

Characterizing the forcing factors influencing the quality of life in the marshy deltaic Sundarban Region: A Case Study from Kakdwip, South 24 Parganas, West Bengal, India

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Abstract:

Kakdwip block comes under deltaic portion of Sundarban. This area is much more vulnerable to any kind of natural hazards like the cyclone, flood and embankment breaching. This is the main reason of underdevelopment of this area. The study tries to show the quality of life of South 24 Parganas in West Bengal. It is seen that quality of life in the Kakdwip block is of very low grade. Four panchayats of this block is taken into consideration for this study. From these four-panchayat areas total samples are collected through the household survey and then analysis of the quality and living condition of the people is done. Among these blocks there are some social parameter which are taken for the study of this topic. It tries to outline the overall life quality of the block.

Key words: *Quality of life (QOL), Marshy Area, Sundarban, Delta, Kakdwip*

I. Introduction:

The Kakdwip block on Sundarban area is standing on active delta which means the environment is ever dynamic. Kakdwip is coastal low-lying block of South 24 Parganas district. Here, the process of erosion is on-going. Due to the uncomfortable environment people always struggle to sustain for their livelihood. The natural situation otherwise is very complex. Quality of life represents very small amount of social wellbeing. A study has been conducted at Kakdwip in South 24 Parganas, where quality of life is influenced by the social independency, relationship and various other social factors. Quality of life is defined by the personal or individual as the maximum satisfaction of the people. Different measures have been taken for analysis of the quality of life of the district of Kakdwip in south 24 Parganas West Bengal. Quality of life mainly depends on the social variables, people's need and through availability of the basic facilities. The district of south 24 Parganas is located along the Bay of Bengal and this region is agriculturally very low because of the saline water. Moreover being near to the island cyclones are more effective in this block. This block was mostly affected by Aila (Dhara and Paul, 2016). Since quality

of life is a multidimensional concept and it can be improved by education and income (Ghosh, 2012) or financial stability, so any type of social disturbance adversely affects the general quality of life. (Thakurta, 2019). The term 'quality of life' is a vast concept and when used from subjective viewpoint it implies personal satisfaction. The factors that make impact on the living condition or personal satisfaction of the people are housing, income, literacy and availability of basic needs. For the purpose of development, it is essential to know the quality and living condition of the people of this region. Poverty and lack of education is a major setback in the coastal block of South 24 Parganas (Dhara and Bhattacharya, 2019).

Location:

The location of Kakdwip block (Fig. 1) is in the south eastern part of Sundarban area. Actually, this particular block comes under deltaic portion of Sundarban. This block is comparatively in good position of development as to other blocks namely Sagar, Namkhana, Patharpratima of south 24 Parganas. Although in present time there is also the low quality of life here due to various factors like Physical, Socio-Economic and Political. Hoogly River which is flowing at the western part of the district makes maximum of the settlements to come under village composition. Thus, this area becomes more vulnerable to any and every kind of natural hazard like the cyclones, flood and embankment breaching (De Leon, 2006; ICCP, 2007; Sharma and Sharma, 2008; UNFCCC, 2008). This is the main reason of underdevelopment of this area. So, the present paper tries to highlight the quality of life of this area.

