

Population Growth, Socio-economy and Quality of life in Birbhum District, West Bengal, India

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Abstract: The present study attempts to analyze the decadal variation of population growth, socio-economic condition and quality of life of the people in Birbhum District, West Bengal, India. It has been well accepted that if the amount of resource available within a country does not feed its total inhabitants due to excessive population in comparison to existing resource, quality of life of individual and socio-economy of that area collapse, which is very often found in developing nations of the world. Consequently, well being of common people through provision of basic needs like food, clothing, shelter, education, and health is obstructed. This adversely affects the quality of life of an individual. Increasing rate of population growth brings reduction in per capita income of people by creating pressure on land, making consumer product costlier and decreasing national capital. Moreover, the increase in the population growth rate due to high fertility, low mortality and inflow of migrants prevent improved quality of life also. Among others factors influencing quality of life (QOL) in particular and socio-economic development and human well being in general are literacy, dietary pattern, transportation, and health service etc., the assessment of which reveals that study area turns out to be one of the backward districts of West Bengal where socio-economy and quality of life are of unfortunate character due to excessive population growth and inconsistent infrastructural development that cannot keep pace with the population increase.

Key words: Human development, population growth, quality of life, socio-economic development

INTRODUCTION

The impact of population growth on human development is numerous and it cannot be strongly opined that more number of population leads to more economic development, as this needs innovative idea, technology and policy implementation and after all a pronounced economy which are not easier to achieve. On contrary, nation with low population growth and higher resource potential also suffer from development hurdles, due to disparity in the distribution of man and resource. Population pressure and poverty together form a potent combination that can undermine all ethical considerations and can severely distort the valuation of the interests of present generation, relative to that of future (Pant, 2004). Supporters of Malthusian concept opined that the main cause of socio-economic backwardness of third world countries is the population growth and they consider low per capita income is the sole factor of underdevelopment. According to them, despite increasing productivity, population health and industrialization, it will not be possible to bring any satisfactory level of socio-economic development if there is no consistency between available resource and population. Some bio-scientist and sociologist demand that food significantly controls

fertility. One of the most distressing aspects of poverty in developing countries is absolute malnutrition (Szirmai, 2005). For example, foods with high protein reduce fertility and vice-versa. Consequently, as larger section of the population live in the canopy of poverty in the underdeveloped country, they cannot take much more food with proteins and the resulting effect is the higher fertility rate. For a just, proper and balanced socio-economic development, it is necessary that women participate in the nation's socio-economic activities so that they can be accepted as 'persons' with equal 'status' with men (Jain, 2005), but families belonging to low income level consider their children as would be source of income in future and for that purpose they often desire for baby boy instead of baby girl. It is also found that, there is a tendency to give birth of more and more children among the poverty stricken families for the interest of socio-economic security. Because they think that more the number of children more will be the manual labour in future. But it is not desired to get girl child as they are not manually strong, traditionally deprived and socially confined amidst so many obstacles. In this way, most of the under developed countries experience low per capita income and most of the people of those countries live below the poverty line. In these countries, if the

population grows, the quality of life will be lower than it would be if the population did not grow (Prasad, 2003a). Even people living in the slightly better socio-economic condition cannot take nutritious food and lead quality of life in much case. Therefore, quality of life is the result of population dynamics available infrastructure and resource structure of an area. The method or process involved to achieved or accelerate the rural development should not be based on the fads or fancies of the political; masters who have provided piece-meal efforts to develop their areas for capturing political power (Prasad, 2003b). India being a legend in population growth in the world has been suffering from problems relating to socio-economy and quality of life since long decades. India, as a developing country, has a long tradition of poverty and well-being statistics and research.

From the early stages of development planning, poverty was defined in absolute terms, that is, as a shortfall of basic needs (Beteille, 2003). Birbhum is one of the few districts of West Bengal where more than 90 percent people live in rural areas with agriculture based occupation. But the net sown area of the district is not enough to satisfy the demand of its inhabitants. Side by side, there is inadequate application of modern technologies. Consequently, the per capita production is low which in turn affects per capita income. Another aspect is that due to lack of industries, there is also low level of urbanisation and infrastructural development, which does not create required employment support to the district. In addition, as most of the people live in rural parts, they are not much aware about education and from childhood they either engage in agriculture or labour based activities. Evidence shows that significant difference exist in learning achievement of students studying in schools (Chakraborty *et al.*, 2005). These lead to make backward socio-economy along with degrading quality of life of the area under study. Therefore, it is imperative to restrict high population growth and consistent infrastructural development considering its population- resource nexus and demand-supply gap to improve socio-economy and quality of life of its inhabitants.

