

## Income Inequality in Northern Pakistan: A Social Issue in Development Process

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### Abstract

*This study was conducted during 2010, in Shangla district of Northern-Pakistan with the objectives to determine the income inequality, concentration of wealth among the rural households and that diversification (last 5 years) of income. Primary data about income on annual basis was collected from randomly selected 323 households by Cochran (1963) formula. Quintile methods, coefficient of variation and descriptive statistics were used for the analysis of data. Main findings of the study revealed that income inequality by quintile before diversification of income of the bottom quintile was Rs.75, 311 by receiving 6.00% of the total household income. The lower middle, middle and upper middle quintiles having an average income of Rs.1, 24, 733, Rs.1, 80, 431 and Rs. 3, 05, 628 per household and receiving 9.79, 14.38 and 23.98 percent of the households respectively. The top quintile household income was Rs.5, 75, 638 per household and receiving 45.86% of the total income and accepts the alternative hypothesis that income is not equally distributed among the rural households, where the null hypothesis is accepted that about 50% of the income comes under the category of the top quintile households. After the diversification of income the bottom quintile lower middle, middle, upper middle and top quintile households have the same percent of wealth as before the diversification of income. Null hypothesis was accepted that after diversification of income the concentration of wealth are decreased and the income of the household increased. The study as a whole concludes the diversification of income leads to decrease the income inequality but the concentration of wealth remain unchanged. The study recommends that to reduce the income inequality diversification may be used as income inequality reeducation strategy and more off-farm employment opportunity like agro-based industrialization may be promoted in the rural areas for bringing them in to the main stream of development by absorbing the surplus labor of the rural households.*

**Key Words:** Income diversification, quintile income inequality, rural households, Northern-Pakistan

### Introduction

Basic objective of development is improvement in the living standards of the common man living in rural and urban areas and for that only economic growth would not be sufficient. This is because the growth and income distribution jointly determine improvements in the living standards of the common man. In the world important aim of development efforts is to reduce poverty, increased human well being and to increase access to basic resources and rights which can be accomplished by income redistribution.

The inequality shows the disparity between different groups of people within a country in terms of income levels. Rising income inequality can be a good thing to the extent that it is crucial to reward work effort, talent and innovation and key engines of economic growth and wealth creation. Forbes (2000) found a positive relationship between inequality and growth. However, there are instances where income inequality reaches excessive levels, in that it represents a danger to social stability and economic growth. Higher inequality may also

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deepen macroeconomic instability in the sense that low-income households may adjust more slowly to economic shocks. Indeed, higher income inequality is associated with higher crime rates and lower life expectancy. More fundamentally, when income inequalities are perceived to reach excessive levels, social support for pro-growth policies may be strongly eroded (ILO, 2008).

Rising income inequalities can be a sign of robust economic growth, as some members of society get ahead, work harder or introduce innovative products and services. Indeed, inequalities may be linked to a number of developments, which, in the long run, may generate unambiguous positive effects. Income Inequalities at any level at the society, country or regions may have inefficient social and economic outcomes. In particular, when inequalities become persistent and some groups are systematically barred from the benefits of growth, the economic and social costs are likely to intensify as those at the bottom claim their share of the national income by any means possible, thus creating a more unstable macroeconomic environment. There may also be cases where wealthy groups try to block pro-growth policies, if such groups fear that the opportunities may be too widely redistributed (ILO, 2008).

Besides social and economic impacts the income inequality may also affect the health of the society. In the views of Deaton (2003) that rich people live longer, whereas low-income households often lack the resources to maintain and improve their health status. Similarly, lifestyle choices are heavily influenced by individual income: the incidence of obesity, Trends in employment and inequality typically decreases with increasing income. Inequality also has a strong impact on disease prevention and immunization, in that low-income households are less well informed and less likely to visit a doctor or to get a second opinion in the event of health problems, although preventive measures are recognized to be one of the most efficient ways to provide health-care services. Also large inequalities in income may result in racial and gender discrimination in the labor market, thereby discouraging participation and reducing labor supply (WIDER, 2006).

There is an association between inequality and corruption. The unequal distribution of income and wealth may create incentives for certain high-income groups to interfere with the political process and democratic governance, in particular, a heavy concentration of wealth and income will provide richer individuals with sufficient resources to offer bribes even to high-ranking officials and policy-makers (You and Khagram, 2005).

