

Geographic Study of Quality of Life in Layshi Township, Naga Land in Myanmar

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Abstract

This research Paper is to assess the quality of life (QOL) of the native residing within Layshi Township in Naga Land of Myanmar which lies adjacent to the north- western edge of Myanmar and near the boundary of Naga Land of India. Although Layshi Township situated in the Naga Hill Region and is connected with the most important transportation route connecting with the town of Homalin in Sagaing Region of Myanmar which lies in the Flat Plain Region, it has many Socio-economic problems. The data required for this research are obtained from the residents of 331 households from 32 villages out of 67 villages within Layshi Township, through the questionnaires using Random Sampling Method as well as from the information received at the Administrative Departments of various offices. The methods used for the research paper are Human Resources Development Index (UNDP,2007), UNESCAP Region 1995 and Myanmar Human Resources Development Indicators(2011) in accordance with the 9 indicators, 45 Variables and the Spatial Analysis within the four parts of the Township. In analyzing this research, it is found that the daily status or level of living standard of the residents within Layshi Township of Naga Land in Myanmar needs to be promoted by making plans and programmes in order to upgrade then daily quality of life (QOL).

Key words – Quality of Life, Living Standard, Human Development Index, Spatial Analysis

Aims and Objectives

The main objectives of this research work are:

- (1) To examine the geographic factors controlling the quality of life,
- (2) To assess the quality of life of the native residing within the township of Layshi and
- (3) To suggest the implementation of development programmes in the study area.

Methodology

The research on the quality of life of the residents of Layshi Township from Naga Land of Myanmar is carried on by basing partly on the primary data and partly on the secondary data. The primary data are obtained from questionnaires, interviews, open talks through field observations and field surveys. In other words, this research is carried out by using both Qualitative Method and Quantitative Method. The data required for this research are obtained from the residents of 331 households from 32 villages out of 67 villages within Layshi Township, through the questionnaires using Systematic Random Sampling Method and Secondary data from the information received at the received at the various offices of the Administrative Departments. The Qualitative and Quantitative Methods used for this research paper are Human Resources Development Index

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(UNDP,2007) and Myanmar HRD indicators (2011) in connection with the 9 indicators (45 variables) and the Spatial Analysis within the four parts of the township.

Study Area

In Myanmar, the Autonomy Region of Naga Land within Sagaing Region lies at the extreme edge of the North-Western Region of Myanmar between the latitude of 24° 22' N and 28° 00' N and between the longitudes of 95° 15' E and 97° 00' E. The self-rule Autonomy Region of Naga Land in Sagaing Region within Myanmar consists of four townships, namely; Laheh Township, Layshi Township, Nan Yun township and 4 sub-townships. The area of the region is 13,389.137 Square Kilometers. In Myanmar, within the self rule region of Naga Land is Layshi Township which is situated in the north-western edge of the region between the latitudes of 25° 00' N and 25° 45' N and between the longitudes of 94° 00' E and 94° 50' E. In Layshi Township are included 1 sub-township, 4 wards, 21 village tracts and 67 villages. The area of the region is 2738.88 Square Kilometers and the elevation of the region varies from (305 to 3,825.96) meters. It is very chilly and mountainous region.