Study area: The district of Birbhum lies between the latitudes of 23°23'30"N and 24°35'00"N and occupies the western parts of the state of West Bengal. The eastern most extremity of the district is marked by 88°01'40"E longitude and its western most extremity by 87°05'25"E longitude. The shape of the district is an isosceles triangle, the apex being situated at the northern extremity. Birbhum is bounded on the north and west by Dumka district of Jharkhand state, on the east by the districts of Murshidabad and Bardhaman. The river Ajoy forms the southern boundary of the district separating it from Bardhaman district of West Bengal.

Objectives: The study has attempted to assess the decadal variation of population growth, socio-economic condition and quality of life in the district of Birbhum in West Bengal, India.

MATERIALS AND METHODS

The study has been made based on data which has been collected from District statistical hand book and District Human Development Report to analyse the spatio-temporal variation in the growth of population in the district of Birbhum. The decennial growth of population has been calculated with the help of Barclay's method and selected prime indicators of quality of life like population growth, health, and nutrition, transportation etc. have been considered for analysis. The work has been carried out after vast survey based on primary and secondary data sources at the study area since last one year.

Population growth of the district: The growth of population has been measured by:

- Observed change in the total number of population in the district
- Current process of replacement in the district
- Change in the size of some section of population

To measure change in the population size, the number of people of the initial year (p_1) and the number of people of the later year (p_2) has been considered. Change in the growth of population has been calculated with the help of the formula $(p_2/p_1 - 1) \times 100$. A large number of data has been analysed with chosen variables indicating socio-economy and quality of life of Birbhum district and accordingly statistical techniques have been applied to analyse data.

Population growth during 1901-1931: In the first thirty year of the 20th century, the trend of population growth in the study area bears exceptional character. In 1921, there was a decline in population as compared to its previous year. In 1901 and in 1911 where the total population of the district respectively was 906891 and 940162, in the year 1921 it came down into 851725. This decline was the result of famine and epidemic spread at that time throughout the country. The influence of which touched the district also. Therefore, the year 1921 witnessed negative population growth, which increases to 947554 populations in 1931. The first decade of the century (1901-1911) experienced a positive growth rate (+3.67), while the second decade (1911-1921) recorded a negative growth rate of population (-9.40) due to sudden outbreak of famine and epidemic as stated earlier. During the third decade, again the area got higher population growth (+11.25).

Table: 1: Decadal growth rate of population in Birbhum District in respect of West Bengal and India

Year	Total population of birbhum district	Decadal growth rate		
		Birbhum	West Bengal	India
1901	906891	-	-	-
1911	940162	3.67	2.70	5.75
1921	851725	-9.40	0.97	-0.31
1931	947554	11.25	7.91	11.00
1941	1048317	10.63	21.91	14.22
1951	1066889	1.77	13.71	13.31
1961	1446158	35.60	33.61	21.51
1971	1775909	22.80	28.28	24.80
1981	2095829	18.01	6.91	24.75
1991	2555664	21.94	6.80	23.50
2001	3015422	17.99	16.78	21.34

District Human Development Report (2008)

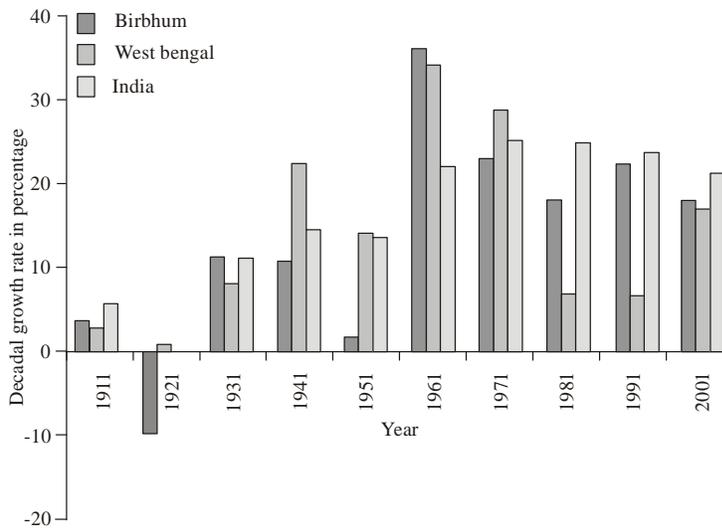


Fig. 1: Comparison of decadal growth rate of population in Birbhum , West Bengal and India