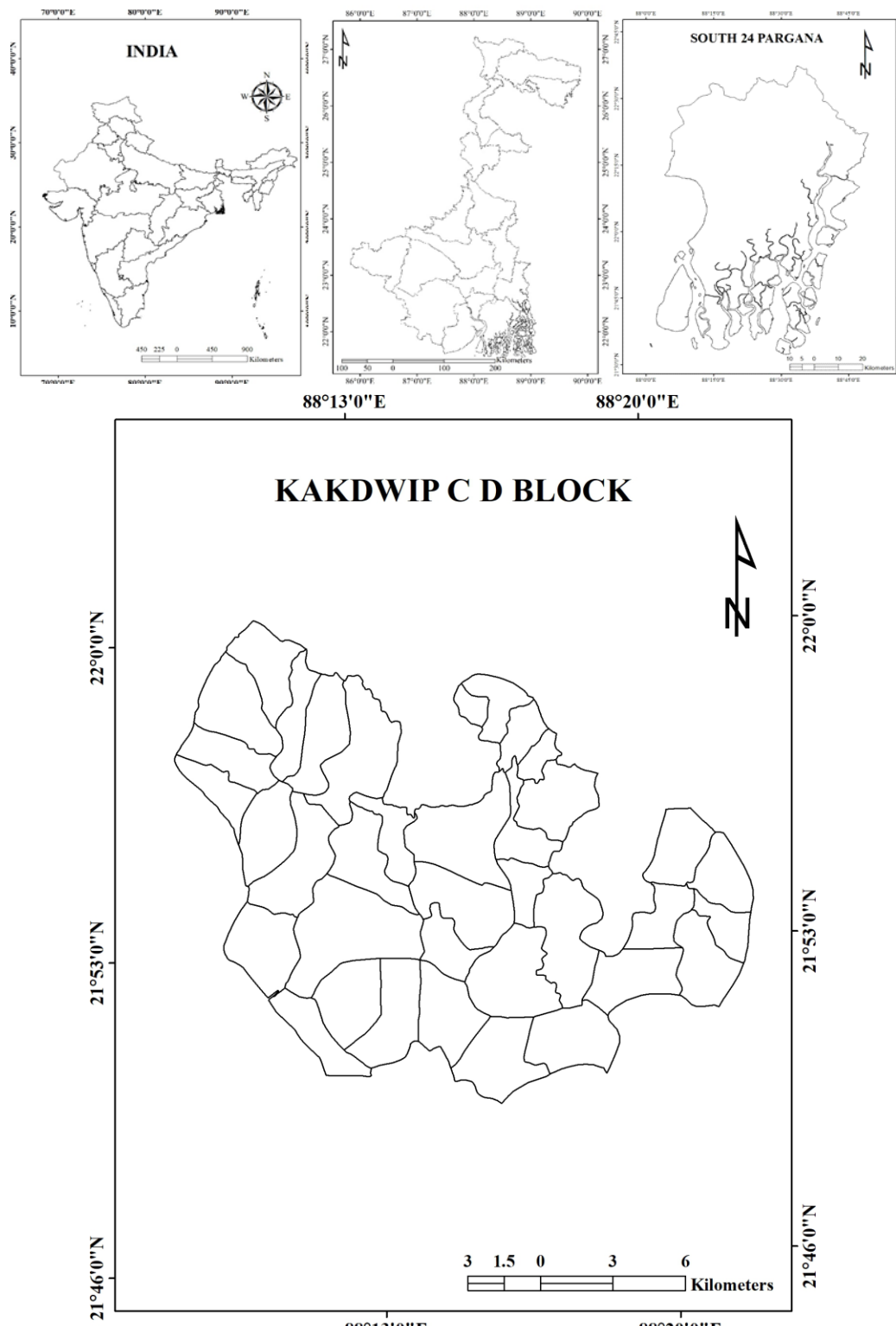


Fig. 1. Location map of the study area showing the CD block of Kakdwip region.

Objectives:

Quality of life in a place is a composite interaction of biological, physical, environmental and social conditions. There are many indexes that are thought to influence the quality of life however, it varies over space and time and such indexes could be used to evaluate different quality of life aspects (Papageorgiou, 1976). An indicative list of quality of life indicators, are chosen in the following categories (elaborated later) to label a few: source of fuel to light up the house, source of drinking water, health, education, etc.

Thus the objectives of the present study are two-fold, namely:

1. To study the present living condition of the villagers and
2. To determine and examine the quality of life (QOL) of Gangadharpur Mouza.

II. Methodology:

Determining the quality of life by help of composite index and standard deviation techniques have been used here. To calculate composite index, variables were chosen to determine QOL. Statistically each variable was powered with X1, X2, etc. Reasonable weightage was assigned to each variable. Composite score of all variable are taken as x value and mean value is calculated. The quality of life under deviation is grouped and finally comparative analysis is done to show QOL in different panchayat.

Parameters of quality of life: Quality of life is analysed by multidimensional approach and it depends on various biological, psychological indicator which passes through various socio-economic indicator. In the present study altogether ten variables have been carefully chosen to determine the existing quality of life in rural Kakdwip block. Those variables are discussed below.

Source of light: Mainly there are two type of sources of light in the surveyed village. One is electricity and other one is kerosene lamp. In this case, electricity is considered as a better option than the kerosene. Here 88% household uses electricity and only 12% household are still under kerosene light.

Fuel used for cooking: This is also another essential parameter of measurement for quality of life. It is seen that for the cooking 55.10% uses wood collected from the forest region, 34.01% households use LPG for cooking, whereas rest others use kerosene, coal, cow dung cakes as fuels.