On the basis of social and economic consequences determinations of income inequality are extremely important as it is an indication of the well-being, living standard and economic conditions in a country. This also provides information on the outcome of economic processes at the international, national, regional and households levels. This study aims to explore the income inequalities in the rural region of Pakistan on the basis of study findings and if possible to reduce the income inequalities, so that benefits of growth are equitably distributed to all sections of the population and households and leads to sustainable development in the country. So, on the mentioned reasons above the study in hand is designed with the following objectives.

### **Objectives of the Study**

- I. To study the income inequality of the households in the area and among the selected union councils.
- II. To study that are diversification leads to decrease/ increase the income inequality.
- III. To study the concentration of wealth in the study area.
- IV. To forward policy recommendations for reducing income inequality in the area in particular and in the country in general.

## Hypothesis

- i It is assumed that income is equally distributed in the area.
- ii It is assumed that about fifty percent of the wealth comes under that category of top quintile group of households.
- iii It is assumed that diversification of income reduce the income inequality.

## Materials and Methods

The present study was confined to four union councils of District Shargla. The District comprised of twenty eight union councils. From the list of all union councils four union councils were selected purposely. Purposive sampling is best used with small numbers of individuals/groups which may well be sufficient for understanding human perceptions, problems, needs, behaviors and contexts, which are the main justification for a qualitative audience research. The reason of purposive sampling was that two union councils i.e. Lilownai and Shahpur are situated near to the district headquarter and the people having multiple fort polio for livelihood while the other two union councils i.e. Kuzkana and Pirkhana are relatively less developed and the livelihood activity are mainly confined to agriculture and their related activities. Cochran (1963) formula was used for determining the appropriate sample size, by taking the constant value of  $z$  at 5% i.e. 1.96, variability  $p$  (0.7), precision  $q$  (0.3) and error  $e$  0.05, the resulted sample size were 323. Primary data were collected through a well design, pre-tested questionnaire from rural household through face to face interview method. Diversification of income (within the farm and non-farm sectors) was also taken in to account from the sample households for the last 5 years. To measure the income inequality different methods like Generalized Entropy, Theil's index, Dalton's index, Atkinson index, Gini Coefficient, Lorenz Curve, Kuznet Ratios, and Coefficient of variation are used. Due to easiness in calculation income inequality by quintile and coefficient of variation were used in this study. In quintile method the household's income are often divided into quintiles such that each quintile represents 20%, or one fifth, of the household income. The household income quintiles are classified from lowest to highest as bottom fifth, lower middle, middle, upper middle, and top fifth. This will show the wealth concentration of the household income. The household were classified on the basis of quintile according to the income level and concentration of income. This will quantify that how much of the household income is distributed between the poorest, poor, middle and middle rich and the richest classed of household. The ratio of income between the lowest quintile of income to the highest quintile will give the magnitude of income.

## Results and Discussion

To measure the income inequality in the area household and its income was divided in to five quintiles i.e. each represent 20% income of the household before and after the diversification of income. The bottom quintile present the lowest income category of the household followed by the lower middle, middle and middles up and top quintile. Top quintile presents the richest class of the households. Total income, average income and percent concentration of the household income were calculated and then the standard deviation and coefficient of variation were also used as a measure of income inequality. The upcoming discussions focus on the income inequality of the households in the area before diversification of income.

### Income Inequality before Diversification of Income

Data presented in Table I shows the quintile related information of the households income. It is evident from the data that in union council Lilownai the average income of the bottom quintile was Rs.82, 029 per household per annum. The bottom quintile household received 6.09% of the total income. Lower middle, middle and upper middle quintile of household

having an average income of Rs.1, 29, 819, Rs.1, 88, 061 and Rs.3, 20, 862 respectively per households per annum and receives 9.64, 14.63 and 23.82% of the total household income respectively. The top quintile household's average income was Rs.6, 17,052 and receives 45.82% income of the total household income. The coefficient of variation and standard deviation in this union council was 15.90, implies that the wealth are unequally distributed.

In union council Kuzkana the average income of the bottom quintile was Rs.64, 878 per annum per household. Average income per annum per household of the lower middle, middle and upper middle quintile Rs.1,12,778, Rs.1,53,689 and Rs. 2,54,478, while the average income of the top quintile was Rs.4,08, 067. The bottom quintile household receives 6.53% of the total household income, followed by 11.35%, 15.46% and 25.06% of the lower middle, middle and upper middle household. The top quintile household received 41.06% of the total income. The coefficient of variation and standard deviation of the total income in this union council was 13.71, shows a strong concentration of wealth.