Population growth during 1941-1971: In 1941, the total population of the area was 1048317, but interestingly in 1951, after the Indian independence there was remarkable decline in the population growth (+1.77) as compared to the previous (+10.63) decade except 1921 due to flood and severe natural calamities, but soon after 1951 again the population growth revived with a positive trend in 1961 (+35.60) and in 1971 (+22.80). The slow growth of population in 1971 (+22.80) in comparison to 1961 (+35.60) was due to partition and the then political instability in the country, which reflected in almost every district of India.

Population growth during 1981-2001: The next thirty year i.e., from 1981 to 2001, there was fluctuating but positive growth of population in the study area although the population growth in 1981, 1991 and 2001, was lesser if compared with the figure of 1961 and 1971 (Table 1). This is the result of the development of socio-economic condition in the post independence period as well as public awareness to the problem caused by higher population growth. The district has more decadal growth

rate as compared to the state of west Bengal but simultaneously shows less growth rate, if compared with India in most decades (Fig. 1).

Spatial pattern of population growth during 1991-2001: If block wise spatial variation in the growth population during 1991-2001 of the district is considered, it is noticed that Nalhati-I ranks first where population increase from 174541 to 208642, exceeds all the blocks of Birbhum. Murarai-II and Murarai-I hold second and third position respectively where population growth difference is more than 30,000 if compared between the year 1991 and 2001. These three blocks i.e., Nalhati-I, Murarai-II and Murarai-I show extreme population growth in the district. Areas of high growth rate (more than 20,000 but below the 30,000) include blocks like Mayureswar-I, Rampurhat-I, Md. Bazar, Sainthia, Dubrajpur, Bolpur-Sriniketan, Labpur, Nanoor and Illam Bazar. Areas of moderate growth rate (10,000 to 20,000) comprise blocks like Nalhati-II, Mayureswar-II, Suri-I, Suri-II, Khoyrasole and Bolpur Municipal town. Areas of slow growth rate (less than 10,000) includes municipal town like

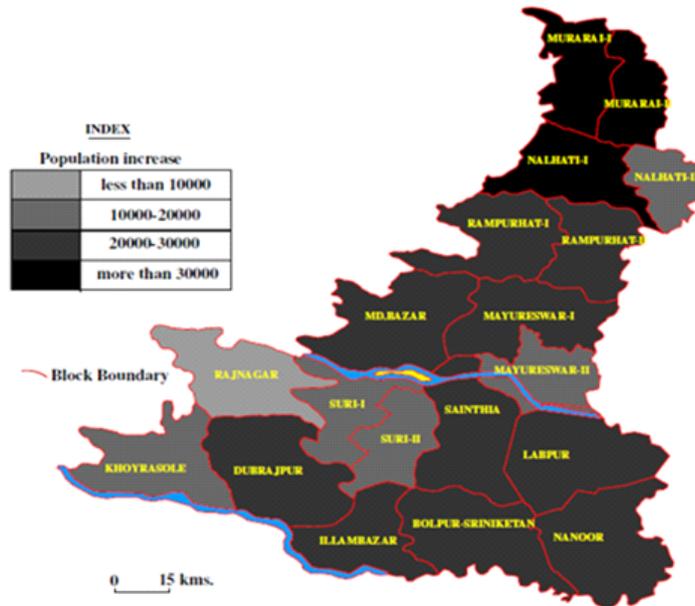


Fig. 2: Spatio-temporal variation in decadal population increase in Birbhum District (1991-2001)

Table: 2: Decadal population increase in Birbhum district.

