



SOME SOCIAL FACTORS OF LOW DEVELOPMENT INDICATORS-A DISCUSSION IN THE CONTEXT OF DEVELOPING COUNTRIES

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ABSTRACT

Human development focuses on improving the lives of people. It not only leads economic growth but to greater opportunities for all. Income growth is an important means to development, rather than an end in itself. Human development is a dynamic process to provide people more freedom and opportunities to live. There are three foundations for human development which are 1) healthy and creative lives 2) availability of opportunity to make people knowledgeable, and 3) access to resources needed for a decent standard of living. Many other aspects are important too, especially in helping to create the good conditions for human development, such as environmental sustainability or equality between men and women. All of these parameters of development are subject to proportional availability of resources for people. This is the room for which the study has tried to familiarize the relation between development and population growth. Further the study has tried to analyses the correlation of population growth with some important socio- economic factors of it. At the end, the study devoted it's time to find out the most appropriate causes as of low development indicators (DI) particularly in developing countries. It reveals that, three social issues like income, literacy and infant mortality (or health security) are most influencing agent for the success of social development programme.

KEY WORDS: Human Development, Population Growth, Natural Resources, Fertility Rate, Death Rate, Infant Mortality Rate and Per-capita income.

1. INTRODUCTION

Human development is about human freedoms. It is about building human capabilities—not just for a few, not even for most, but for everyone. It is the creation of capabilities for adopting themselves with existing natural resources. The level of human development is measured by HDI (Human Development Index). It is a composite index of four factors consisting Education, Health condition, Income and Gender equality. Availability of all such indigenous factors of HDI depends upon the status of some exogeneous factors like, Population pressure, Natural Resources and state of Technology. Here we may start with third one. Technology is a system which makes the possible of optimum utilization of our limited resources. Actually, it may curb the problem of limited access. If we can improve our technology, it can scatter our limited resource to maximum people so as HDI may increase. But Technological improvement needs Educational research and capital formation. Finally, it requires surplus of resources which may create some leisure hour.

The shortage or plentifulness of natural resources may have two concepts i.e., absolute concept and relative concept. The plentifulness of resources is not the cause of any anxiety in development process. The epicenter of our anxiety remains in case of scarcity of resources. Here, the scarcity may have in absolute or relative forms. In case of relative deficiency of resources, we may have two ways for rectification of it. One, re-distribution of resources and two, find out the proper way for optimum utilization of it. No doubt, our good thinking on Socio, Political and Environmental aspects may easily ensure the possibility of such re-distribution.

Let us now come into the concept of absolute shortage of resources. In such case there is no way except the control of consumption. And this is the room for discussion about the population growth and development dichotomy. Natural resources are limited. So, our concern is about the optimum utilization of it without affecting its availability for future generation. From the point of sustainability, we are concern about the availability of resources/wealth and its use for human beings



forever. We know, Population growth is also a natural phenomenon. There may have the two concepts about the size of population in regional perspective: Expected/bearable level of population and above expected level of population. If population size is within bearable level then there is no problem at all. Our anxiety starts when the population level exceeds its expected level. Here, expected means the size of the population appropriate with resource available within the nation. Therefore, the primary objective of our present study is to find out the relationship between human development and population growth of developing countries. And ultimate objective is to construct a policy measure for curbing the anti-development issues related with population growth.

Population growth and Development

There is a dual role of population growth in the process of development. In one way it helps the process and, in another way, it hampers development initiatives. This is so because the relationship between population growth and economic development is complicated, complex and interacting.

On the one side, an increasing population expands the supply side of labour market where, labour is a basic factor of production. And growth of population and labour supply has all along been one major source of growth in history. It should be noted that human labour, assisted by necessary tools and implements, is the utmost productive asset of nations.

Growing population leads to an increase in total output. But it makes for a greater number of people among whom this must be distributed. No doubt, there is large number of productive hands but there is also more candidates to consume it.

According to Gill (1992), if population growth is associated with high fertility and an increasing number of children relative to adults, then the number of consumers will be growing more rapidly than the number of producers, the dependency burden on the active workers of the society will be heavier, and the effect may be negative. But if there is a rise in life-expectancy which extends the productive years of the workers of the society, then the problem of an increased burden of dependency may be at least partially offset. (Nipun, n.d.)

