiterate, that is, 57 (24.2%). Whereas, higher proportion of respondents who had done graduation mentioned not indebted with loans. In Jandiala block, higher proportion of respondents educated till primary level that is, 43 (32.8%) were indebted followed by respondents who had done schooling upto secondary level, that is, 27 (20.6%). On the other hand, higher proportion of illiterate respondents that is, 32 (30.5%) were found indebted in Ajnala block followed by respondents who had done education upto primary level, that is, 28 (26.7%). Result of chi-square,  $\chi^2 = 100.58$ ,  $df=6$ ,  $p$ -value at 0.05 (level of significance =12.59) shows that there is a significant association between education and indebtedness.

Data highlights that higher proportion of respondents having agricultural income of more than Rupees 5 lakhs per annum that is, 83 (35.2%) were indebted followed by respondents having income Rupees 4-5 lakhs per annum that is, 42 (17.8%). In Ajnala block equal proportion of respondents were found indebted having income Rupees 2-3 lakhs per annum and Rupees 3-4 lakhs per annum with 21 (20%) each. Whereas, higher proportion of respondents having income more than 5 lakhs that is, 63 (48.1%) were indebted in Jandiala block. Result of chi-square,  $\chi^2 = 3.45$ ,  $df=5$ ,  $p$ -value at 0.05 (level of significance =11.07) shows that there is no significant association between income and indebtedness.

In terms of farm size, more indebtedness was found among respondents having medium size land holdings, that is, 104 (44.1%) followed by respondents having large size land holdings, that is, 58 (24.6%). On the other hand, higher proportion of respondents having large size land holdings, that is, 17 (38.6%) reported to have not been indebted followed by respondents having semi-medium size land holdings, that is, 14 (31.8%). Both the blocks depicted same trend in distribution of respondents in terms of farm size with higher proportion of respondents having medium size land holdings found indebted in both the blocks. Result of chi-square,  $\chi^2 = 12.36$ ,  $df=4$ ,  $p$ -value at 0.05 (level of significance =9.49) shows that there is a significant association between size of land holding and indebtedness. This lends support to the hypothesis that Socio-economic profile of farmers' is likely to vary with the adoption of commercialisation of agriculture.

**Table 6.4.4****Distribution of Respondents on the basis of amount of loan indebted with**

Amount of loan	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Upto 1 lakh</b>	6 (4.0%)	0 (0.0%)	6 (3.6%)	7 (6.8%)	0 (0.0%)	7 (6.1%)	<b>13 (4.6%)</b>
<b>1-2 lakhs</b>	8 (5.3%)	0 (0.0%)	8 (4.8%)	11 (10.7%)	2 (16.7%)	13 (11.3%)	<b>21 (7.5%)</b>
<b>2-3 lakhs</b>	30 (20.0%)	5 (33.3%)	35 (21.2%)	19 (18.4%)	5 (41.7%)	24 (20.9%)	<b>59 (21.1%)</b>
<b>3-4 lakhs</b>	16 (10.7%)	4 (26.7%)	20 (12.1%)	18 (17.5%)	1 (8.3%)	19 (16.5%)	<b>39 (13.9%)</b>
<b>4-5 lakhs</b>	22 (14.7%)	2 (13.3%)	24 (14.5%)	10 (9.7%)	1 (8.3%)	11 (9.6%)	<b>35 (12.5%)</b>
<b>5 lakhs and more</b>	34 (22.7%)	4 (26.7%)	38 (23.0%)	28 (27.2%)	3 (25.0%)	31 (27.0%)	<b>69 (24.6%)</b>
<b>Not indebted</b>	34 (22.7%)	0 (0.0%)	34 (20.6%)	10 (9.7%)	0 (0.0%)	10 (8.7%)	<b>44 (15.7%)</b>
<b>Total</b>	<b>150 (53.5%)</b>	<b>15 (5.3%)</b>	<b>165 (58.9%)</b>	<b>103 (36.7%)</b>	<b>12 (4.2%)</b>	<b>115 (41.1%)</b>	<b>280 (100%)</b>

Respondents were further asked the amount of loan taken by them. Table 6.4.4 represents the amount of loan incurred by the respondents. It is observed from the table that a higher proportion of respondents, 69 (24.6%) were incurring loan of more than Rupees 5 lakhs, followed by 59 (21.1%) respondents who were having loan up to Rupees 2-3 lakhs. As many as 39 (13.9%) respondents were having loan up to Rupees 3-4 lakhs. Further 35 (12.5%) respondents each were having loan in the range of Rupees 4-5 lakhs. In addition to this, only 13 (4.6%) respondents were having loan up to Rupees 1 lakh. This shows that most of the respondents were having loan of Rupees 2 lakhs and more. This is on higher side and puts pressure on the farmers to repay the loan. High indebtedness was found in both the blocks which shows that farmers of this area are trapped in indebtedness. Sense of high liabilities of household also do not allow the farmers to undertake a new venture which involves any risk in agriculture.

**MODE OF SALE OF PRODUCE:**

After harvesting, a farmer lays the ground for marketing of produce to get remunerative prices of the crops produced by them. In Punjab, Agriculture Produce Market Committee also called as Market committee deals with providing the farmer infrastructure for marketing of agriculture produce in their respective area. Market

committee consist of representatives of farmers, traders, labourers, officials of agricultural department and cooperatives. This committees establishes one or more market yard (mandi) and grain mandi (dana mandi), sub yard and seasonal purchase centres during the harvest season of main crops in Punjab. Market committees are regularised by Punjab State Agricultural Marketing Board (PSAMB) also known as Mandi board established under Punjab Agricultural Produce Market Act 1961. Mandi board is an organisation of Punjab government to provide necessary infrastructure and network for sale, purchase, storage, processing of all the agriculture produce including animal husbandry, horticulture and forests in Punjab (Punjab Mandi Board, Government of Punjab, 2017).

There are total eight market committees in Amritsar district.

1. Ajnala
2. Amritsar
3. Atari
4. Chaugawan
5. Gehri
6. Majitha
7. Mehta
8. Rayya (Punjab data, 2017).

Farmers can either sell their produce in these mandis directly or can take the produce to the commission agents commonly called as “Arhtiyas”. These commission agents act as the link between producer (farmer) and buyer (various procurement agencies and private buyer). Commission agents facilitate auction of produce, loading and unloading of produce, weighing, sorting, cleaning and delivery to the buyers. They also arrange the equipments for weighing, stitching of grain sacks etc. farmers and buyers pay the commission (Arhat) to these agents for their service under the Agriculture Produce Market Act 1961. Transactions of the various crops are conducted in open auction in these markets. Standardisation of weights and measure used in measuring the produce is regulated under the weights and measurement Act (Singh et al., 2011).