Name of the blocks	Total population		Increase	Rank
	1991	2001		
Nalhati-I	174541	208642	34101	1
Nalhati-II	89841	107658	17817	15
Murarai-I	122544	154342	31798	3
Murarai-II	144908	177748	32840	2
Maruyeswar-I	116592	139733	23141	11
Maruyeswar-II	98818	113031	14213	16
Rampurhat-I	134329	159193	24864	6
Rampurhat-II	138485	158742	20257	13
Rampurhat-(M)	43275	50613	7338	23
Md. Bazar	116319	139465	23146	10
Sainthia	155104	175645	20541	12
Dubrajpur	135787	159011	23224	9
Rajnagar	61539	69692	8153	21
Suri-I	77430	96476	19046	14
Suri-II	65153	77001	11848	19
Khoirasole	122081	135101	13020	17
Dubrajpur-(M)	26983	32752	5769	24
Suri-(M)	54298	61806	7508	22
Sainthia-(M)	30024	39145	9121	20
Bolpur-Sriniketan	152048	178111	26063	4
Labpur	153546	176865	23319	8
Nanoor	168364	193775	25411	5
Illambazar	120895	145182	24287	7
Bolpur-(M)	52760	65693	12933	18

District Human Development Report (2008); (M) = Municipal town

Rampurhat, Suri, Dubrajpur, Sainthia and Rajnagar block (Table 2). It is interesting feature of the study that areas having extreme and high population growth are basically rural and agricultural based area where Minority population is dominating. These areas have low socio-economic and human resource development. For example, in the block like Nalhati-I, Murarai-I, and Murarai-II, the index of living standard as per HDI ranking of block,

2001, respectively are 0.43, 0.40 and 0.56 which is enough lower in comparison to Suri-I block, having index of living standard 0.94. On the other hand, slow growth rate of population is found mainly in municipal areas where socio-economic condition of people is much higher, people are more conscious about fertility and these areas have the larger opportunities for non-agricultural occupation with very low proportion of cultivable land. Analysis of decadal feature of spatial population reveals that three northern most blocks viz. Murarai-I, Murarai-II, and Nalhati-I have the higher rate of population increase (>30000) in comparison to other parts of the district (Fig. 2). Ten blocks of the district have slightly lesser rate of decadal population increase. Five blocks namely Suri-I, Suri-II, Nalhati-II, Mayureswar-II, and Khoyrasole have decadal population increase between 10000-20000 and only one block, Rajnagar has lowest decadal population increase (<10000).

Socio-economic development and quality of life: Socio-economic development and quality of life are two buzzword used often at present. It refers to the improvement of social and economic status of people particularly poorer section of the society by ensuring basic needs of life along with literacy and school infrastructure health care services, employment opportunities, women empowerment etc. On the other hand quality of life is a personalised concept where individual in the society is considered to be developed by improving socio-economic condition of that area one lives in. It tries to explain the level of satisfaction or happiness of an individual. But Happiness, life satisfaction and

Table 3: District wise Human Development Index in West Bengal, 2004

District	Health index	Income index	Education index	HDI	HDI rank	GDI	GDI rank
Darjeeling	0.73	0.49	0.72	0.65	4	0.600	2
Jalpaiguri	0.61	0.38	0.60	0.53	10	0.492	11
Koch Behar	0.50	0.41	0.65	0.52	11	0.471	13
Dinajpur	0.62	0.39	0.53	0.51	13	0.478	12
Malda	0.49	0.36	0.48	0.44	17	0.416	17
Murshidabad	0.57	0.29	0.52	0.46	15	0.423	16
Birbhum	0.53	0.27	0.61	0.47	14	0.435	14
Bardhaman	0.74	0.47	0.71	0.64	5	0.560	7
Nadia	0.65	0.41	0.66	0.57	9	0.506	9
North 24 Pgs.	0.72	0.49	0.76	0.66	3	0.564	6
Hugli	0.77	0.46	0.67	0.63	6	0.581	3
Bankura	0.67	0.26	0.62	0.52	11	0.494	10
Purulia	0.61	0.18	0.55	0.45	16	0.424	15
Medinipur	0.68	0.45	0.74	0.62	7	0.578	4
Haora	0.77	0.53	0.75	0.68	2	0.570	5
Kolkata	0.82	0.73	0.80	0.78	1	0.642	1
South 24 Pgs.	0.71	0.40	0.68	0.60	8	0.521	8
West Bengal	0.70	0.43	0.69	0.61		0.549	