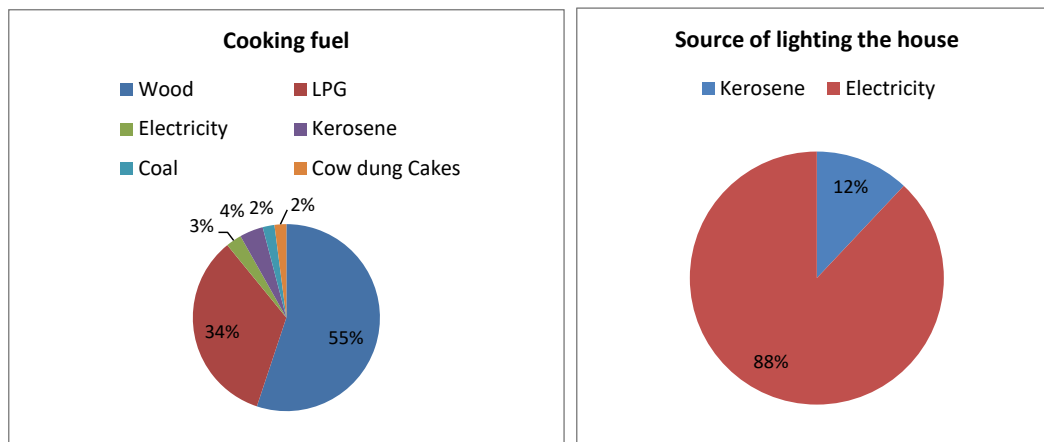


Fig.2 (Left). Pie chart depicting the distribution of cooking fuel use by the inhabitants.

Fig.3 (Right). Pie diagram illustrating the percentage of source of lighting the house.

Marital status: Marital status of women is important indicator of social development. The study in panchayat areas shows good condition of the women who got married within 18-21 years age (61.98%), some women got married within 15-18 years age (28.93%) and only 4.96% got married after 21 year age.

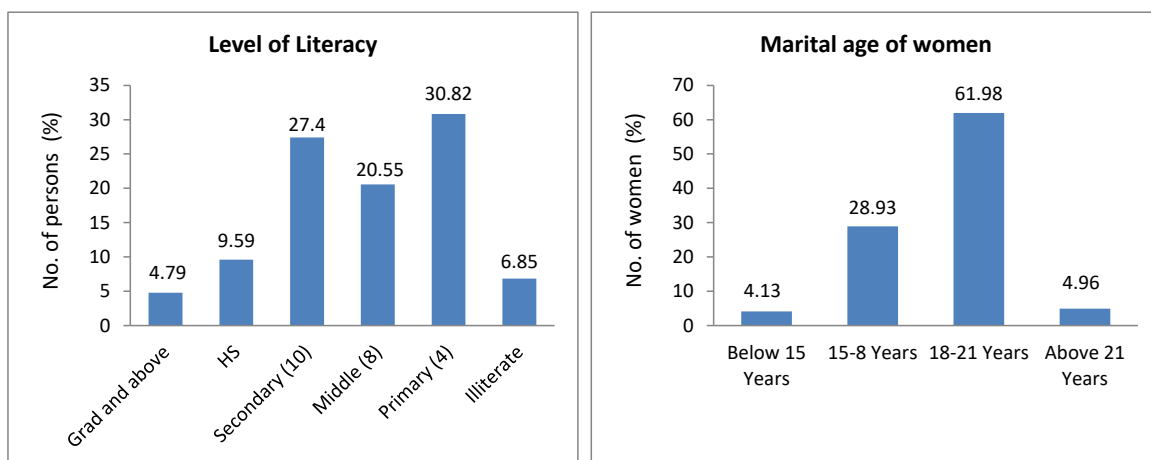


Fig.4 (Left). Bar chart depicting the level of literacy. Note the marked decrease in illiteracy indicating people's awareness about education.

Fig.5 (Right). Bar diagram illustrating the percentage of women of particular age range of getting married.

Literacy levels in household: The literacy level of this panchayat area is not in good condition. Only 9.59% of the people of this panchayat are educated up to higher secondary. 27.40% of the people are educated up to Madhyamik. 20.55% of the people reach up to the eighth standard. Only 30% of people achieved only primary level education and 6.47% of the village are totally illiterate.

Housing condition: Housing condition is one of the important indicators of the quality of life. Economically higher status people lived in pucca house. Economically low people lived in a kuccha houses. The study in this panchayat is dominated by semi pucca house (46%) followed by pucca (39%) and kuccha houses (15%). So, it is said that housing condition of the panchayat is almost in a good condition.