**Table 6.5****Distribution of Respondents on the basis of selection of mode of sale of produce**

Mode of selling	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Commission agents</b>	136 (90.7%)	15 (100.0%)	151 (91.5%)	97 (94.2%)	12 (100.0%)	109 (94.8%)	<b>260 (92.9%)</b>
<b>Government agencies</b>	14 (9.3%)	0 (0.0%)	14 (8.5%)	6 (5.8%)	0 (0.0%)	6 (5.2%)	<b>20 (7.1%)</b>
<b>Total</b>	<b>150 (53.5%)</b>	<b>15 (5.3%)</b>	<b>165 (58.9%)</b>	<b>103 (36.7%)</b>	<b>12 (4.2%)</b>	<b>115 (41.1%)</b>	<b>280 (100%)</b>

Table 6.5 describes the channel through which respondents sell their produce in the market. It is observed from the table that the majority of respondents 260 (92.9%) sell their produce through intermediaries and a very less proportion of respondents, that is, 20 (7.1%) preferred selling their produce to government authorities directly. It was observed in the study that the majority of respondents go to commission agents or intermediaries to sell their produce because the commission agents pay the money in lieu of their produce instantly. They don't have to take their produce to the market and negotiate or bargain with the buyers. Many of the respondents find selling of produce to these agents convenient, while some were compelled to bring their produce to commission agents as they have raised loan from these agents and have to dispose their produce for paying back the loan. Some respondents who were well aware of the market mechanisms and have resources to take their produce in the market managed to sell their produce directly to the procurement agencies. These respondents were generally bigger farmers and commission agent themselves who belong to well off economic strata of the society and have better political connections. These respondents are better equipped and are better placed to negotiate for remunerative returns for their produce, that is why they take the produce directly to the market.

**Table 6.5.1**  
**Distribution of Respondents on the basis mode of sale related with their education, income and size of land holding**

	Selling through intermediary or directly to government												Grand total	
	Manawala		Dhirakot		Total		Panj garain wala		Kotli jimmat singh		Total			
	Agent	Govt.	Agent	Govt.	Agent	Govt.	Agent	Govt.	Agent	Govt.	Agent	Govt.	Agent	Govt.
<b>Education</b>														
<b>Illiterate</b>	25 (18.4%)	0 (0.0%)	3 (20.0%)	0 (0.0%)	28 (18.5%)	0 (0.0%)	29 (29.9%)	0 (0.0%)	3 (25.0%)	0 (0.0%)	32 (29.4%)	0 (0.0%)	<b>60</b> <b>(23.1%)</b>	<b>0</b> <b>(0.0%)</b>
<b>Literate</b>	4 (2.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (2.6%)	0 (0.0%)	9 (9.3%)	1 (16.7%)	1 (8.3%)	0 (0.0%)	10 (9.2%)	1 (16.7%)	<b>14</b> <b>(5.4%)</b>	<b>1</b> <b>(5.0%)</b>
<b>Primary</b>	39 (28.7%)	0 (0.0%)	6 (40.0%)	0 (0.0%)	45 (29.8%)	0 (0.0%)	25 (25.8%)	0 (0.0%)	3 (25.0%)	0 (0.0%)	28 (25.7%)	0 (0.0%)	<b>73</b> <b>(28.1%)</b>	<b>0</b> <b>(0.0%)</b>
<b>Secondary</b>	23 (16.9%)	1 (7.1%)	4 (26.7%)	0 (0.0%)	27 (17.9%)	1 (7.1%)	17 (17.5%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	18 (16.5%)	0 (0.0%)	<b>45</b> <b>(17.3%)</b>	<b>1</b> <b>(5.0%)</b>
<b>Higher Secondary</b>	21 (15.4%)	1 (7.1%)	1 (6.7%)	0 (0.0%)	22 (14.6%)	1 (7.1%)	5 (5.2%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	6 (5.5%)	0 (0.0%)	<b>28</b> <b>(10.8%)</b>	<b>1</b> <b>(5.0%)</b>
<b>Graduation</b>	22 (16.2%)	9 (64.3%)	1 (6.7%)	0 (0.0%)	23 (15.2%)	9 (64.3%)	12 (12.4%)	5 (83.3%)	3 (25.0%)	0 (0.0%)	15 (13.8%)	5 (83.3%)	<b>38</b> <b>(14.6%)</b>	<b>14</b> <b>(70.0%)</b>
<b>Any other*</b>	2 (1.5%)	3 (21.4%)	0 (0.0%)	0 (0.0%)	2 (1.3%)	3 (21.4%)	0 (0.0%)	1 (16.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (16.7%)	<b>2</b> <b>(0.8%)</b>	<b>4</b> <b>(20.0%)</b>
<b>Total</b>	<b>136</b> <b>(90.7%)</b>	<b>14</b> <b>(9.3%)</b>	<b>15</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>151</b> <b>(91.5%)</b>	<b>14</b> <b>(8.5%)</b>	<b>97</b> <b>(94.2%)</b>	<b>6</b> <b>(5.8%)</b>	<b>12</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>109</b> <b>(94.8%)</b>	<b>6</b> <b>(5.2%)</b>	<b>260</b> <b>(92.9%)</b>	<b>20</b> <b>(7.1%)</b>
<b>Income (in Rupees)</b>														
<b>Upto 1 lakh</b>	1 (0.7%)	3 (21.4%)	0 (0.0%)	0 (0.0%)	1 (0.7%)	3.0 (21.4%)	6 (6.2%)	2 (33.3%)	3 (25.0%)	0 (0.0%)	9 (8.3%)	2 (33.3%)	<b>10</b> <b>(3.8%)</b>	<b>5</b> <b>(25.0%)</b>
<b>1-2 lakhs</b>	13 (9.6%)	1 (7.1%)	1 (6.7%)	0 (0.0%)	14 (9.3%)	1.0 (7.1%)	13 (13.4%)	1 (16.7%)	0 (0.0%)	0 (0.0%)	13 (11.9%)	1 (16.7%)	<b>27</b> <b>(10.4%)</b>	<b>2</b> <b>(10.0%)</b>
<b>2-3 lakhs</b>	11 (8.1%)	2 (14.3%)	6 (40.0%)	0 (0.0%)	17 (11.3%)	2.0 (14.3%)	18 (18.6%)	2 (33.3%)	3 (25.0%)	0 (0.0%)	21 (19.3%)	2 (33.3%)	<b>38</b> <b>(14.6%)</b>	<b>4</b> <b>(20.0%)</b>
<b>3-4 lakhs</b>	24 (17.6%)	1 (7.1%)	4 (26.7%)	0 (0.0%)	28 (18.5%)	1.0 (7.1%)	18 (18.6%)	0 (0.0%)	5 (41.7%)	0 (0.0%)	23 (21.1%)	0 (0.0%)	<b>51</b> <b>(19.6%)</b>	<b>1</b> <b>(5.0%)</b>
<b>4-5 lakhs</b>	21 (15.4%)	3 (21.4%)	3 (20.0%)	0 (0.0%)	24 (15.9%)	3.0 (21.4%)	20 (20.6%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	21 (19.3%)	0 (0.0%)	<b>45</b> <b>(17.3%)</b>	<b>3</b> <b>(15.0%)</b>
<b>More than 5 lakhs</b>	66 (48.5%)	4 (28.6%)	1 (6.7%)	0 (0.0%)	67 (44.4%)	4.0 (28.6%)	22 (22.7%)	1 (16.7%)	0 (0.0%)	0 (0.0%)	22 (20.2%)	1 (16.7%)	<b>89</b> <b>(34.2%)</b>	<b>5</b> <b>(25.0%)</b>
<b>Total</b>	<b>136</b> <b>(90.7%)</b>	<b>14</b> <b>(9.3%)</b>	<b>15</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>151</b> <b>(91.5%)</b>	<b>14</b> <b>(8.5%)</b>	<b>97</b> <b>(94.2%)</b>	<b>6</b> <b>(5.8%)</b>	<b>12</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>109</b> <b>(94.8%)</b>	<b>6</b> <b>(5.2%)</b>	<b>260</b> <b>(92.9%)</b>	<b>20</b> <b>(7.1%)</b>
<b>Size of land holding</b>														
<b>Marginal (&lt;1 hectare)</b>	3 (2.2%)	1 (7.1%)	0 (0.0%)	0 (0.0%)	3 (2.0%)	1 (7.1%)	4 (4.1%)	2 (33.3%)	3 (25.0%)	0 (0.0%)	7 (6.4%)	2 (33.3%)	<b>10</b> <b>(3.8%)</b>	<b>3</b> <b>(15.0%)</b>
<b>Small (1-2 hectares)</b>	8 (5.9%)	0 (0.0%)	3 (20.0%)	0 (0.0%)	11 (7.3%)	0 (0.0%)	7 (7.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	7 (6.4%)	0 (0.0%)	<b>18</b> <b>(6.9%)</b>	<b>0</b> <b>(0.0%)</b>
<b>Semi-medium (2hectares)</b>	36 (26.5%)	2 (14.3%)	1 (6.7%)	0 (0.0%)	37 (24.5%)	2 (14.3%)	19 (19.6%)	1 (16.7%)	3 (25.0%)	0 (0.0%)	22 (20.2%)	1 (16.7%)	<b>59</b> <b>(22.7%)</b>	<b>3</b> <b>(15.0%)</b>
<b>Medium (4-10 hectares)</b>	56 (41.2%)	3 (21.4%)	7 (46.7%)	0 (0.0%)	63 (41.7%)	3 (21.4%)	40 (41.2%)	2 (33.3%)	4 (33.3%)	0 (0.0%)	44 (40.4%)	2 (33.3%)	<b>107</b> <b>(41.2%)</b>	<b>5</b> <b>(25.0%)</b>
<b>Large (10&gt; hectares)</b>	33 (24.3%)	8 (57.1%)	4 (26.7%)	0 (0.0%)	37 (24.5%)	8 (57.1%)	27 (27.8%)	1 (16.7%)	2 (16.7%)	0 (0.0%)	29 (26.6%)	1 (16.7%)	<b>66</b> <b>(25.4%)</b>	<b>9</b> <b>(45.0%)</b>
<b>Total</b>	<b>136</b> <b>(90.7%)</b>	<b>14</b> <b>(9.3%)</b>	<b>15</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>151</b> <b>(91.5%)</b>	<b>14</b> <b>(8.5%)</b>	<b>97</b> <b>(94.2%)</b>	<b>6</b> <b>(5.8%)</b>	<b>12</b> <b>(100%)</b>	<b>0</b> <b>(0.0%)</b>	<b>109</b> <b>(94.8%)</b>	<b>6</b> <b>(5.2%)</b>	<b>260</b> <b>(92.9%)</b>	<b>20</b> <b>(7.1%)</b>