District Human Development Report, 2008

subjective well being are mutually interrelated and indeed they are all closely connected with the notion of quality of life-but they are also highly contested constructs (Parfit, 1986). Thus, the 'quality of life' concept sees happiness in the sense of virtue as defined by Aristotle as the normative standard, which can be applied to judge the quality of people's lives. An individual achieves a certain quality of life is referred to as 'eudaimonia' or the 'good life' (Frey, 2008). While analysing the reason of poverty and downward socio-economy of the study area it is found that lack of education is the sole factor playing significant role in the degrading status of quality of life in many blocks of the district. Education and Schooling always have been an embodiment or reflection of what a particular society sees as its desired form and level of quality of life (Phillips, 2006). The problem of low literacy rate is realised by disparity across different groups also. In addition, there is long gender gap in the literacy in the district of Birbhum. In no area are their greater problems about measuring quality of life than in the area of women's live and capabilities (Guha, 1996). There is also lack of school infrastructure, pupil-teacher ratio and teacher-school ratio across the different blocks of the district. Education is one of the areas in which spatial, social and regional disparities are particularly evident. Large variations are observed in the literacy levels, enrolment, and retention and dropout rates across the state of India. Few states like Bihar, Uttar Pradesh and West Bengal still project a dismal picture with low literacy rates, low participation rates and high dropout rates (Chagu, 2009). There is no increase in the number of hospitals and health centre in the district, only few sub-centres including clinics and dispensaries were introduced from 2005. There is also a reducing trend in the number of doctors in the area under study. Moreover, there are a number of blocks which have not any hospitals; a few have neither hospitals nor health centres or sub-centres. The idea of quality of life provides a framework within

which health related issues can be reviewed positively and more holistically and by which health service practices and wealth policies may be judged (Nussbaum and Sen, 2001). In case of public health, the overall feature of the district is not satisfactory. The district immediately needs more and more doctors to increase doctor-population ratio as population and total number of health care centres with doctor vary widely in the district. The ratio between the population and number of health care centre like Primary Health Centre (PHCs), Blocks Primary Health Centres (BPHCs) and Sub-Centres (SCs) vary significantly. The private health care utilization somewhat has placed better position when compared to the public health care utilization (Dhananjay and Lingaraju, 2009). But, there is a great mismatch between the existing health care facilities in the blocks and population of those blocks. Most of the people of the blocks have to depend on primary health centre. Therefore, it is best to make an initial concession in the case of special health and medicals needs (Valenkamp and Van-der-Walt, 2008). Unfortunately, the district ranks 14th position in case of human development and gender development and lacks behind in case of health, Income and Education (Table 3).

Nutrition: Dietary pattern plays an important role which determines the quality of life of people, although in many cases it is economy dependent, its proper intake controls ones physical fitness and establishes status of an individual in the society. In the study area, balanced diet is completely absent in rural areas particularly among the female due to socio-economic backwardness including poverty and lack of education. Very often, it has been found after survey that people do not take adequate and quality food, but they often take minimum requirement so that they can survive. Again, it should be mentioned that this compulsion is the cause of so many factors as stated earlier lying under the canopy of backward socio-economy and poverty in the form of low per capita

Table 4: Spearman's Rank co-relation co-efficient (A.T.S vis-a-vis HDI)

Block	HDI	Rank	Average transport score	Rank	Rank difference	d ² (Sq. of rank difference)
Nalhati-I	0.65	2	43.12	17	- 15	225
Nalhati-II	0.58	8	54.40	6	2	4
Murarai-I	0.59	7	40.05	18	- 11	121
Murarai -II	0.37	19	53.31	9	10	100
Mayureswar-I	0.43	16	57.53	4	12	144
Mayureswar-II	0.68	1	53.42	7	- 6	36
Rampurhat-II	0.46	13	47.25	11	2	4
Rampurhat-II	0.56	9	46.19	14	- 5	25
Md. Bazar	0.38	18	53.35	8	10	100
Sainthia	0.50	12	44.17	15	- 3	9
Dubrajpur	0.54	10	55.48	5	5	25
Rajnagar	0.62	3	59.59	2	1	1
Suri -II	0.61	4	51.48	10	- 6	36
Suri-II	0.53	11	62.65	1	10	100
Khoyrasol	0.46	14	44.15	16	- 2	4
Bolpur-Sriniketan	0.45	15	46.22	12	3	9
Labpur	0.60	6	46.19	13	- 7	49
Nanoor	0.60	5	58.55	3	2	4
Illambazar	0.38	17	40.05	19	- 2	4
						1000