Similarly, in union council Shahpur the bottom quintile average income per household per annum was Rs. 66, 463 and receives 5.47% of the total income. The average income of the lower middle, middle and upper middle per household per annum having an average income of Rs.1, 22, 300, Rs. 1,79, 318 and 2, 91, 125 respectively and receiving 10.07%, 15.69% and 23.98% of the household total income. Top quintile of the household average income was Rs.5, 43, 538 per annum per household and received 44.77% of the household total income. The standard deviation and coefficient value of the all the quintiles was 15.47, explain the concentration of wealth among the selected households in the union councils.

In Pirkhana union councils the average income of the bottom quintile was Rs.79, 217, followed by lower middle, middle and upper middles quintiles having an average income of Rs.1, 28, 367, Rs. 1, 90, 737, and Rs. 3, 34, 878 per annum per household respectively. Top quintile households having an average income of Rs.6, 41, 322 per annum. The percent income received by lower middle, middle and upper middle quintile of the household was 5.72, 9.27, 14.54 and 24.18 percent respectively. Top quintile household received 46.30% of the total household income. The standard deviation and coefficient of income value was 16.26 explain the strong concentration of wealth.

In the whole selected area the income inequality of the household by quintile shows that the average income of the bottom quintile was Rs.75, 311 by receiving 6.00% of the total household income. The lower middle, middle and upper middle quintiles having an average income of Rs.1, 24, 733, Rs.1, 80, 431 and Rs. 3, 05, 628 per household per annum and receiving 9.79, 14.38 and 23.98 percent of the household respectively. The top quintile household income was Rs.5, 75, 638 per household per annum and receiving 45.86% of the total income. The coefficient of variation of the bottom quintile was 28.02 followed by 8.33, 15.40 and 14.81 of the lower middle, middle and upper middle quintile of the household. The top quintile of the household having coefficient of variation was 42.57. More the value of CV explains the severity of the household income concentration. This implies that income in the area is concentrated within the hands of some households and the alternative hypothesis is accepted i.e. income is not equally distributed among the rural households, where the null hypothesis is accepted that about 50% of the income comes under the hands of the top quintile households. This show that in the area half of the resources were in the control of the top quintile group of households.

### Measurement of Income Inequality after Diversification of Income

The data in Table-II show income inequality among the household in the selected union councils and study area after the diversification of income for a period of 5 years i.e. 2005-2010. It is evident from the data that in union council Lilownai the average income of the bottom quintile was Rs.1,45, 267 having 6.00% of the total household income. While the average income per household per annum of the lower middle, middle and upper middle quintile was Rs.2, 44, 390, 3, 38, 714, 5, 76, 576 and having 10.10, 14.67 and 23.83% of the total household income respectively. The average income per households of the top fifth quintile was Rs.11, 098, 310 and having 45.40% of the total household income. The table implies that in this union council the average income of the household increased in each quintile category of the household and almost having the same SD, and CV value as before the diversification of income.

In union council Kuzkana after diversification the average income of the bottom fifth quintile was Rs.1, 27, 111, and having 6.19% of the total income. The lower middle quintile household having an average income of Rs.2, 11, 789, having 10.31% of the household total income, followed by the middle quintile average income of Rs.3, 33, 244 and having 16.22% of the total household income. The upper middle average income per annum was of Rs.5, 27, 889 and having 25.69% income. Top quintile household having 41.60% of the total income and having an average income of Rs.8, 54, 989 per households annually. In this union councils increase in the average income is accompanied by increase in CV and SD, implies that the income inequality increases in the union council after the diversification of income. The reasons are many folds, including the moving of technical and non technical labor force to the Middle East and European countries.

Similarly, the data in the table shows that in union council Shahpur the lower quintile of the household having 5.23% of the total income and the average income was Rs.99, 500. In percent term lower middle, middle, and upper middle household have 8.97, 16.48 and 25.41 percent income of the total household income and the average income of the aforementioned quintile are Rs. 1, 70, 588, 2, 94, 988 and 4, 83, 125 per household per annum respectively. The average income per household of the top quintile group of households was Rs.8, 34, 675 per annum and having 43.90% of the total household income. The CV and SD value in the union council remain the same as before the diversification of income, although the average income of each quintile of the household increased after the diversification of income. This implies that diversification of income was increase the average households income but the severity of income inequality was there as before diversification of income.