Table 6.5.1 presents that there was a higher proportion of respondents who had done education upto primary level who were selling their produce through commission agent, that is, 73 (28.1%) followed by respondents who were illiterate, that is, 60 (23.1%). Data highlights that majority of graduate respondents, that is, 14 (70%) sell their produce to government directly instead of selling through a commission agent. Higher proportion of graduate respondents who were selling their produce to government directly were found in Ajnala block, that is, 5 (83.3%) in comparison to 9 (64.3%) respondents in Jandiala block. This shows that the illiterate and primary level educated farmers were being exploited more by commission agents as they were selling their produce through them and most of their profit was being taken away by these agents. Result of chi-square,  $\chi^2 = 76.34$ ,  $df=6$ ,  $p$ -value at 0.05 (level of significance =12.59), shows that there is a significant association between education and mode of sale of produce.

Higher proportion of respondents, that is, 89 (34.2%) who were selling produce through commission agents were found having income of more than Rupees 5 lakhs, followed by 51 (19.6%) respondents having income of Rupees 3-4 lakhs per annum. As many as 45 (17.3%) respondents having income Rupees 4-5 lakhs per annum were found selling produce through commission agents. Result of chi-square,  $\chi^2 = 18.54$ ,  $df=5$ ,  $p$ -value at 0.05 (level of significance =11.07) shows that there is a significant association between income and mode of sale of produce.

Moreover, it can be observed that higher proportion of respondents having medium size land holdings, that is, 107 (41.2%) sell their produce through agents followed by respondents having large size land holdings, that is, 66 (25.4%). On the other hand, higher proportion of respondents having large size land holdings, that is, 9 (45%) were found selling their produce directly to government authorities, followed by respondents having medium size land holdings, that is, 5 (25%). In Jandiala block higher proportion of respondents having medium size land holdings, that is, 63 (41.7%) were found selling through agents followed by equal proportion of respondent having semi-medium and large size land holdings, that is, 37 (24.5%) each. Whereas, in Ajnala block, higher proportion of respondents having medium size land holdings, that is, 44 (40.4%) sold their produce to agents followed by respondents having large size land holdings, that is, 29 (26.6%). Result of chi-square,  $\chi^2 = 10.73$ ,  $df=4$ ,  $p$ -value at 0.05 (level of significance =9.49) shows that there is a significant association between size of land holdings and mode of sale of produce. This lends support to the hypothesis that Socio-economic profile of farmers' is likely to vary with the adoption of commercialisation of agriculture.