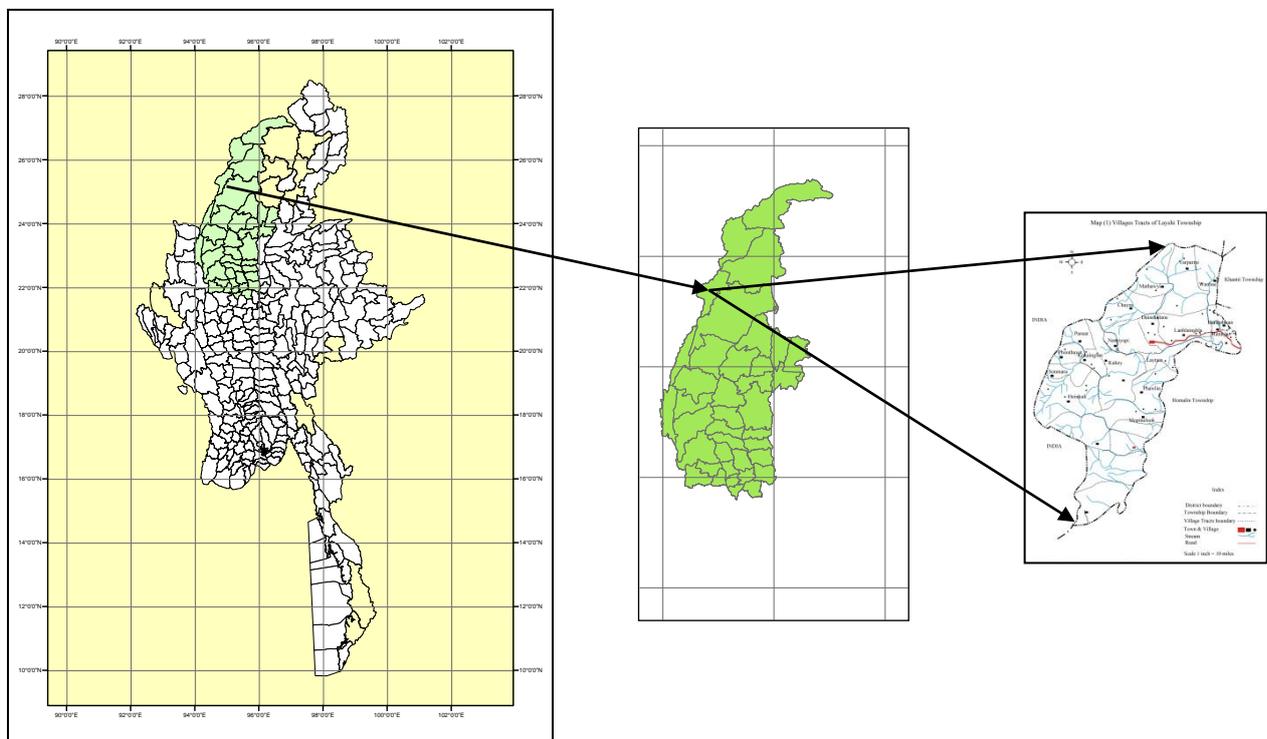


Figure (1) Location of Layshi Township

It is bounded on the east by Khanti Township and Homalin Township: on the west by India: on the south by Tamu Township and on the north by Laheh Township. The region is surrounded by these townships and their boundaries are adjacent to one another. The average rainfall of the regions is above 253.80 centimeters. The temperature varies between (8 and 36) Degree Celsius. The total population is 16,178 persons and the number of household is 2830. The ethnic groups of Naga race

settling there are Makuri, Para and Tankun. They are the ethnic groups and natives living in Myanmar and are the important ethnic groups who guard and protect the north-western Hill border lands of Myanmar.

Introduction

During the period from 2004 to 2010, within the Union of Myanmar, in order to assess and examine the goals for the reduction of Poverty Programmes and Plans to improve the Integrated Household Living Conditions Assessment (IHLCA) and the reduce Food Poverty Headcount, goals for the amount of the National and International Development are being examined and calculated by the Indicator Index Method. In carrying out that aim although all the goats for the development cannot be described the Integrated Household Living Conditions Assessment (IHLCA) obtained from out of 48 Millennium Development Goals (MDG) Indices, 16 had been calculated and described. In the year 2011, the Ministry of National Planning and Economic Development (MNPED) and United Nation Development Programme stated that the poverty of Myanmar amount was 32 percent. In 2011, UNDSA (2011), Barro and Lee (2010), UNESCO Institute for statistics(2011), World Bank(2011) and IMF(2011) showed that the HDI, Human Resources Development of Myanmar Index was (0.483) whereas in South-east Asia the rank and status of Myanmar was (149) and that Myanmar had to be classed and demonstrated that had low Human Development. In 2012, Layshi Township within Sagaing Region, which is the autonomy region of Naga Land , according to the Reports of Layshi Township had the poverty rate of 52 percent. These facts are obtained by the researcher who had collected and studied facts regarding the life style and living standard of the natives, living in Layshi Township from the geographical point of view.

The research paper has been described from the geographic aspect on the Layshi Township of Naga Land Region regarding the Millennium Development Goals (MDG) Indices which are related to the Quality of life in Layshi Township in 2012.

From the three townships of the autonomy of Naga Land Region within Sagaing Region in Myanmar, Layshi Township is selected as sample case study by using Quality Method and Quantitative Method. In order to make interviews and questionnaires with 331 households the help from the native who can speak Naga Language fluently are being taken . With their help the selected Random Sampling Method was carried on. As the man difficulties and problems of the Study Area are concerned with transportation and with the difficulty in getting water supply, people from 9 villages situated in the Southern part of the township and three villages in the Northern part of the township, altogether a total of 12 villages left their villages and shifted to other places.