In union council Pirkhana the average income of the lower quintile was Rs.1, 13, 344 and having 5.07% of the total household income after the diversification of income. The percent shear of the lower middle, middle and upper middle quintile was 9.11, 15.97 and 23.28 percent, followed by the average income of the quintile of Rs.2, 03, 817, 3, 38, 337 and 5, 20, 711 respectively. Top fifth quintile of the household having 46.57% of the total household income and having an average income per annum per household was Rs.10, 41, 756. The value of CV and SD was the same as before the diversification of income by the household.

In the whole study area after the diversification of income the bottom quintile household having 6.00% of the total household income followed by the lower middle, middle and upper middle household having 9.79, 14.38 and 23.98 percent of the total household income respectively. The top fifth quintile of the household having 45.86% of the total household income and the the average income was Rs.9, 83, 342 per household per annum.

The value of CV for the bottom quintile was 21.86 followed by the lower middle household having 14.11, middle household having 11.06 and upper middle having 14.31 and top fifth 43.18. The high value of CV was noted for the bottom as well as top quintile. This shows that after the diversification of income the concentration of wealth are decreased and the income

of the household increased as the value of CV for all quintile decrease after the diversification of income.

### Conclusion and Recommendations

The main findings of the study concludes that before diversification income inequality of the household by quintile shows that the average income of the bottom quintile was Rs.75, 311 by receiving 6.00% of the total household income. The lower middle, middle and upper middle quintiles having an average income of Rs.1, 24, 733, Rs.1, 80, 431 and Rs. 3, 05, 628 per household per annum and receiving 9.79, 14.38 and 23.98 percent of the household respectively. The top quintile household income was Rs.5, 75, 638 per household per annum and receiving 45.86% of the total income. The coefficient of variation of the bottom quintile was 28.02 followed by 8.33, 15.40 and 14.81 of the lower middle, middle and upper middle quintile of the household. The top quintile of the household having coefficient of variation was 42.57. The coefficient of variation and standard deviation in this union council Lilownai, Kuzkana, Shahpur and Pirkhana was 15.90, 13.71, 15.47 and 14.81 respectively, implies the wealth is unequally distributed. After the diversification of income the bottom quintile household having 6.00% of the total household income followed by the lower middle, middle and upper middle household having 9.79, 14.38 and 23.98 percent of the total household income respectively. The top fifth quintile of the household having 45.86% of the total household income and the average income was Rs.9, 83, 342 per household per annum. The high value of CV was noted for the bottom as well as top quintile. This shows that after the diversification of income the concentration of wealth are decreased and the income of the household increased as the value of CV for all quintile decrease after the diversification of income. The study as a whole concludes that diversification leads to reduce the income inequality. The following recommendations are forwarded on the basis of study findings;

1. To reduce the income inequality in the area particularly and generally in the whole country diversification may be used as income inequality reeducation strategy.
2. There is a need for more off-farm employment opportunity like agro-based industrialization establishment in the rural areas, so that the rural people may engage with secondary sector to enhance their income.
3. Emphasis shall be given on diversification in the primary and secondary sector of the economy.

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**Table I: Quintile income inequality (in Rs.) before diversification of income**

Union councils		Bottom fifth	Lower middle	Middle	Upper middle	Top fifth	Total/Avg.	Ineq.SD	Ineq. CV
<b>Lilownai</b>	<b>No. of HH</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>21</b>	<b>21</b>	<b>106</b>		
	Total income	1722600	2726200	4137500	6738100	12958100	28282500	4495910	15.90
	Average income	82029	129819	188068	320862	617052	267566	214883	80.31
	<b>% income</b>	<b>6.09</b>	<b>9.64</b>	<b>14.63</b>	<b>23.82</b>	<b>45.82</b>	<b>100.00</b>	<b>15.90</b>	<b>15.90</b>
<b>Kuzkana</b>	<b>No. of HH</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>45</b>		
	Total income	583900	1015000	1383200	2290300	3672600	8945000	1226302	13.71
	Average income	64878	112778	153689	254478	408067	198778	136256	68.55
	<b>% income</b>	<b>6.53</b>	<b>11.35</b>	<b>15.46</b>	<b>25.60</b>	<b>41.06</b>	<b>100.00</b>	<b>13.71</b>	<b>13.71</b>
<b>Shahpur</b>	<b>No. of HH</b>	<b>16</b>	<b>16</b>	<b>17</b>	<b>16</b>	<b>16</b>	<b>81</b>		
	Total income	1063400	1956800	3048400	4658000	8696600	19423200	3005341	15.47
	Average income	66463	122300	179318	291125	543538	240549	188678	78.44
	<b>% income</b>	<b>5.47</b>	<b>10.07</b>	<b>15.69</b>	<b>23.98</b>	<b>44.77</b>	<b>100.00</b>	<b>15.47</b>	<b>15.47</b>
<b>Pirkhana</b>	<b>No. of HH</b>	<b>18</b>	<b>18</b>	<b>19</b>	<b>18</b>	<b>18</b>	<b>91</b>		
	Total income	1425900	2310600	3624000	6027800	11543800	24932100	4055157	16.26
	Average income	79217	128367	190737	334878	641322	274904	226224	82.29
	<b>% income</b>	<b>5.72</b>	<b>9.27</b>	<b>14.54</b>	<b>24.18</b>	<b>46.30</b>	<b>100.00</b>	<b>16.26</b>	<b>16.26</b>
<b>Overall Study area</b>	<b>No. of HH</b>	<b>65</b>	<b>64</b>	<b>65</b>	<b>64</b>	<b>65</b>	<b>323</b>		
	Total income	4895200	7982900	11728000	19560200	37416500	81582800	13006546	15.94
	Average income	75311	124733	180431	305628	575638	252348	200097	79.29
	<b>% income</b>	<b>6.00</b>	<b>9.79</b>	<b>14.38</b>	<b>23.98</b>	<b>45.86</b>	<b>100.00</b>	<b>15.94</b>	<b>15.94</b>
	<b>CV</b>	<b>28.02</b>	<b>8.33</b>	<b>15.40</b>	<b>14.81</b>	<b>42.57</b>	<b>83.85</b>		