District Human Development Report (2008)

Table 5: P.W.D., Zilla Parishad, Gram Panchayat and Panchayat Samity maintained roads of Birbhum District in 2005-06 (in Km)

Year	P.W.D	Zilla Parishad	Gram Panchayat and Panchayat Samity
2005-06	Surfaced	1168	Surfaced 1009
	Unsurfaced	09	Unsurfaced 849
	Total	1177	Total 1858
			Gram Panchayat and Panchayat Samity
			Surfaced 98
			Unsurfaced 4169
			Total 4267

11th five year plan and annual plan for Birbhum, Govt of West Bengal, District Planning Committee

income, larger family size, illiteracy, lack of health services and consciousness etc. Most of the people of the study area belonging below the poverty level used to purchase cheap vegetables and foods without protein. Therefore, they are mostly vegetarian and cannot take protein foods like egg, meat and fruits. But this is not noticed in case of urban people of the district, because they are mostly belong to above the poverty level and can choose mineral and protein based diet due to better economy. But in rural Birbhum the produced crops and vegetables are mostly consumed at subsistence level and they have not the chance to take foods with minerals and or protein for their very low per capita income. Therefore, there are complex relationship between health and other socio-economic factors, its interaction with education, nutrition and also population growth (Hazarika and Barah, 2009).

$$p = 1 - 6\sum d_i^2 / n(n^2 - 1) = 0.12 \text{ (Positive co-relation)}$$

Other facilities: The welfare of human civilization has been highly determined by economic development which is again very much dependent on the speed of movement of people and commodities. Thus transport has been playing very crucial role in bringing socio-economic development in an area. Initially, during 20th century, there were a few roads in the district constructed by the Merchant Mr. Cheap to transport inputs and outputs to and from his factory located at Suri-the district head quarter of Birbhum. In the subsequent time, a lot of roads

have been constructed. At present, there are three types of roads in Birbhum district (Table 5). Spread throughout the district along with the facility of railway network also in some of its parts. If block wise average transportation score is considered, a positive correlation is found between average transportation score (ATS) and human development index of each block (Table 4).

CONCLUSION

Therefore it is clear and evident from the discussion that population growth, socio-economy and quality of life are significantly related, higher population growth has hampered the social and economic development of the study area which have ultimately affected the quality of life of an individual. Eradication of poverty and provision of the basic minimum services are integral to the strategy directed at improving the quality of life (Rawls, 1996). Each block of the district has experienced population increase, but unfortunately that increase is not consistent, if compared with the available infrastructure like education or health services both in urban and rural areas. Moreover, as most of the rural people are dependent on primary activities, increase in the population in the rural sector has obviously put a pressure on local production and consumption. Consequently the quality of life is going down by pulling the socio-economy of the area downward. The curve of socio-economic well being peaks at the metropolitan centres, declines sharply at the level of sub-regional centres and dips sharply again at smaller

urban centres and rural periphery (Seed and loyd, 1997). According to Human Development Report, some factors have been hindering the progress of socio-economic environment. The lack of adequate productive opportunities, gender discrimination, education, nutrition, and health are the alarming causes of this unequal socio-economic and human development. The significant lacunae in the human development scenario of the district lies in education and health sector if compared with developed districts of the state. Another characteristics feature of the state of West Bengal is the growing dominance of Kolkata-the state capital, in all respect. All the development is being concentrated in the state capital due to some socio-political factors and underdeveloped parts away from the state capital are being dramatically suffered.

Let us, think the strategy implication to recover the hurdle to overcome the situation, although it is not easy to achieve. Firstly, the high growth rate of population, which is the result of high fertility, has to be reduced to make a barrier against rapidly growing population in the district. This will definitely reduce the quantitative human pressure on available resource. Secondly existing infrastructural set up of the district is not sufficient in comparison to increasing population. The availability of proper transport network and health services is meagre in the study area which needs to be handled immediately. The only task of ending poverty, ignorance, disease and inequality of opportunity lies in human capacity building which has to be cultivated, explored with patience and justice (Basu and Saha, 2008). Therefore, Government officials, policy and decision maker should realised the problem of underdevelopment and sloth quality of life being considered themselves as one of the suffers, then only the policies of development or strategy implications will be fruitful.

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