In this research paper, as Layshi Township which is situated in the Hilly Region receives a climate with many rainy days with an average high amount of rainfall, it has difficulty in

transportation . According to the geographical basic factors the QOL Indices within the region of the township can be divided into (4) parts.

(1) In CBD of the main town of Layshi there are two wards, and 23 Government offices .There are many ethnic groups residing there. There are direct roads(routes) on the eastern ,western and northern parts of CBD. On the Southern part, there are branch roads running towards the west.

(2) On the eastern part of Layshi Township at Htamanthi village of Homalin Township a road which leads to the river port of Chindwin River has a length of 66 Km but only about 30.60 Kilometers of the road is tarred. That is why it can be used only during Summer when the sky is clear with fineweather by motor cars. From Htamanthi waterways can be used by powered schooner. It takes at least about 6 hours to go by motor vehicles to Khamti and Homalin in order to buy and sell goods at the markets. On the eastern part, the villages are Yan Nways, Aungzaya, Aye Chan Phyo, Hlan Hlaing Hla, Hsone Kin and Maing-Dun-Hpaing.

(3) In the Western part and Southern part of Layshi Township, Hswanmara village lies 72.79 Kilometers away from Layshi Town and is 20 Kilometers away from the villages of Kiphire Township which are within Naga Land regions of India. The boundary post (milestone) No.129 lies between Myanmar and Indi, and there is also a mountain pass which cross at the border of India and there is also a mountain pass which cross at the border of India and Myanmar. Before the Independence, it was used for military purposes. At present there are earth roads used daily without any obstruction by the villages of Naga villages, for pedestrians, and cyclists of motorcycles, to go to the markets for selling and buying goods. On the western part the villages are Na Miyu Pi, Ko Kee, Kone Kaing Lone, Shwe Pyi Aye, Ma Ya Lone, Lay-yon, Hpun-Tha-Yet, Pan-Sat, and Swam Mara. On the Southern part Yay-Daung village was selected as a sample village.

On the South of Layshi Township lies Moe-Pine_Lut Sub-township. There is a road to that sub-township from the Chindwin River side within Homalin Township. From Layshi Township, after passing through Swammara village which is situated on the west there is a road (NgaKyan--Hein Kut--Moe-pine-lut) road which has a length of 75 miles (120.77 Kilometers). As there are difficulties in transportation and security problems to go to Moe-Pine-Lut Sub- Township, sample data had not been taken.

(4) In the northern part of Layshi Township there are roads to Mt. Saramati. They are uphill and townhill roads. There is also a bailery or suspension bridge for pedestrians to go on foot. The villages in that area are Dainkalein Sanpya, Dainkalein Away, Hsartpya, Peinnengon, Amimiyay, Kyi Kyeh Kha, Kholar, Latteh, Rawpahmee, Mathawri, and Raw haw.

By this research paper, the researcher intends to help people who are concerned in the implementation of the Programmes and Projects related with the upgrading in the socio- economic

development and the living standard of the permanent sedentary increasing people who are settling in Layshi Township, which is situated in the frontier region between India and Myanmar.

Results and Findings

I. Description of QOL Indices of the natives of Layshi Township

In describing the QOL of the native living within Layshi Township the factors based on the physical, economic and Social Geography as well as the 9 Indicators for the living condition of the households are stated together with a total of (45) variable indices. The comparisons of the regions within the township are described as (1) the urban CBD (2) the Eastern part (3) the Western & the Southern parts and (4) the Northern part.

In the physical factors, (19) variables of the basic factors with respect to the Physical Factors, Immediate Environment , Transportation and Communication Indicators are included.

(1) Physical Indicators

The ownership of house ; types of Residential Building Structure; Availability of Electric Power Supply; Distribution of Water Supply System and Availability of Purified Drinking Water are described.