Therefore, the effect of population growth on a society's per capita output and other development factors depends on the pattern of population growth as also its institutional (organizational) framework. In other words, it depends on the age composition of the population. In most cases of developing countries, such institutional framework, dependent ratio and pattern of population growth is not favourable for Human development. A positive step against underdevelopment in this demographic and institutional framework is the inspiration of our present study.

2. LITERATURE REVIEW

The everyday activities of all human beings, communities and countries are interrelated with population change, patterns and levels of use of natural resources, the state of the environment, and the pace and quality of economic and social development. There is general agreement that persistent widespread poverty as well as serious social and gender inequities have significant influences on, and are in turn influenced by, demographic parameters such as population growth, structure and distribution. (Programme of Action adopted at the International conference on Population and Development, 1994)

Many of the stresses of rapid population growth are exacerbated by poverty and inequality. Continued Rapid population growth poses bigger threat to poverty-reduction in most (but not all) countries. This growth will require unprecedented investment in new infrastructure and create undreamed challenges for political and social institutions. (Nader Motie Haghshenas, 2007)

The investigation of the relationship between population growth and Human Development Index is vital as the population debate lies at the core of the current worldwide interest and as human development is often used by foreign aid agencies in determining the distribution of aid (Menkhoff, 2000). The problem of population is not simply one of number, but involves the quality of life or human welfare and material well-being. There is no consensus of opinion about how serious a problem rapid population growth really is. On the one hand, one must recognize that population growth is not the only cause of under-development. On the other hand, it is unwise to think that rapid population growth is not a serious intensifier of under-development in some Third World countries (Todaro, 1989). Todaro raised many questions on population growth, such as: to what extent does rapid population increase make it more difficult to provide essential social services? How are developing and less developed countries able to cope with the labour supply over the years? Will it be a cause for a rise in unemployment? Will the population growth ensure adequate health care and basic education? If these were true, then should the low level of living be the single most important factor in limiting population growth? The First World Population Conference held in Bucharest in 1974 tackled the main elements of the population debate. These issues were then reiterated at the second conference in August 1984 held in Mexico City. This debate continues and no consensus has been reached either by policy makers or academicians as to the true impact of population growth on a country's economic growth. Critics argue that it is not the sheer number of people that is causing population problems but rather their distribution or concentration. The real problem of population arises not from its overall size



but from rural urban migration or the concentration of the population in some geographic pockets within the country. To this end, Todaro (1989) argues that governments should strive to bring out spatial distribution of the population in terms of available land and other productive resources, which will significantly balance the distribution of capital among the workers. Secondly, critics argue that with high population, the consumer is provided with lower product cost due to economies of scale at high technological standards and thereby achieving higher output levels. As a result, there exists a direct relationship between improvement and productivity, which is an essential ingredient in stimulating economic development and fighting underdevelopment (Todaro, 1989). King argues that there is merit in the debate that population growth affects economic development; however, such argument holds for traditional question of food supply. He argues that the demand for other non-renewable resources is more of a consequence of rising income and production per person (King, 1985). Even with the issue of food supply, he argues that it is often the result of mismanagement of officials by offering limited technology and weak incentives to producers. However, empirical work by (Mc Nicoll, 1984),

(Kelly, 1988) and (Schmidt, 1994) has shown that population growth can affect economic performance if it affects the relationship between supply and demand for savings and capital. Of particular interest is the finding that such hypotheses were stronger for less developed countries than for developed countries. The above review of work on population growth is by no means comprehensive or complete, but sufficient to drive home the point that there is a divide within policy makers and academicians alike.

3. OBJECTIVE OF THE STUDY

The primary objective of our present study is to analyze the impact of population growth rate on human development in India by doing the regression analysis of different variables. Our secondary objective is to find out the real facts behind most influential factor of human development. At the last stage, we have mentioned some plans and program for eliminating the problem to some extent.

4. RESULTS

To achieve the first objective, we have used HDI index and the data of population growth of 21 developing countries.