**Table 6.5.2**  
**Distribution of Respondents on the basis adoption of commercial crops, sufficiency of profit, mode of sale and indebtedness related with their caste**

	<b>Jandiala</b>				<b>Ajnala</b>				<b>Total</b>			
	General N=148	Scheduled caste N=12	OBC N=5	<b>Total N=165</b>	General N=97	Scheduled caste N=17	OBC N=1	<b>Total N=115</b>	General N=245	Scheduled caste N=24	OBC N=6	<b>Total N= 280</b>
<b>Adopting commercial crops</b>												
<b>Yes</b>	136 (91.9%)	8 (66.7%)	4 (80.0%)	<b>148 (89.7%)</b>	95 (97.9%)	16 (94.1%)	1 (100.0%)	<b>112 (97.4%)</b>	231 (94.3%)	24 (100.0%)	5 (83.3%)	<b>260 (92.9%)</b>
<b>No</b>	12 (8.1%)	4 (33.3%)	1 (20.0%)	<b>17 (10.3%)</b>	2 (2.1%)	1 (5.9%)	0 (0.0%)	<b>3 (2.6%)</b>	14 (5.7%)	5 (20.8%)	1 (16.7%)	<b>20 (7.1%)</b>
<b>Sufficiency of profit gained from commercial crops</b>												
<b>Yes</b>	70 (47.3%)	6 (50.0%)	1 (20.0%)	<b>77 (46.7%)</b>	30 (30.9%)	3 (17.6%)	0 (0.0%)	<b>33 (28.7%)</b>	100 (40.8%)	9 (37.5%)	1 (16.7%)	<b>110 (39.3%)</b>
<b>No</b>	78 (52.7%)	6 (50.0%)	4 (80.0%)	<b>88 (53.3%)</b>	67 (69.1%)	14 (82.4%)	1 (100.0%)	<b>82 (71.3%)</b>	145 (59.2%)	20 (83.3%)	5 (83.3%)	<b>170 (60.7%)</b>
<b>Selling through intermediary or directly to government</b>												
<b>Agent</b>	136 (91.9%)	10 (83.3%)	5 (100.0%)	<b>151 (91.5%)</b>	92 (94.8%)	16 (94.1%)	1 (100.0%)	<b>109 (94.8%)</b>	228 (93.1%)	26 (89.6%)	6 (100.0%)	<b>260 (92.9%)</b>
<b>Government</b>	12 (8.1%)	2 (16.7%)	0 (0.0%)	<b>14 (8.5%)</b>	5 (5.2%)	1 (5.9%)	0 (0.0%)	<b>6 (5.2%)</b>	17 (6.9%)	3 (10.4%)	0 (0.0%)	<b>20 (7.1%)</b>
<b>Indebtedness among responders</b>												
<b>Yes</b>	120 (81.1%)	9 (75.0%)	2 (40.0%)	<b>131 (79.4%)</b>	90 (92.8%)	15 (88.2%)	0 (0.0%)	<b>105 (91.3%)</b>	210 (85.7%)	24 (82.7%)	2 (33.3%)	<b>236 (84.3%)</b>
<b>No</b>	28 (18.9%)	3 (25.0%)	3 (60.0%)	<b>34 (20.6%)</b>	7 (7.2%)	2 (11.8%)	1 (100.0%)	<b>10 (8.7%)</b>	35 (14.3%)	5 (17.3%)	4 (66.7%)	<b>44 (15.7%)</b>

Table 6.5.2 indicates that among those who were adopting commercial crops higher proportion were of general caste that is, 231 (94.3%). Whereas higher proportion of scheduled castes were found not adopting commercial crops, that is, 5 (20.8%). Result of chi-square,  $\chi^2 = 6.03$ ,  $df=2$ ,  $p$ -value at 0.05 (level of significance =5.99) shows that there is a significant association between caste and adoption of commercial crops. This lends support to the hypothesis that Socio-economic profile of farmers' is likely to vary with the adoption of commercialisation of agriculture. Higher proportion of general caste respondents found profit from commercial crops sufficient that is, 100 (40.8%), whereas both scheduled caste and OBCs that is, 20 (83.3%) and 5 (83.3%) respectively did not find profit from commercial crops sufficient. Result of chi-square,  $\chi^2 = 2.35$ ,  $df=2$ ,  $p$ -value at 0.05 (level of significance =5.99) shows that there is no significant association between caste and finding profit from commercial crops sufficient. All the respondents of OBCs were selling their produce through commercial agents. Higher proportion of scheduled castes, that is, 3 (10.4%) were found selling their produce to government agencies. Result of chi-square,  $\chi^2 = 0.92$ ,  $df=2$ ,  $p$ -value at 0.05 (level of significance =5.99) shows that there is no significant association between caste and mode of sale of produce. Extent of indebtedness was found almost same among respondents of general caste and scheduled caste, whereas respondents who were OBCs were in higher proportion, that is, 4 (66.7%) who reported not indebted with any loan. Result of chi-square,  $\chi^2 = 12.18$ ,  $df=2$ ,  $p$ -value at 0.05 (level of significance =5.99) shows that there is a significant association between caste and indebtedness.

**Table 6.5.3**  
**Distribution of Respondents on the basis of reasons of choosing commission agents over others**

Reason of choosing intermediary	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
Government authorities are not accessible	30 (22.1%)	3 (20.0%)	33 (21.9%)	30 (30.9%)	3 (25.0%)	33 (30.3%)	<b>66</b> <b>(25.4%)</b>
Get payments faster	32 (23.5%)	2 (13.3%)	34 (22.5%)	25 (25.8%)	3 (25.0%)	28 (25.7%)	<b>62</b> <b>(23.8%)</b>
More convenient to sale	29 (21.3%)	6 (40.0%)	35 (23.2%)	21 (21.6%)	4 (33.3%)	25 (22.9%)	<b>60</b> <b>(23.1%)</b>
Time saving	15 (11.0%)	3 (20.0%)	18 (11.9%)	12 (12.4%)	2 (16.7%)	14 (12.8%)	<b>32</b> <b>(12.3%)</b>
Get more money and profit	24 (17.6%)	1 (6.7%)	25 (16.6%)	6 (6.2%)	0 (0.0%)	6 (5.5%)	<b>31</b> <b>(11.9%)</b>
Others	6 (4.4%)	0 (0.0%)	6 (4.0%)	3 (3.1%)	0 (0.0%)	3 (2.8%)	<b>9</b> <b>(3.5%)</b>
<b>Total</b>	<b>136</b> <b>(52.3%)</b>	<b>15</b> <b>(5.8%)</b>	<b>151</b> <b>(58.1%)</b>	<b>97</b> <b>(37.3%)</b>	<b>12</b> <b>(4.6%)</b>	<b>109</b> <b>(41.9%)</b>	<b>260</b> <b>(100%)</b>