With regard to the ownership of residential houses, 63 percent of the house owned by private owners are made of wood (timber) and bamboo. Residential houses with building structure of the arrangement with rooms; thatched roofed houses with bamboo walls and earth floors amounted to 58 per cent. In the northern part of the township, bamboo huts without rooms and which are durable only for one year are found. 36 per cent of the Electric Energy Power supply is obtained from the Electric Generator and from the hydro-electric form supply. In one day the longest duration of electric supply allowed for the people to use is only 3 hours. The CBD uses the highest amount of electric power supply while the northern part of the area gets the least amount of electricity. The amount of domestic water supply received from the domestic water supply system is 27 per cent. The Eastern part received the longest amount of the distributed of domestic water supply, and most of the water is received by drawing water from the springs. 24 per cent of Purified Drinking Water is obtained from the natural Spring and stream. The use of boiled water for drinking purpose is found all over the places.

(2) Immediate Environment Indicators

With regard to Immediate Environment Indicators for the Waste Disposal System (sanitation) 52 per cent of the township use latrines. The types of toilet systematically used is water closets. The use of fly-proofed latrines was only about 12 per cent . The ordinary pit system of latrines and latrines which are not fly-proofed are also found. Waste Disposal Method is found and

57 per cent of the garbage (waste materials) are burnt and places are made clean by burning the waste materials with fire.

Conservation of forest is carried on 33 percent of the Forest Covered area. Programmes are made for 14 per cent of the conservation of ecosystem. About 11 per cent of the prevention and protection for Hazard regions in the regions of hilly mountain ranges from earthquakes, storms, floods are carried out. In using fuel, wood is used for firewood. Other fuel materials are not used. Firewood only is used for cooking and to prevent cold, wood is burned in open fire place or brazier. For this purpose 99 per cent of wood for fire is used.

(3) Transportation and Communication Indicators

As for transportation and communication Indicators within the region, in order to know the condition of transportation, expenses used for travelling within the region from one place to another by travelers have become few and it is found that only 44 per cent of the express are used for travelling allowance. Villages are living in villages near the main road 77 per cent connected to the main roads are Approach roads. There are short cut paths on the hills for the Pedestrians to go the hilly region. Motor cars are used as the means of transportation and as vehicles for the accessibility in the township. The ratios between the number of vehicles (motor cars) and the number of population are proportionately calculated. In order to travel easily by vehicles, 32 per cent the vehicles used are motor cycles. Villages at the junctions of transportation used only 30 per cent of the vehicles or motor cycles.

With respect to the News Media, only 14 per cent of the electric power energy is relatively used in watching the television. Only 7 percent of the natives of the township are regular readers of the daily newspaper. That is because news papers are not distributed regularly every day. Sometimes newspapers are piled because of less punctually of the delivery of the newspapers. In using telephone utilities of telecommunication, 3 percent of the natives or people in that township used the post office, telephone office and mobile telephones. The ratio of the households who are using the telephone for the communication amount to only (0.06) per cent.

(4) Economic Indicators

For the economic factor, the main factors concerning the well being of the households are described by the economic indicators. In assessing the income of the household per month basing on GDP value, 55 per cent of the households have an income under kyat 50,000 and 45 per cent of the households have an income ranging between (K 50,000 and K 100,000) and income above K 100,000). Regarding expenditure per month of households, 47 per cent of the households spent (K 50,000 to K100,000) per month, 53 per cent of the households spent under(K 50,000 and above K 100,000) . With regard to expenses on food per month, 81 per cent of the households spent money also on other foods as substitutes per month such as coffee, tea and snacks. It is found that the

remaining households of 73 per cent do not spend their money on coffee, tea and snacks. 22 per cent of the households, buy and eat meat and vegetables. The majority of the households live on hunting and on the cultivation of crops on their "Taung Ya" fields of shifting cultivation on the hills.

With regard to the ownership of the agricultural land (especially paddy land), 73 per cent of the households owned lands less than 1 acre of land. 27 per cent of the households owned lands with areas (ranging from 1 acre to 3 acres) and above 3 acres 65 per cent of the household are owners of poultry farms chickens and pigs are reared jointly in the livestock breeding farms. 35 per cent of the households breed chickens only. Chickens and pigs are reared on a commercial scale. 25 per cent of the households owned agricultural equipments and cattle. 74 per cent of the households owned ordinary farm implements of the ordinary farm hands such as mattock, chopping hoe and spade or shovel. Only 1 per cent of the households own agricultural machine and tractors for cultivations of crops. Households with permanent occupation are also described. For the maintenance and well being of the households, the heads of the families are also responsible for the security of their households. Some are engaged in their own business, as owners of shops, shopkeepers and some are car owners , and some owned gardens and cropland.19 per cent of the households are engaged on those jobs and occupations. 20 per cent of the households are engaged as permanent labourers who get wages during the crop growing season. 80 per cent of the households are engaged as government employees and as permanent workers.