Table 1: Some basic development indicators

SL. No. (1)	Name of Country (2)	Total Fertility Rate (births per women) average 2005-2010 (3)	Infant Mortality rate (per 1000 live birth) 2016 (4)	Labour force participation rate of Female (%age 15 and above) 2017	Population living below income of poverty line (%) 2006-17 (5)	Adult Literacy rate (% ages 15 and older) 2006-2016 (6)	Female literacy rate (% age 15-24) 2006-2016 (7)	Per capita GDP (2011 ppp\$) 2017 (8)	Estimated Crude Deaths 2016 (9)	Population Growth (average) % 2005-2010 (10)	HDI 2017 (11)
1	South Africa	2.6	34.2	47.9	55.5	94.4	99.2	12295	9.4	1.1	.699
2	Indonesia	2.5	22.2	50.7	10.6	95.4	99.7	11189	6.5	1.3	.694
3	Viet Num	1.9	17.3	73.2	9.8	93.5	96.8	6172	5.9	1.0	.694
4	Bolivia	3.4	29.5	55.2	39.5	92.5	99.4	6886	6.4	1.7	.693
5	Palestine	4.6	16.6	19.5	25.8	96.9	99.3	4450	3.5*	2.6	.686
6	Iraq	4.6	25.9	18.7	18.9	43.7	48.6	15664	3.8	2.6	.685
7	Kyrgyzstan	2.8	18.8	48.2	25.4	99.2	99.8	3393	6.5	1.3	.672
8	Morocco	2.6	23.3	25	8.9	69.4	87.8	7485	4.9	1.2	.667
9	India	2.8	34.6	27.2	21.9	69.3	81.8	6427	7.3	1.5	.640
10	Bhutan	2.6	26.8	58	12.0	57.0	84.5	8709	6.5	2.1	.612
11	Bangladesh	2.5	28.2	33	24.3	72.8	93.5	3524	5.4	1.2	.608
12	Congo	5.0	38.5	67.4	46.5	79.3	76.9	4881	9.6	3.3	.606
13	Ghana	4.4	41.2	74.8	24.2	71.5	83.2	4228	7	2.6	.592



14	Kenya	4.7	35.6	62.4	36.1	78.7	86.1	2993	6.7	2.7	.590
15	Zambia	5.6	43.8	70.1	54.4	83.0	86.5	3689	12.2	2.8	.588
16	Combodia	3.1	26.3	80.9	17.7	73.9	85.9	3645	7.5	1.5	.582
17	Angola	6.4	54.6	75.3	36.6	66.0	70.6	5819	9.2	3.6	.581
18	Myanmar	2.6	40.1	51.3	32.1	75.6	84.4	5592	7.4	0.7	.578
19	Nepal	3.0	28.4	82.7	25.2	59.6	80.2	2443	5.6	1.1	.574
20	Pakistan	4.0	64.2	24.9	29.5	57.0	65.5	5035	6.3	2.1	.562
21	Cameroon	5.3	52.8	71.2	37.5	71.3	76.4	3365	9.6	2.7	.556

Source: col. 1,2,3,4,5,6,7,8,10 and 11 - Human Resource Development Report 2018, UNDP

Source: 9, <https://www.indexmundi.com>, * <https://knoema.com>

Definition of variables

Death Rate: The ratio of deaths to the population of a particular area or during a particular period of time, usually calculated as the number of deaths per one thousand people per year.

Fertility Rate: By fertility rate, we mean the number of live births in women over a specific length of time. Fertility rate is generally expressed as the number of births per 1,000 women aged 15 to 44 in a calendar year.

Infant Mortality Rate: The infant mortality rate is the number of deaths under one year of age occurring among the live births in a given geographical area during a given year, per 1,000 live births occurring among the population of the given geographical area during the same year.

Adult Literacy Rate: Adult literacy rate is the percentage of people ages 15 and above who can both read and write with understanding a short simple statement about their everyday life.

GDP per-capita: The formula is GDP divided by population, or GDP/Population. If you're looking at just one point in time in one country, then you can use regular, "nominal" GDP divided by the current population. 1 "Nominal" means GDP per capita is measured in current dollars.