Respondents who were selling produce through commission agents were further inquired about the reasons for the same. The Table 6.5.3 highlights the reasons for respondents to choose commission agents. It was observed from the table that a higher proportion of respondents, that is, 66 (25.4%) mentioned the reason of non-availability of any government agencies at the preliminary stage of marketing for choosing these agents. Further, 62 (23.8%) respondents also mentioned expeditious disbursement of money by agents as another reason, while 60 (23.1%) respondents find selling the produce to agents convenient. As many as 32 (12.3%) respondents found selling through intermediaries as time saving, along with this 31 (11.9%) respondents who described that they got more money and profit through intermediaries as comparison to selling to government agencies directly. Only, 9 (3.5%) respondents mentioned other reasons such as non-availability of time, due payment of previous debt as the main reasons of selecting an intermediary. From the table it was observed that a higher proportion of respondents 33(30.3%) from Ajnala block found government agencies not accessible as compared to 33 (21.9%) respondents from Jandiala block which indicates more inaccessibility of government functionaries in Ajnala block and their inadequate participation in the welfare and outreach initiatives.

To supplement the knowledge of market operations, respondents were further asked if they had a market to sell their products and how far that market was from their place.

**Table 6.5.4**

**Distribution of respondents on the basis of finding market farther**

Found market far	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Market farther</b>	26 (17.3%)	3 (20.0%)	29 (17.6%)	93 (90.3%)	5 (41.7%)	98 (85.2%)	<b>127 (45.4%)</b>
<b>Market not farther</b>	124 (82.7%)	12 (80.0%)	136 (82.4%)	10 (9.7%)	7 (58.3%)	17 (14.8%)	<b>153 (54.6%)</b>
<b>Total</b>	<b>150 (53.5%)</b>	<b>15 (5.3%)</b>	<b>165 (58.9%)</b>	<b>103 (36.7%)</b>	<b>12 (4.2%)</b>	<b>115 (41.1%)</b>	<b>280 (100%)</b>

Table 6.5.4 shows the number of respondents who think market is far from their place. It is observed from the table that though a higher proportion of respondents 153 (54.6%) out of total 280 did not find market farther, whereas, amidst the blocks, the majority of respondents 98 (85.2 %) from Ajnala block mentioned that

market was far from their place. On the other hand, a lesser proportion, 29 (17.6%) respondents of Jandiala block find market farther in comparison to Ajnala block. Data show that villages of Jandiala block had better access to the market channels than Ajnala block. Farther market can also act as a bottleneck in the agriculture development as in case of lack of transport facility, farmers may face problems in bringing the produce in the market and get remunerative return for it.

Market which is allocated to villages of Jandiala block is Gehri market committee, whereas Ajnala market committee has been allocated to villages of Ajnala block

### **TRANSPORT:**

Transport is a facilitating factor for competent agricultural marketing. Transport can be recognised as the link between accessibility and agricultural development. An efficient and affordable means of transportation facilitate the production, distribution, marketing and consumption of agriculture produce in an effective manner. It is a critical input which act as a catalyst of economic growth if provided effectively and efficiently (Ajiboye, 1994). Transport facility add value to the product, reduce spoilage and wastage. Hence, respondents were asked whether they have transport facility to carry the produce for marketing (Ajiboye et al., 2009).

**Table 6.6**

**Distribution of Respondents on the basis of having transport to carry produce to the market**

Having transport	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
Having transport	76 (50.7%)	14 (93.3%)	90 (54.5%)	34 (33.0%)	8 (66.7%)	42 (36.5%)	<b>132</b> <b>(47.1%)</b>
Not having transport	74 (49.3%)	1 (6.7%)	75 (45.5%)	69 (67.0%)	4 (33.3%)	73 (63.5%)	<b>148</b> <b>(52.9%)</b>
<b>Total</b>	<b>150</b> <b>(53.5%)</b>	<b>15</b> <b>(5.3%)</b>	<b>165</b> <b>(58.9%)</b>	<b>103</b> <b>(36.7%)</b>	<b>12</b> <b>(4.2%)</b>	<b>115</b> <b>(41.1%)</b>	<b>280</b> <b>(100%)</b>

Transport is a vital constituent of agriculture. Table 6.6 demonstrates the number of respondents who had the facility of a transport. It is discerned from the table that almost half of the respondents 148 (52.9%) out of 280 did not have any transport to carry their produce to the market while 132 (47.1%) respondents had transport to carry their produce to sell in the market. Among the blocks, disparity in

availability of transport was observed. In Jandiala block, 90 (54.5%) respondents had transport whereas only 42 (36.5%) respondents had transport in Ajnala block. The difference could be attributed to the economic status of the respondents. Dhirakot village of Jandiala block had higher proportion of respondents, 14 (93.3%) having the transport facility amidst the villages of both the blocks.

**Table 6.6.1**

**Distribution of Respondents on the basis of source of transport**

Source of transport	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Government</b>	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	<b>0</b> <b>(0.0%)</b>
<b>Privately owned</b>	76 (100%)	14 (100%)	90 (100%)	34 (100%)	8 (100%)	42 (100%)	<b>132</b> <b>(100%)</b>
<b>Total</b>	<b>76</b> <b>(57.6%)</b>	<b>14</b> <b>(10.6%)</b>	<b>90</b> <b>(68.2%)</b>	<b>34</b> <b>(25.8%)</b>	<b>8</b> <b>(6.1%)</b>	<b>42</b> <b>(31.8%)</b>	<b>132</b> <b>(100%)</b>

Respondents who were having the facility of transport were further enquired about the source of transport. Table 6.6.1 displays the sources through which respondents acquire their transport. The table manifests that transport used by the respondents were privately owned either their own, rented and pooled for the purpose of sending the produce to the market. It was astonishing to observe that transport facility is not provided by the government agencies. Taking the produce to the market is an equally important criterion in agriculture, but government seems indifferent in providing this facility to the farmers.