Source of drinking water: Drinking water is an important need for human health. Tube well, hand pump and river water are the sources of drinking water in this panchayat area. Among these hand pump and timely tap water is the major source of drinking water. Both together constitute 89% of drinking water source for the village dwellers.

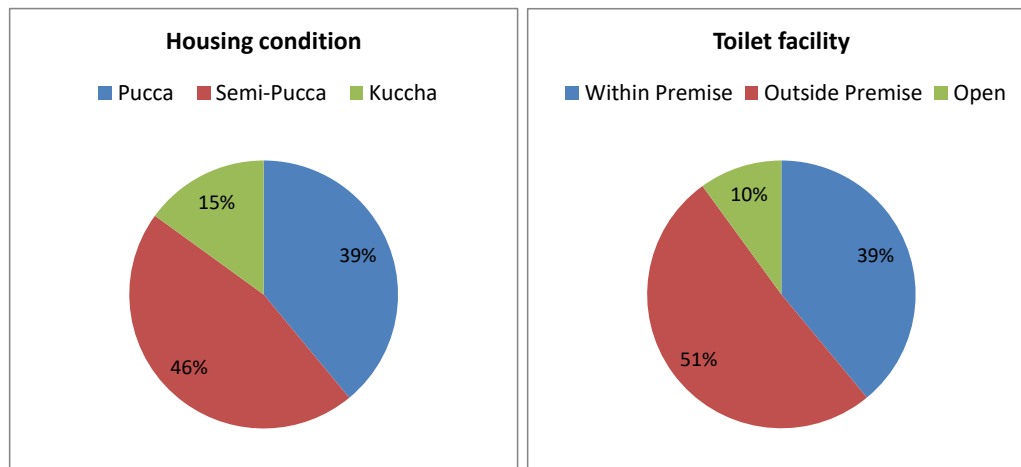


Fig.6 (Left).Diagram showing the distribution of various types of houses in the studied block.

Fig.7 (Right). Diagram depicting the distribution of toilet facilities used by the people in the studied block.

Toilet facilities: To maintain the health and hygiene of a community the use of toilet is very essential part. In the survey area 39% of households have toilet premise and 51% of households have toilet without premises and 10% people still now practice open defecation.

Medical Facilities: In ancient time people used only the traditional medicines but as the hospital and dispensary are available to the people, they are trying to seek help from these facilities. In the study of panchayat 71% people take medicine from government hospital, 25% take medicine from private hospital or medicine shop and only 4% take the traditional medicine facilities still today.

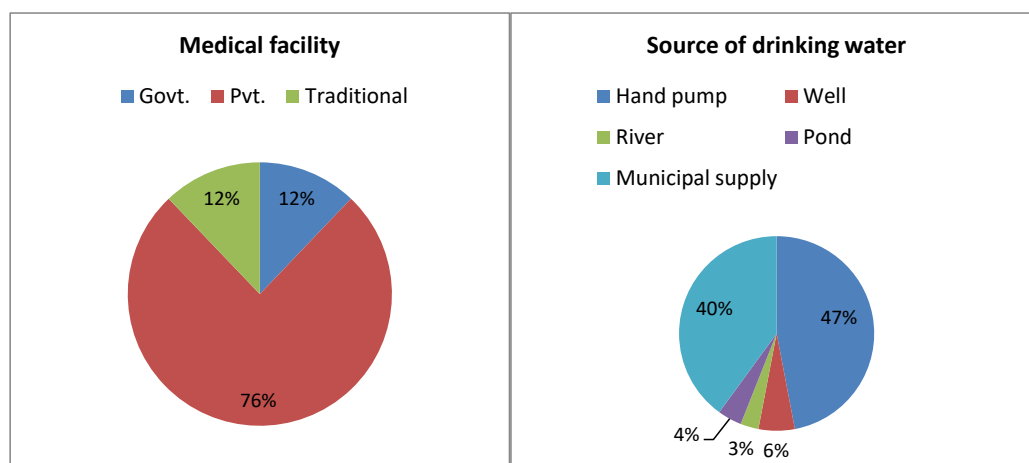


Fig.8 (Left).Distribution in percentages the different medical facility availed by the people in the studied region.

Fig.9 (Right). Diagram illustration the proportion of different source of drinking water availed by the people in the studied block.

Landless households: Land is one of the important assets for panchayat dwellers. Most of the villagers have their own land. They do agricultural activity in their land to run their daily livelihood. In the study area 86.67% people have land of their own only 13.33% do not possess their own land.