Crude death rate: The crude death rate is the number of deaths occurring among the population of a given geographical area during a given year, per 1,000 mid-year total population of the given geographical area during the same year.

Population Growth Rate: Annual population growth rate for year t is the exponential rate of growth of midyear population from year (t-1) to t, expressed as a percentage. Here, population is based on the de facto definition of population which counts all residents regardless of legal status of citizenship except refugees not permanently settled in the country.

Human Development Index

Definition: The Human Development Index (HDI) is a statistical tool used to measure a country's overall achievement in its social and economic dimensions. The social and economic dimensions of a country are based on the health of people, their level of education attainment and their standard of living.

Description: Pakistani economist Mahbub ul Haq created HDI in 1990 which was further used to measure the country's development by the United Nations Development Program (UNDP). Calculation of the index combines four major indicators: life expectancy for health, expected years of schooling, mean of years of schooling for education and Gross National Income per capita for standard of living. Every year UNDP ranks countries based on the HDI report released in their annual report. HDI is one of the best tools to keep track of the level of development of a country, as it combines all major social and economic indicators that are responsible for economic development.

Results of bi-variate regression:

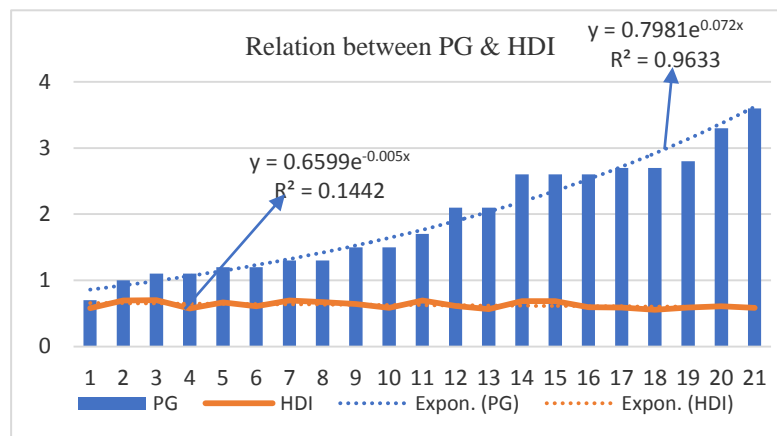
Dependent factor	Independent factors	R	R ²	S.E. of Estimate	Constant	ANOVA Sig.	β
HDI	PG	0.332	0.110	0.04978	0.666	0.141	-0.332

The result shows that, HDI of nations is negatively co-related with their population growth rate. However, this co-relation is not significant which may be due to the existence of many other factors of HDI like distribution and social-economic planning.

Therefore, at a given state of planning and distribution a nation can improve its human development index by curbing the size of population. Now the question arises, how can we achieve our expected level of population? We may search the

answer of this question through multivariate regression of Population growth on its **seven** independent factors.

Result of Multi-variate regression:



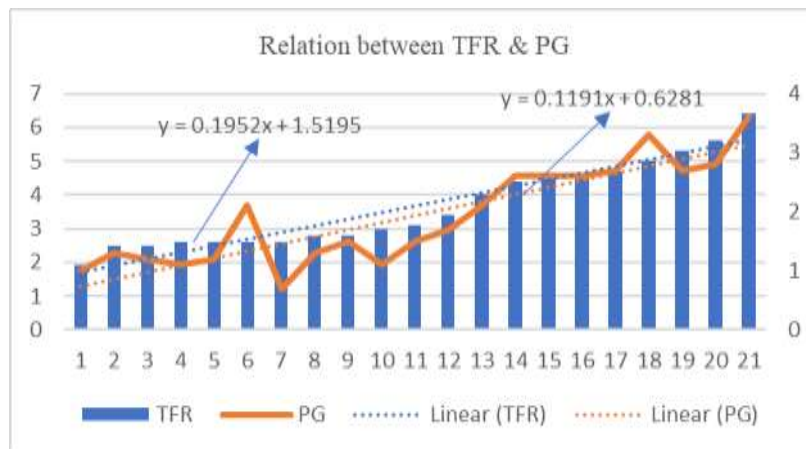
Dependent variable	R	R ²	S.E	Cons.	ANOVA Sig.	β _{TFR}	β _{IMR}	β _{PLBPL}	β _{ALR}	β _{FLR}	β _{GDPPC}	β _{ECDR}
PG	.948	.900	.3314	-1.178	0.000	1.130	-0.064	-0.162	-0.151	.202	.107	.056
Co-efficient Significant						0.000	0.687	0.284	0.515	.462	.341	.657