(5) Social Indicators

In the social factors, Social life, Education, Health, Recreation and Safety Indicators have been described. In social indicators, the size of household, use of language and education, literate and development of the region are the important factors. Within the regions of Layshi Township, the size of Households is big because of their Naga tradition, custom and culture, the whole family members beginning from the Grandparents to the Great-grand children live together. Thus the household size is big. In this region the number of family from (6 to 10) amount to 58 per cent and the number of family (1 to 5) and over 10 persons amounted to 32 per cent. The language used as their mother tongue is Naga language only 69 per cent of the people can speak Naga language 31 per cent of the people can speak and use Myanmar (Bamar) language as the official language at the office and schools. That is because , people of that region who go to Naga Land of India for health and education purposes are more than the people of that region who go to the flat plain region of Myanmar for gettings health treatment and education.

(6) Education Indicators

In the assessment of the condition of education of the households by Education Indicators it had been estimated by means of the standard of the education of respondents through questionnaires 64 per cent of the respondents had attended school education up to primary level.36 per cent of the

respondents received education up to Middle School and High School levels . In the villages there are only primary schools and Post –Primary Schools. That is why in order to join and proceed to the Middle Schools and High Schools, the school children have to go to Layshi Town. For the Basic Education School Entrance Enrolment within the schools of the region a total of 65 percent of the levels are demarcated as Primary School level, Middle School level and High School level.

32 per cent of the income of the family is spent for the express on Child Education. As the distance of High Schools, Middle Schools and Primary School are very far from their houses to attend the schools, only 70 per cent of the school children can attend the schools. After passing the Matriculation High School Examination if the children want to continue their studies they can join the colleges and the Universities. 92 per cent of the students who passed the Matriculation Tenth Examination could attend the colleges and University. The rate of literacy was 63 per cent and 37 per cent of the natives can not speak and do not know Myanmar (Bamar) Language and Literature.

(7) Health Indicators

Among the native when they are sick 79 per cent of them go to the health centers or near hospitals for the treatment of their diseases. As the distance between the hospital and the houses of doctors are far from the villages, only 60 per cent of the patients are able to go to the hospitals or doctors in order to get their treatment. Only 12per cent of the native have the knowledge for personal Health Care Habit. That ratio of doctors to patients for health care is 13 per cent(13:100) and ratio of doctors to population for health care is (1:16178).

(8) Recreation Indicators

Regarding the Recreation Indicator, although 56 per cent of the income is spent for the Expenses on Entertainment expenses spent tradition festivals and recreations as well as drinking of traditional Liquor (made from fermented rice) are found through the region. For the development of general knowledge, the native go to the libraries for where there are library's facilities within the region. It is found that 6 per cent of the natives go to the Libraries to read books, journals, magazines and table, chairs (furniture).

(9) Safety Indicator

The rate of occurrence of crimes within the region is very low. As there is security within the region, the rate of crime is only (0.01) per cent . Some minor crime cases are being carried on by means of negotiations according to their traditional cultural habits and means. This shows that there are peace and security within the township of Layshi.

II. Spatial Comparison on the QOL of the Four Parts at Layshi Township

In describing the living standard (QOL) of the people living in Layshi Township by means of the Indicators, the position or ranks of the Variable Indices are classified as Very High, High, Medium, Low and Very Low.

Table(1) Classification of Quality of Life in Layshi Township

Sr .	Variable	Index
1	0.81 - 1.00	Very High
2	0.61 - 0.80	High
3	0.41 - 0.60	Medium
4	0.21 - 0.40	Low
5	.01 - 0.20	Very Low

Source: Based on UNDP Data, (2010)

The Physical Indicators of the whole township is low. However (1) firstly in CBD of the township the indicator is the highest (2) the second largest is found in the Western and Southern part of the township whereas (3) the least indicators are found in the Eastern and Northern part of the town.

As for the Immediate Environment Indicators: the indicators of the whole Township is medium. In the Northern part , the indicator is the highest . The second highest indicator is found in the Western and Southern part. The third highest indicator is found in the Eastern part. The least indicator is found in the CBD.