Rationcard types: In this panchayat two types of ration card is seen where 69.44% people have yellow ration card, 27.78% household have red ration card in this panchayat and only 2.78% people have no ration card.

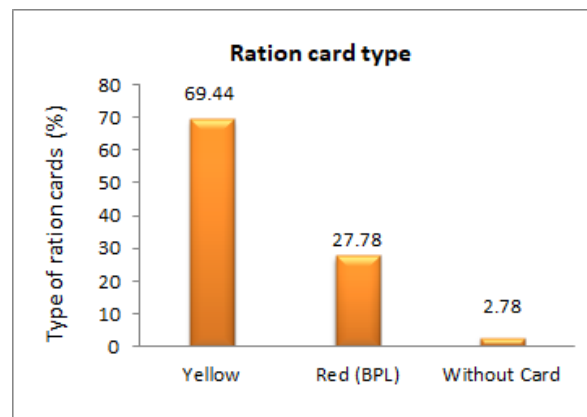
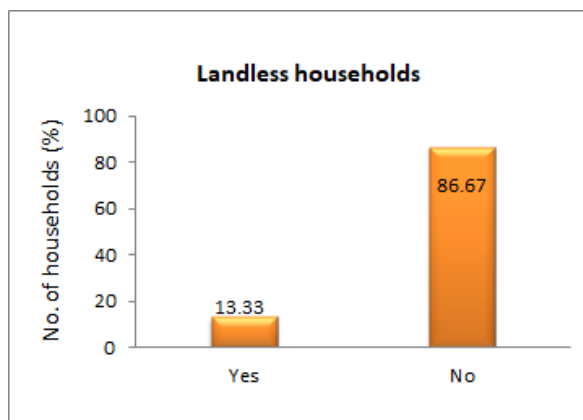


Fig.10 (Left). Column diagram showing the type of property possessed by the inhabitants of the studied block.

Fig.11 (Right). Bar diagram depicting the type of ration card held by the people of the studied block.

Table 1: Selected variables determining the quality of life of villagers of Kakdwip CD Block and their X value

				Bapuji		Madhusudanpur		Netaji		Pratapadityanagar	
VARIABLES	PARAMETRES	INDICATORS	WEIGHTAGE	% Households	X value	% Households	X value	WEIGHTAGE	% Households	WEIGHTAGE	% Households
	Source of lighting of the house	Electricity	2	100	2	100	2	100	2	100	2
		Kerosene	1	0	0	0	0	0	0	0	0
X1					2			2			2
	Fuel used for cooking	Solar	0	0	0	0	0	0	0	0	0
		LPG	6	35	2.1	36.84	2.21	35	2.1	42.31	2.54
		Electricity	5	5	0.25	0	0	0	0	0	0
		Kerosene	4	5	0.2	5.26	0.21	0	0	0	0
		Coal	3	5	0.15	0	0	0	0	7.69	0.23
		Cow dung	2	2.5	0.05	10.53	0.21	0	0	0	0

		cakes									
		Wood	1	47.5	0.48	47.37	0.47	65	0.65	50	0.5
X2					3.23		3.11		2.75		3.27
	Source of the drinking water	Hand pump	4	42.86	1.71	43.75	1.75	33.33	1.33	50	2
		Well	3	3.57	0.11	0	0	5.56	0.17	4.17	0.13
		River	2	0	0	0	0	0	0	0	0
		pond	1					5.56	0.06	4.17	0.04
		Municipal supply	5	53.57	2.68	56.25	2.81	55.56	2.78	41.67	2.08
X3					4.5		4.56		4.33		4.25
	Housing condition	Pucca	3	32.14	0.96	33.33	1	40	1.2	31.82	0.95
		Semi-Pucca	2	42.86	0.86	33.33	0.67	46.67	0.93	54.55	1.09
		Kuchha	1	25	0.25	33.33	0.33	13.33	0.13	13.64	0.14
X4					2.07		2		2.27		2.18
	Toilet	within premise	3	37.04	1.11	75	2.25	53.33	1.6	30	0.9
		Outside	2	55.56	1.11	25	0.5	33.33	0.67	65	1.3