The result shows that, the Total Fertility rate is the most influencing and significant factor of population growth. The β- Coefficient of it is highest and positive i.e., 1.130. This means the population growth and women fertility rate are significantly correlated. If fertility rate increases then population growth rate also increases. Among all seven factors, it is the only significant factor (at 95% level of significant), because the P-value of it is 0.000 < 0.05.

It should be noted here that, somebody may have the idea that, the decrease in death rate due to the development in medical sciences plays an important role in population growth. But the study shows, the estimated crude death rate is an insignificant factor of population growth (since it's P-value is 0.657 > 0.05). Therefore, the idea is not

true for developing world. The role of other five factors is also insignificant for population growth. Thus, to reduce population pressure a nation (particularly developing country), should take care against high rate of women fertility first. To initiate any such social programme we need to concentrate on the circumstantial causes of high fertility. For this purpose, the study has chosen six most probable socio-economic factors of fertility rate; like Infant Mortality Rate, size of population below poverty line, Labour force participation rate of women, Adult literacy rate, Female literacy rate and per-capita GDP.

The following table displays the result of bi-variate regression of six independent factors on 'Total fertility rate' as independent factor.



Results of bi-variate regression:

Dependent factor	Independent factors	R	R ²	S.E. of Estimate	Constant	ANOVA Sig.	β
TFR	IMR	0.592	0.350	1.04364	1.697	0.005	0.592
TFR	PLBPL	0.533	0.284	1.09571	2.273	0.013	0.533
TFR	LFPR	0.203	0.041	1.26778	3.024	0.378	0.203
TFR	ALR	0.216	0.047	1.26407	5.034	0.347	-0.216
TFR	FLR	0.503	0.253	1.11868	7.834	0.020	-0.503
TFR	GDPPC	0.196	0.038	1.26962	4.110	0.395	-0.196