**Table II: Income inequality after diversification of income**

Union councils		Bottom fifth	Lower middle	Middle	Upper middle	Top Fifth	Total/Avg.	Ineq. SD	Ineq. CV
Lilownai	<b>No. of HH</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>21</b>	<b>21</b>	<b>106</b>		
	Total income	3050600	5132200	7451700	12108100	23064500	50807100	7960503	15.67
	Average income	145267	244390	338714	576576	1098310	480651	380510	79.17
	<b>% income</b>	<b>6.00</b>	<b>10.10</b>	<b>14.67</b>	<b>23.83</b>	<b>45.40</b>	<b>100.00</b>	<b>15.67</b>	<b>15.67</b>
Kuzkana	<b>No. of HH</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>45</b>		
	Total income	1144000	1906100	2999200	4751000	7694900	18495200	2612765	14.13
	Average income	127111	211789	333244	527889	854989	411004	290307	70.63
	<b>% income</b>	<b>6.19</b>	<b>10.31</b>	<b>16.22</b>	<b>25.69</b>	<b>41.60</b>	<b>100.00</b>	<b>14.13</b>	<b>14.13</b>
Shahpur	<b>No. of HH</b>	<b>16</b>	<b>16</b>	<b>17</b>	<b>16</b>	<b>16</b>	<b>81</b>		
	Total income	1592000	2729400	5014800	7730000	13354800	30421000	4694370	15.43
	Average income	99500	170588	294988	483125	834675	376575	294562	78.22
	<b>% income</b>	<b>5.23</b>	<b>8.97</b>	<b>16.48</b>	<b>25.41</b>	<b>43.90</b>	<b>100.00</b>	<b>15.43</b>	<b>15.43</b>
Pirkhana	<b>No. of HH</b>	<b>18</b>	<b>18</b>	<b>19</b>	<b>18</b>	<b>18</b>	<b>91</b>		
	Total income	2040200	3668700	6428400	9372800	18751600	40261700	6599566	16.39
	Average income	113344	203817	338337	520711	1041756	443593	367893	82.93
	<b>% income</b>	<b>5.07</b>	<b>9.11</b>	<b>15.97</b>	<b>23.28</b>	<b>46.57</b>	<b>100.00</b>	<b>16.39</b>	<b>16.39</b>
Overall study area	<b>No. of HH</b>	<b>65</b>	<b>64</b>	<b>65</b>	<b>64</b>	<b>65</b>	<b>323</b>		
	Total income	7644900	13755700	21238700	33428500	63917200	139985000	22262408	15.90
	Average income	117614	214933	326749	522320	983342	432992	342478	79.10
	<b>% income</b>	<b>5.46</b>	<b>9.83</b>	<b>15.17</b>	<b>23.88</b>	<b>45.66</b>	<b>100.00</b>	<b>15.90</b>	<b>15.90</b>
	<b>CV</b>	<b>21.86</b>	<b>14.11</b>	<b>11.06</b>	<b>14.31</b>	<b>33.18</b>	<b>79.06</b>		