		premise									
		Open	1	7.41	0.07	0	0	13.33	0.13	5	0.05
					2.3		2.75		2.4		2.25
	Medicine facilities	Govt.	3	60	1.8	64.29	1.93	66.67	2	90	2.7
		Pvt	2	36.67	0.73	35.71	0.71	33.33	0.67	10	0.2
		Traditional	1	3.33	0.03	0	0	0	0	0	0
X6					2.57		2.64		2.67	0	2.9
	Level of literacy	Grad&above	6	0	0	16.67	1	6.25	0.38	4	0.24
		HS	5	13.79	0.69	16.67	0.83	6.25	0.31	4	0.2
		Secondary(10)	4	37.93	1.52	16.67	0.67	18.75	0.75	12	0.48
		Middle(8)	3	34.48	1.03	16.67	0.5	43.75	1.31	36	1.08
		Primary(4)	2	10.34	0.21	33.33	0.67	18.75	0.38	36	0.72
		Illiterate	1	3.45	0.03	0	0	6.25	0.06	8	0.08
					3.48		3.67		3.19		2.8
X7	Marital age of the women	Below 15 Years	1	0	0	0	0	0	0	0	

		15-18 years	2	37.04	0.74	15.38	0.31	14.29	0.29	25	0.5
		18-21 years	3	55.56	1.67	69.23	2.08	85.71	2.57	75	2.25
		Above 21 Years	4	7.41	0.3	15.38	0.62	0	0	0	0
X8					2.7		3		2.86		2.75
	Ration card type	Yellow(APL)	3	65.52	1.97	50	1.5	66.67	2	72.73	2.18
		Red(BPL)	2	31.03	0.62	50	1	26.67	0.53	27.27	0.55
		Without card	1	3.45	0.03	0	0	6.67	0.07	0	0
X9					2.62		2.5		2.6		2.73
	Land less households	YES	1	22.73	0.23					40	0.4
		NO	2	77.27	1.55	100	2	100	2	60	1.2
X10					1.77		2		2		1.6

Table 2.Composite score of Kakdwip CD Block

Panchyat	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X	X-X	(X-X)2
Bapuji	2	3.225	4.5	2.07142	2.29629	2.56666	3.48275	2.70370	2.62069	1.77272	27.2392	-0.3307	0.10938

Madhusudanpur	2	3.1052	4.562	2	2.75	2.64285	3.66666	3	2.5	2	28.2272	0.65728	0.43202
Netaji	2	2.75	4.333	2.26666	2.4	2.66666	3.1875	2.857143	2.6	2	27.0613	-0.5086	0.25876
Pratapadityanagar	2	3.2692	4.25	2.18181	2.25	2.9	2.8	2.75	2.727273	1.6	26.7283	-0.8416	0.70842
											137.862		2.58201

The mean value of composite score is 27.57 with standard deviation = 0.803. The levels of quality of life under deviation are grouped in Table 3

Table 3: Levels of quality of life in Kakdwip block.

Levels of Quality of life	Statistical value	Composite score	Name of the panchyat
Good	to +2	28.375-29.179	Madhusudanpur
Medium	to+	27.572-28.375	Bapuji
Poor	to-	26.769 - 27.572	Netaji
Very Poor	to-2	25.965 - 26.769	Pratapadityanagar

III. Conclusion:

Qualitative and quantitative processing is justified through the data analysis and four level of quality of life has emerged in this block. The Madhusudanpur panchayat area enjoys good quality of life and the condition of Bapuji panchayat area is better than another panchayat of the village. This panchayat is medium in quality of life and condition of this lane is better than Netaji and Pratapadityanagar. Both the area has lower quality of life. The basic facilities of this lane are very poor. The situations are in worst condition where medical facilities and drinking water facilities are inadequate in these slum areas. Though four levels of quality of life is found here but the overall condition of quality of life of the block is very poor. The whole system due to this undergoes a very weak social impact. The qualitative and subjective analysis was done so that the factors affecting these areas can be improved for the progress of economy and also for the development of society which takes place in such a rich geographical area.

The philosophical analysis of QOL can be thought as having two end members i.e., happiness and satisfaction. It is a mammoth difficult task to reduce the enormous philosophical thoughts for the appropriate QOL to be constrained within the two end members. Our primary thought is laid down for the minimal appropriation of QOL which includes food, health and education. The most fundamental fact is that we as human beings create our own world as we make new settlements and these new settlements are being modified in space and time to bring satisfaction and happiness, in terms of fulfilment of needs and self-actualization that measures the QOL. Based on an individual's approach of QOL, there should be a prudent approach to choose the way of life one wants to lead irrespective of who they are and what their situation is. However, a societal approach is always a possibility to improve the QOL if the information of the QOL is passed into service by leaders and planners to make people aware about choosing a prudent way to lead their lives. The three essential aspects or variables viz. food, shelter and

education do play a major role in growth and development of the society as per our desire and need and also enable in progress of the socio-economic conditions.

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