**CONSUMERS CHOICE TOWARDS ORGANIC PRODUCTS:**

Increased content of chemicals such as insecticides, fertilizers in the food products may have impact on the choice of consumers as people are getting aware of impact of harmful chemical residues in food. In order to ascertain the shift in consumers choice towards organic products, instead of conventional products, respondents were asked whether they have observed any change in consumers selection of food products. Also, consumers choice in certain products stimulates their demand, and encourages the farmer to grow them.

**Table 6.7**  
**Distribution of Respondents on the basis of observing shift in consumers' choice**  
**towards organic products**

Shift of consumer towards organic products	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Found shift towards organic</b>	47 (31.3%)	3 (20.0%)	50 (30.3%)	15 (14.6%)	2 (16.7%)	17 (14.8%)	<b>67</b> <b>(23.9%)</b>
<b>Not found shift towards organic</b>	103 (68.7%)	12 (80.0%)	115 (69.7%)	88 (85.4%)	10 (83.3%)	96 (83.5%)	<b>213</b> <b>(76.1%)</b>
<b>Total</b>	<b>150</b> <b>(53.5%)</b>	<b>15</b> <b>(5.3%)</b>	<b>165</b> <b>(58.9%)</b>	<b>103</b> <b>(36.7%)</b>	<b>12</b> <b>(4.2%)</b>	<b>115</b> <b>(41.1%)</b>	<b>280</b> <b>(100%)</b>

The above table, 6.7 enumerates the respondents who think that there is a shift in the choice of consumers towards organic products. It reveals that the majority of respondents, 213 (76.1%) believe that there is not much shift in the consumer choice towards use of organic products and a small proportion of respondents 67 (23.9%) felt that there was shift in the consumers' choice towards organic products. Jandiala block had higher proportion of respondents, 50 (30.3%) in comparison to 17 (14.8%) respondents of Ajnala block, believing that consumers are demanding organic products. The probable reason could be presence of organic farming in the villages, which may have increased awareness regarding organic products in the villages of Jandiala block, whereas, lack of any organic farming practices in Ajnala block may have failed to create much demand among the consumers in this area.

**Table 6.7.1**  
**Distribution of Respondents on the basis of reasons for consumers' choice**  
**towards organic products**

Reasons for consumer choice of organic*	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Organic is healthy</b>	16 (34.0%)	1 (33.3%)	17 (34.0%)	8 (53.3%)	2 (100%)	10 (58.8%)	<b>27</b> <b>(40.3%)</b>
<b>There is trend of using organic products</b>	21 (44.7%)	0 (0.0%)	21 (42.0%)	5 (33.3%)	0 (0.0%)	5 (29.4%)	<b>26</b> <b>(38.8%)</b>
<b>Found organic affordable</b>	4 (8.5%)	0 (0.0%)	4 (8.0%)	1 (6.7%)	0 (0.0%)	1 (5.9%)	<b>5</b> <b>(7.5%)</b>
<b>Health Risk due to commercial crops</b>	3 (6.4%)	1 (33.3%)	4 (8.0%)	1 (6.7%)	0 (0.0%)	1 (5.9%)	<b>5</b> <b>(7.5%)</b>
<b>Found organic both healthy and trending</b>	3 (6.4%)	1 (33.3%)	4 (8.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	<b>4</b> <b>(6.0%)</b>

\*Multiple response table

Respondents (67 out of total 280) who conceded that there was a shift in the consumers' choice towards organic were further asked the reason for the change in the consumption behaviour. The Table 6.7.1 illustrates the reasons of the respondents. It was observed from the table that a substantial number of the respondents, 27 (40.3%), believed that organic products are healthier, that is why more consumers are choosing organic over regular food products, while 26 (38.8%) respondents mentioned that consuming an organic product was in trend that is why, people are opting for it. A small proportion of respondents, that is, 5 (7.5%) mentioned that organic products were affordable and that there was risk of health associated with the use of regular crops. The table brings out the fact that respondents are aware of the health advantages of organic food products and also believe it to be the cause of probable change of consumers consumption behaviour and selection of organic over regular food products.

### **COPING MECHANISMS:**

Multiple risks move in tandem with the agricultural production and farming operation. To address the fluctuations of income induced by the risk involved, farmers may opt for risk coping mechanisms.

Coping mechanisms or strategies are remedial actions developed by individuals to overcome the problems arising due to unforeseen circumstances. Risk coping strategies are based on historical knowledge, cultural acceptability and experiences evolved from interaction of the individuals with the environment in which they live (Saris *et al.*, 2006).

Coping mechanism comprised of formal and informal risk response mechanism. Formal mechanism consists of formal management techniques such as social security and commercial insurance. Whereas, informal mechanism involves risk prevention techniques taken by farmers in the production process (Yang, 2010).

Risk prevention measures taken by the farmers during the course of production before the event of income risk is called ex-ante risk coping strategies for example, diversification of crops grown, crop insurance and risk pooling etc. On the other hand, risk coping measures that farmers adopt after the occurrence of income risk are referred as ex-post ante risk for instance, alternative sources of income, borrowing, reduction in expenditure etc. (Lekprichakul, 2009).

In the present study, risk aversion measures such crop insurance, financing, alternative source of income, diversification of crops practiced and assistance from government are considered as risk coping mechanism. This section addresses the coping mechanisms or strategies adopted by the respondents. The respondents were, therefore, questioned on what kind of sources they relied on whenever they face any risk in agriculture.

### **RESPONDENTS ADOPTING RISK COPING MECHANISM:**

**Table 6.8**

**Distribution of Respondents on the basis of various risk coping mechanism**

Risk coping mechanism	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Diverse crops grown</b>	79 (52.7%)	1 (6.7%)	80 (48.5%)	37 (35.9%)	1 (8.3%)	38 (33.0%)	<b>118 (42.1%)</b>
<b>Alternative income source</b>	23 (15.3%)	6 (40.0%)	29 (17.6%)	16 (15.5%)	4 (33.3%)	20 (17.4%)	<b>49 (17.5%)</b>
<b>Crop insurance</b>	5 (3.3%)	0 (0.0%)	5 (3.0%)	2 (1.9%)	0 (0.0%)	2 (1.7%)	<b>7 (2.5%)</b>
<b>Practicing none of the risk coping mechanisms</b>	43 (28.7%)	8 (53.3%)	51 (30.9%)	48 (46.6%)	7 (58.3%)	55 (47.8%)	<b>106 (37.9%)</b>
<b>Total</b>	<b>150 (53.5%)</b>	<b>15 (5.3%)</b>	<b>165 (58.9%)</b>	<b>103 (36.7%)</b>	<b>12 (4.2%)</b>	<b>115 (41.1%)</b>	<b>280 (100%)</b>