Regarding the Transportation and Communication Indicators, the indicators of the whole township is low. However the indicator is the highest in the Northern part of the township. The second living is found in the Eastern part and the third highest indicator is found in the CBD and the least is found in the Western and Southern parts.

As for the Economic Indicators, the indicators of the whole township is medium. However the highest indicator is found on the Eastern part . The second highest is in CBD and the third highest is in the Western and Southern part while the least indicator is found in the Northern part.

The Social Indicators, the indicators for the whole township is medium. The highest indicator is found in CBD; the second highest is the Eastern part and the third highest is in the Western and Southern part. The least indicators is found in the Northern part of the township.

For Education Indicators, the indicator of the whole township is low. The indicator is highest in CBD. The second highest is found in the Eastern part; the third indicators are found in the Western and Southern part and the least indicator is found in the Northern part of the township.

For Health Indicators, the indicator for the whole township is very low. It is highest in CBD. The second highest is in the Eastern part; the third highest is in the Western and Southern part and the least indicator is found in the Northern part of the township.

For Recreation Indicators, the indicator for the whole township is very low. The highest indicator is found in CBD. The second highest is found in the Eastern part. The third highest is in the Western and Southern part .The least is in the Northern part of the township.

For Safety Indicator, the indicator for the whole township is very high. CBD has the highest indicator. The second highest indicator is found in the Eastern part. The third highest indicator is in the Western and Southern part. The least indicators are in the Northern part.

By classifying the rank of values the places with the low rank indicator are supplemented. For very low indicators, they are supplemented. Moreover they are the villages on the borders of Myanmar and they are guarding the area . That is why, it is necessary that programmes should be made not to let the natives of the region leave the area Emigration to other places should be prohibited.

Table(2) Situation of QOL Indicators in Layshi Township, 2012

Sr.	QOL and Indicators	Situation by regions at Layshi
1	QOL with respect to Physical Indicators	CBD > W&S > E > N
2	QOL with respect to Environmental Indicators	N > W&S > E > CBD
3	QOL with respect to Transportation & Communication Indicators	E > CBD > W&S > N
4	QOL with respect to Economic Indicators	E > CBD > W&S > N
5	QOL with respect to Social Indicators	CBD > E > W&S > N
6	QOL with respect to Education Indicators	CBD > E > W&S > N
7	QOL with respect to Health Indicators	CBD > E > W&S > N
8	QOL with respect to Recreation Indicators	CBD > E > W&S > N
9	QOL with respect to Safety Indicators	CBD > E > W&S > N

QOL with respect to nine Indicators = CBD > E > W&S > N

Table (3) Quality of Life at Layshi Township

Sr.	Indicators	CBD	Eastern	Western/ Southern	Northern	Township
1	Physical	L	L	L	L	L
2	Environment	L	M	M	M	M
3	Transportation/ Communication	L	L	L	VL	L
4	Economic	M	H	M	L	M
5	Social	H	M	M	M	M
6	Education	L	L	L	L	L
7	Health	VL	VL	VL	VL	VL
8	Recreation	L	L	VL	VL	L

9	Safety	VH	VH	VH	VH	VH
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Source: Based on Field Observation,2012

Index; L= Low, VL= Very Low, M= Medium, H= High, VH= Very High

III. Variation of the Resident's Opinion in different parts of Layshi Township

Relationship of Indicators and Variables on QOL within Layshi Township, in order to find out whether there is or there is not satisfactory relationship between each variable, Spearman's Rank Correlation Coefficient (with the formula) $r^s = 1 - \frac{6\sum d^2}{n^3 - n}$ was being used and calculated. Within the region of Layshi Township each of the QOL Indicators are measured in order to find out whether there is satisfactory QOL or not depending upon the demands of each individual variable. If there is a stage for the relationship between the digits, the digits are demarcated varying from (- 1 Negative Correlation to +1 Positive Correlation.

If the Index value is (from +0.01 to +1 .00), it has direct relationship with the indicators of (Very High, High, Medium, Low, Very Low). The Index value (from -0.01 to -1.00) has indirect relationship with the indicators of (Very High, High, Medium, Low, Very Low).

It is found that the relationship of Physical Indicators which is low and Electric supply of (+0.8) and Water Supply System of (+0.6) have direct high positive correlation.