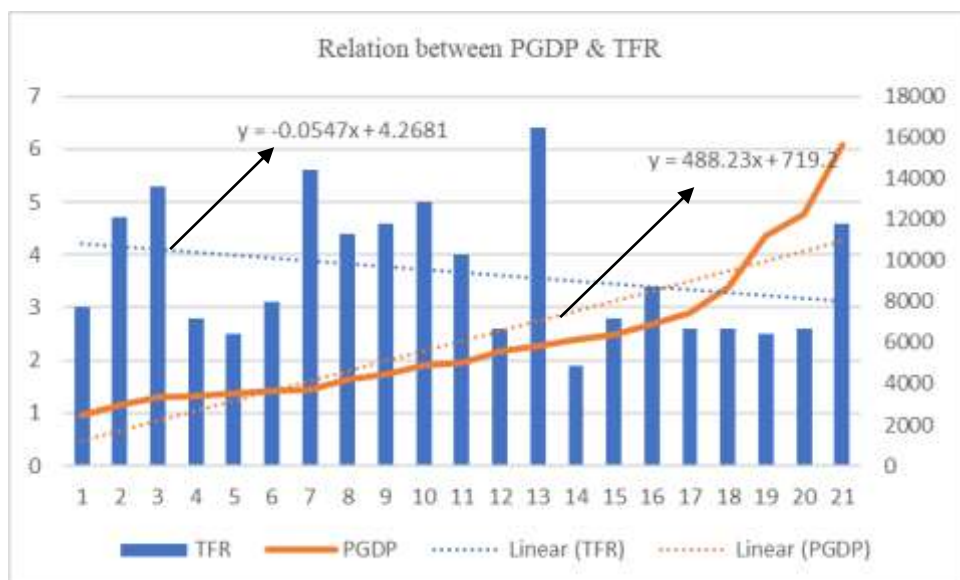
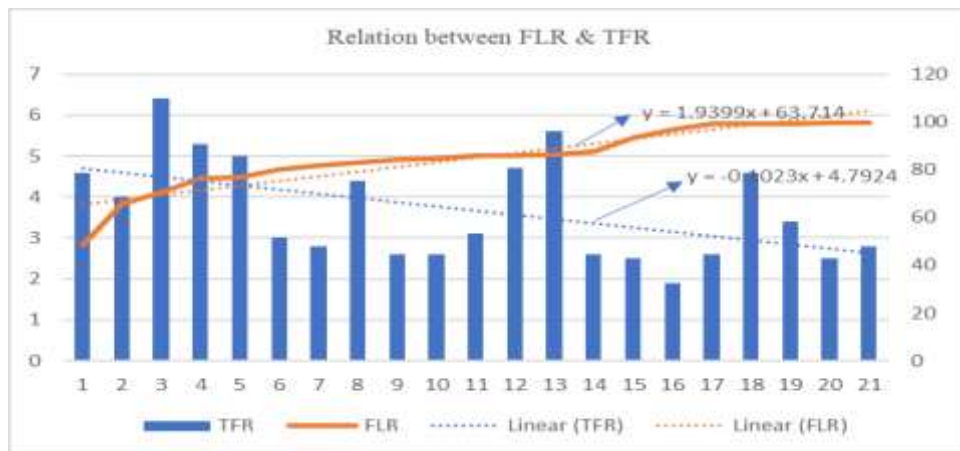
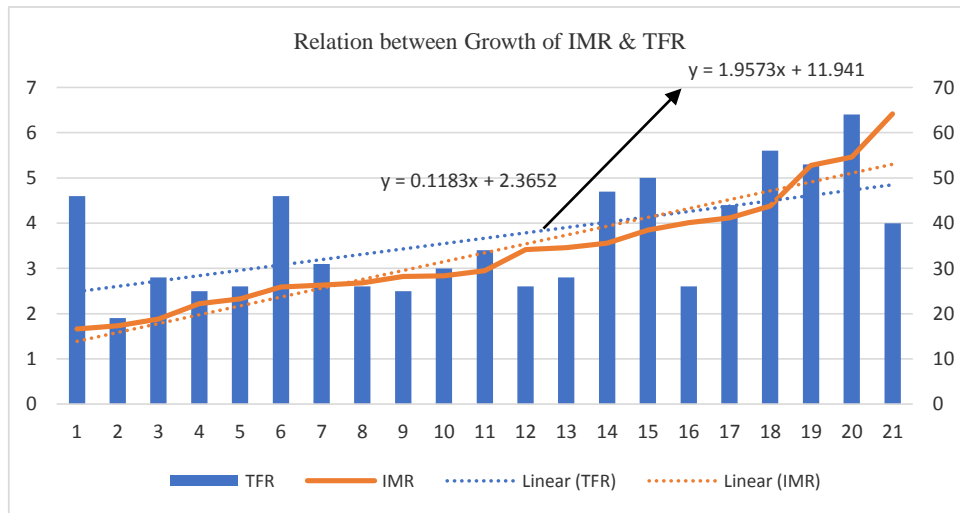
The table shows, the values of β- coefficient of Infant Mortality rate (IMR), Size of population below poverty line (PLBPL) and Women-Labour force participation rate (LFPR) are positive. So, these factors are positively co-related with high fertility of women. On the other hand, the factors like, Adult literacy rate (ALR), Female literacy rate (FLR) and Per-capita gross domestic product (GDPPC) of the nation are negatively co-related with fertility rate. But, among six factors only three are statistically significant. These are Infant Mortality rate; Population lies below poverty line and Female Literacy rate. An interesting result we see that, women labour force participation is positively correlated (though insignificantly) with fertility rate. This is perhaps because, in developing countries, most of the economic participation of women is in unorganized sectors like agriculture and other primary activities. Such employment may not improve their poverty condition at all. Here the impact of employment is extracted by the impact of poverty. According to mod value of β- coefficient of three significant factors, the influence of IMR is aggravated than PLBPL and FLR respectively. The positive co-relation of IMR and Fertility rate means