Table 6.8 indicates the risk coping mechanisms adopted by respondents in case of any adverse situation such as natural calamity or environmental hazard. Examining the data reveals that, the most popular technique adopted by the respondents to cope any risk is the practising of diverse crops. A large number of the respondents, that is, 118 (42.1%) were growing more than one crop in their fields during the whole year. Cultivating one or more crop around the year, gives an impetus to the economic situation of the household. Crop insurance provides a cushion to the farmer in case of crop failure and helps the farmer sustain the loss incurred. It is evident from the table that a very small proportion of respondents, 7 (2.5%) got their crop insured. Further, as many as, 49 (17.5%) respondents were found having another income source to supplement their earning from the agriculture to support the expenditure and requirements of the household. On the other hand, a fair proportion



of respondents, that is, 106 (37.9%) were observed practising none of the risk coping mechanisms, which make them vulnerable in case of incidence of any natural hazard or calamity. The table highlights that higher proportion of respondents from Ajnala block, that is, 55 (47.8%) were not practising any risk coping techniques in comparison to 51 (30.9%) respondents from Jandiala block making respondents of Ajnala block more susceptible to adversities than Jandiala block.

**Table 6.8.1**

**Distribution of Respondents on the basis of source of finance in case of natural calamity**

Source of finance in case of natural calamity	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Private lender</b>	79 (52.7%)	13 (86.7%)	92 (55.8%)	67 (65.0%)	4 (33.3%)	71 (61.7%)	<b>163 (58.2%)</b>
<b>Loans from Government</b>	37 (24.7%)	1 (6.7%)	38 (23.0%)	29 (28.2%)	7 (58.3%)	36 (31.3%)	<b>74 (26.4%)</b>
<b>Cooperatives</b>	21 (14.0%)	0 (0.0%)	21 (12.7%)	5 (4.9%)	1 (8.3%)	6 (5.2%)	<b>27 (9.6%)</b>
<b>Others</b>	13 (8.7%)	1 (6.7%)	14 (8.5%)	2 (1.9%)	0 (0.0%)	2 (1.7%)	<b>16 (5.8%)</b>
<b>Total</b>	<b>150 (53.5%)</b>	<b>15 (5.3%)</b>	<b>165 (58.9%)</b>	<b>103 (36.7%)</b>	<b>12 (4.2%)</b>	<b>115 (41.1%)</b>	<b>280 (100%)</b>

Table 6.8.1 acquaints with the sources of finance of the respondents in the case of natural calamity, a glimpse of the table shows that when it comes to a natural calamity, the majority of respondents 163 (58.2%) approached private lenders such as commission agents or traders and bigger landlords, followed by 74 (26.4%) respondents who reached to government sources. As many as 27 (9.6%) respondents raised loans from cooperatives. A small proportion, 16 (5.8%) reached out to other sources such as relatives and friends etc. The table also exhibits a strong hold of commission agents in the agricultural society and a close-knit relationship of farmers and commission agents but the government fails to reach out to the farmers in case of a natural calamity or disaster.

**Table 6.8.2****Distribution of Respondents on the basis of source of finance found more accessible**

Source most accessible	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Private lender</b>	116 (77.3%)	14 (93.3%)	130 (78.8%)	87 (84.5%)	11 (91.7%)	98 (85.2%)	<b>228 (81.4%)</b>
<b>Loans from Govt.</b>	18 (12.0%)	1 (6.7%)	19 (11.5%)	16 (15.5%)	1 (8.3%)	17 (14.8%)	<b>36 (12.9%)</b>
<b>Cooperative banks</b>	12 (8.0%)	0 (0.0%)	12 (7.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	<b>12 (4.3%)</b>
<b>Others</b>	4 (2.7%)	0 (0.0%)	4 (2.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	<b>4 (1.4%)</b>
<b>Total</b>	<b>150 (53.5%)</b>	<b>15 (5.3%)</b>	<b>165 (58.9%)</b>	<b>103 (36.7%)</b>	<b>12 (4.2%)</b>	<b>115 (41.1%)</b>	<b>280 (100%)</b>

Table 6.8.2 examines the sources of finance which the respondents find more accessible. From the table, it can be observed that a higher proportion of respondents 228 (81.4%) found private lenders such as commission agents, bigger landlords as more accessible than any other source, followed by 36 (12.9%) respondents who think that the government sources were accessible. As many as 12 (4.3%) found cooperatives accessible and only 4 (1.4%) respondents reached out to other sources such as, relatives and friends etc. Further, it is observed that higher proportion of respondents in Ajnala block, 17 (14.8%) opted for government agencies in comparison to Jandiala block which were 19 (11.5%). Additionally, respondents from Jandiala block found cooperatives more accessible in comparison to Ajnala block where, surprisingly, none of the respondents mentioned cooperatives accessible.

It was observed that the most accessible source of borrowing according to the respondents are the private lenders such as commission agent and landlords. The reason could be that these private players lend the respondent for their personal consumption, apart from agriculture purposes. There are no transaction cost and the formalities of paper work involved which saves the respondents from hassles in case of emergency. During the survey, it was observed that these commission agents had a strong presence in the financing and most of the respondents depended on these commission agents for borrowing. Cumbersome procedure of loans with the government agencies discouraged the respondents from borrowing. One of the respondent cited that “*lod velle taa arhatiya te darwaje jana penda hai bank wale taa chakkar hi bohat nikalvande ne...zarurat velle taa ae hi (arhatiya) yaad aande ne*”

(At the time of need we have to go to arhatiyas, bank officials take a lot of time. Arhatiyas are the ones whom we go for the help when need arises).

**Table 6.8.3**

**Distribution of Respondents on the basis of source of finance accessible related with size of land holding**

	Accessible Source of finance					
	Marginal	Small	Semi-medium	Medium	Large	Total
<b>Loan from governments sources</b>	0 (0.0%)	3 (16.7%)	4 (6.5%)	11 (9.8%)	18 (24%)	<b>36 (12.9%)</b>
<b>Co-operatives</b>	0 (0.0%)	1 (5.6%)	4 (6.5%)	4 (3.6%)	3 (4%)	<b>12 (4.3%)</b>
<b>Private lender</b>	13 (100%)	14 (77.8%)	51 (82.3%)	96 (85.7%)	54 (72%)	<b>228 (81.4%)</b>
<b>Others</b>	0 (0.0%)	0 (0.0%)	3 (4.8%)	1 (0.9%)	0 (0.0%)	<b>4 (1.4%)</b>
<b>Total</b>	<b>13 (4.6%)</b>	<b>18 (6.4%)</b>	<b>62 (22.1%)</b>	<b>140 (50.0%)</b>	<b>75 (26.8%)</b>	<b>280 (100%)</b>

A cursory look at the Table 6.8.3 shows that all the marginal farmers, 13 (100%) found a private lender as most accessible source of finance for agricultural activities. Whereas, majority of small farmers, 14 (77.8%) found the private lender as most accessible financial source, followed by 3 (16.7%) respondents who found government sources accessible. Semi-medium and medium farmers also found private lenders as the most accessible source of finance with 51 (82.3%) and 96 (85.7%) respondents mentioning private lenders as the most accessible source of finance in urgency. Majority of large farmers, that is, 54 (72%) found a private lender accessible, followed by loans from government sources, that is, 18 (24%).