there may have high uncertainty in child health which enforces people to take more chance in family size. It is due to the legacy of mal-distribution of the fruits of modern medical science development. The positive co-relation of Fertility rate and size of population below poverty line indicates that, people with low income try to secure their future life through increasing economic hands. This tendency may also increase the problem of child labour in the society. Lastly, the negative co-relation between Fertility rate and Female literacy rate implies that, the society in which female literacy is low then fertility rate is high. This is because, due to illiteracy, female's say about family planning and against child marriage is very low. Therefore, female illiteracy plays twofold role in case of fertility. One, through Child marriage it provides a long reproductive age and two it curbs the decision-making scope of women against high fertility. Here the family size is determined not considering women health or national condition but for fulfilment of their future family needs. Further, the society is move towards the evil of child labour. The Multi variate regression of six factors also shows more or less same result which is given in following table.

Result of Multi-variate regression:

Dependent variable	R	R ²	S.E	Cons.	Sig.	β_{LFFP}	β_{IMR}	β_{PLBPL}	β_{ALR}	β_{FLR}	β_{GDPPC}
TFP	0.812	0.660	0.8792	8.155	0.009	0.061	0.033	0.311	0.637	-1.095	-0.252

The following three figures show the relationship of total fertility rate with its three significant factors IMR, FLR and PGDP.

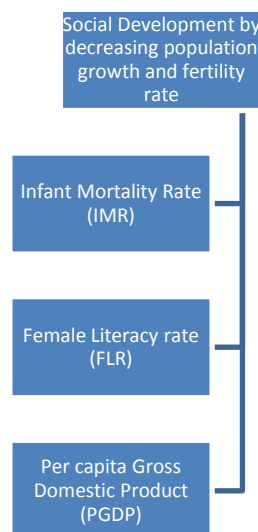




5. CONCLUSION

The decline in fertility levels, reinforced by continued declines in mortality levels, is producing fundamental changes in the age structure of the population of most societies, most notably record increases in the proportion and number of elderly persons, including a growing number of very elderly persons. This growing tendency of dependents and absolute number of populations curb the scope for development activities. Therefore, to maintain a continuous human development strategy in a developing society we must have to control on our birth rate. From the study it is shown that, birth rate

or fertility rate may decrease if we can increase female education level as well as minimum economic and health security of the family. Illiteracy and uncertainty (in family and economic life) are the two main obstacles of human development in less developed and developing countries.



6. BIBLIOGRAPHY

1. Gill, M S (1992). *Literacy in Punjab, The Geographer*, 39 (1), 41-53.
2. Kelly, A. (1988). *Economic consequences of population change in third world. Journal of Economic Literature*, 1685-1728.
3. King, T. (1985). *Population and Development: Back to first Principles. In P. S. Meghna, The new Population Debate: Population Trends and Policy (pp. 2-11)*.
4. Mc Nicoll, G. (1984). *Consequences of rapid population growth: Overview and assessment. Population and Development Review*, 177-2.
5. Menkhoff, L. a. (2000). *Chaotic Signals from HDI measurement. Applied Economics Letters*, 267-270.
6. Nader Motie Haghshenas, A. S. (2007). *Population Dynamics and Human Development Indices in selected Africal Countries:Trends and Levels. UAPS, 5th African Population Conference Arusha, Tanzania. Population Studies and Research Center for Asia and Pacific, Tehran Iran.*
7. Nipun, S. (n.d.). *Population Growth and Development. Retrieved from <http://www.economicdiscussion.net>*
8. *Programme of Action adopted at the International conference on Population and Development. (1994), September 5-13) Cairo.*
9. Schmidt, A. K. (1994). *Population and Income Change: Recent Evidence. World Bank.*
10. Todaro, M. P. (1989). *Economic Development in the Third World. NewYork: Longman.*
11. *Human Resource Development Report 2018, UNDP*
12. <https://www.indexmundi.com>.
13. <https://knoema.com>