**Table 6.8.4**

**Distribution of Respondents on the basis of getting assistance during emergency situations**

Did govt help during emergency	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Always</b>	7 (4.7%)	0 (0.0%)	7 (4.2%)	1 (1.0%)	0 (0.0%)	1 (0.9%)	<b>8 (2.9%)</b>
<b>Sometimes</b>	92 (61.3%)	6 (40.0%)	98 (59.4%)	82 (79.6%)	11 (91.7%)	93 (80.9%)	<b>191 (68.2%)</b>
<b>Never</b>	48 (32.0%)	6 (40.0%)	54 (32.7%)	18 (17.5%)	1 (8.3%)	19 (16.5%)	<b>73 (26.1%)</b>
<b>Can't say</b>	3 (2.0%)	3 (20.0%)	6 (3.6%)	2 (1.9%)	0 (0.0%)	2 (1.7%)	<b>8 (2.9%)</b>
<b>Total</b>	<b>150 (53.5%)</b>	<b>15 (5.3%)</b>	<b>165 (58.9%)</b>	<b>103 (36.7%)</b>	<b>12 (4.2%)</b>	<b>115 (41.1%)</b>	<b>280 (100%)</b>

As indicated in the Table 6.8.4 it can be observed that when asked about how often does government provide help in case of emergency, a higher proportion, 191 (68.2%) thought that government provided help only sometimes, followed by 73 (26.1%) respondents who believe that government never provides any kind of help. As many as 8 (2.9%) respondents said government always provided the help and 8 (2.9%) respondents were indecisive. When asked about why they thought that government never provided help, respondents said that they have never seen any government official to visit them in case of natural hazards. Even if any official comes they just do the formality of field visit and never provided any assistance of any sort.

**Table 6.8.5**

**Distribution of Respondents on the basis of preferred form of assistance in case of adverse situations**

Preferred assistance	Jandiala block			Ajnala block			Total
	Manawala	Dhirakot	Total	Panj garain wala	Kotli jimmat singh	Total	
<b>Agricultural inputs</b>	90 (60.0%)	6 (40.0%)	96 (58.2%)	42 (40.8%)	1 (8.3%)	43 (37.4%)	<b>139</b> <b>(49.6%)</b>
<b>Cash</b>	48 (32.0%)	8 (53.3%)	56 (33.9%)	45 (43.7%)	8 (66.7%)	53 (46.1%)	<b>109</b> <b>(38.9%)</b>
<b>Loans</b>	12 (8.0%)	1 (6.7%)	13 (7.9%)	16 (15.5%)	3 (25.0%)	19 (16.5%)	<b>32</b> <b>(11.4%)</b>
<b>Total</b>	<b>150</b> <b>(53.5%)</b>	<b>15</b> <b>(5.3%)</b>	<b>165</b> <b>(58.9%)</b>	<b>103</b> <b>(36.7%)</b>	<b>12</b> <b>(4.2%)</b>	<b>115</b> <b>(41.1%)</b>	<b>280</b> <b>(100%)</b>

The respondents were asked about what kind of assistance they would prefer if they were given the chance of choosing the form of help provided by the government. The table enlists the preferences of the respondents which they would choose. Table 6.8.5 depicts that a higher proportion of 139 (49.6%) respondents wanted Agricultural inputs such as agricultural equipments, latest tools and techniques, seeds, etc from the government, followed by 109 (38.9%) respondents who wanted that direct cash should be disbursed to the respondents to compensate the losses incurred or any other adversities faced by the respondents. As many as 32 (11.4%) respondents mentioned that they require loan in the form of assistance from the government. It is clear that most of them require agricultural implements to carry out agricultural activities in a smooth way without any disruptions and delays.

**SUMMARY:**

Effect of commercialization on the farmers reflects from the extent of adopting commercial crops. It was found that majority of respondents were growing commercial crops, with a large proportion of respondents who were educated upto primary level, illiterate and were farmers who were having medium size land holding. Reasons cited for growing commercial crops were more profit and better sale of these crops. Not only they were growing these crops they also found these crops beneficial. Results indicate that there was no significant association between size of land holding and adopting commercial crops. Whereas, there was highly significant association between caste, education and income with the adoption of commercial crops. The impact of commercial crops can be seen on their lifestyle as substantial proportion of respondents admitted change in lifestyle due to adoption of commercial crops. Major changes observed by the respondents were elevation in social class of respondents, better educational attainment and enhanced expenditure on luxuries. While most of the respondents were growing commercial crops not many found the profit from the commercial crops sufficient. Results found no significant association between caste and education with sufficiency of profit out of commercial crops. Whereas there was highly significant association between income and size of land holding with the sufficiency of profit from commercial crops. In terms of financing the agriculture activities, majority of respondents were advancing loans from the government authorities, followed by private lender. While majority of respondents having large size land holding got loan from government authorities, respondents having marginal and small size of land holding were found advancing loans from private lenders in higher proportion than respondents having large size of land holdings.

Extent of indebtedness reflects that more than 80% of respondents were indebted. Respondents with income more than Rupees 5 lakhs were found indebted in higher proportion than other income groups. Highly significant association was found between caste, education and size of land holding with indebtedness. Whereas no significant association was found between income and indebtedness. Selection of mode of selling the produce indicates that maximum number of respondents were selling their produce through commission agents reflecting deep rooted presence of

commission agents in agricultural mode of exchange. Major reason advanced by the respondents were inaccessibility of government authorities, getting faster payments through commission agents and more convenience of selling the produce. Results show that there was no significant association between caste and mode of sale of produce. However, significant association was found between size of land holding and mode of sale of produce and there was significant association between education and income with mode of sale of produce.

For coping the risks involved in agriculture, substantial proportion of respondents were growing diverse crops and pursuing alternative vocation for augmenting the income. Though majority of respondents were raising loans from government but a private lender was found as the most accessible source of finance according to substantial number of respondents.