It is found that the relationship of Immediate Environment Indicators which is (Medium) and Forest Area Cover of (+ 1.0) with perfect positive correlation have direct relationship . The values of types of toilet (-0.8) conservation of Ecosystem (0.8) Prevention of Hazard (-0.8), Use of Wood for fuel (-1.00) have direct relationship.

Transportation and communication Indicator which is Low, and if it is Near the Main Road (+ 1.00) , Transportation at Junction (+0.8), Telephone Utilities (+0.8).Accessibility by Vehicle (+0.8)TV watching (+0.8), Telephone Utilities (+0.8), there is direct high positive correlation. Moreover if the indicators for Regular Delivery and Reading of Newspaper is (+0.04) then there will be some positive correlation.

As for Economic Indicators which is Medium and Ownership of Agricultural Land is 1acre (+0.8), Household Income per month (+0.6); Expenses on other things per month (+0.8) ,Expense on Food including meat and vegetation (+0.8) ,Ownership of Business and Enterprise (+0.8), Permanent Labourers (+0.8), are directly related and have high positive correlation. Expenses on Food (- 0.8) , Owners of Poultry Farms(-0.6), Household Expenditure per month (-0.8) have high negative correlation and are indirectly related.

As for Social Life Indicator (Medium) and Use of Language (Naga and Bamar)(+0.8) , there is direct high positive correlation. Household Size (-0.4) and there are some negative correlation. It is found that although there is indirect correlation the relation is weak or poor.

As for Education Indicators (Low). The distance from High School(+0.8) Education of Respondents (+0.8), Expense on Child Education (+0.8), there is direct and high positive correlation. The Literacy Rate is (-0.6) Distance to College(-1.00), Basic School Enrolment (-0.8) and thus there is indirect high negative correlation.

As for Health Indicators (Very Low) . Treatment for Disease (+0.8) , Distance from Hospital(+0.8). There is direct high positive correlation. The Ratio of Doctors to Population is (-0.8), there is indirect high negative correlation.

As for Recreation Indicators(Low). Those who go to Library in order to read (+1.00), Library Facilities (+1.00) . There are direct high positive correlation. Expense on Entertainment (-0.8). There is indirect high negative correlation.

Safety or security Indicators(Very High), and with crime rate (+0.8) , thus there is direct high positive correlation.

Table(4) Spearman's Rank Correlation Coefficient (r^s) of Indicators and Variables of QOL

Indicators	Name of Variable	Code	r ^s
Physical	Wooden House	WOHOSE	0.2
	Building Structure	BLDSTR	0.4
	Electricity supply	ELECTSP	+0.8
	Water Supply System	WASUSY	+0.6
	Drinking Water	DURWAT	0.4
Immediate Environment	Types of Toilet	TYPTOI	-0.8
	Waste Disposal Method	WASDISM	-0.2
	Forest Area cover	FORARE	+1
	Conservation of Ecosystem	CONECO	-0.8
	Prevention of Hazard	PREHAZR	-0.8
	Use of Wood for Fuel	NOWOFL	- 1
Transportation & Communication	Does Travel Cost	TRAVCO	0.8
	Has Near Main Road	MAIROA	+1
	Approach Road (on foot)	APROFOT	0.4
	Accessibility by Vehicle	ACCVEH	0.8
	Transportation at Junctions	TRAJUN	0.8
	TV Watching	TVWATH	0.8
	Regular delivery and Reading of Newspaper	REGNEW	0.4
	Telephone Utilities	TELECON	0.8
Economic	Expenses on Food	EXPFOD	-0.8
	Ownership of Agricultural land(1)Arce	OWAGLA	0.8
	Owners of Poultry farms (Chicken+pig)	OWPOUL	-0.6
	Agricultural Equipment	AGEQUI	0

	Household Income/month	FAINCOE	0.6
	Household Expenditure/month	FAEXPEN	-0.8
	Expenses on Other things /month	EXPOTHE	0.8
	Does eat meals & vegetation	EATME&VE	0.8
	Ownership of Business & Enterprise	OWNBUS	0.8
	Permanent Labourers	PERLAB	0.8
Social Life	Household Size	HOHSIZE	-0.4
	Language (Naga+Bamar)	LGNA&BA	0.8
Education	Distance to College	D_COLLE	-1
	Distance from High School	D_HIGSCO	0.8
	Basic School Enrolment	BSCOEN	-0.8
	Education on Respondents	EDURES	0.8
	Literacy Rate	LITRATE	-0.6
	Expense on Child Education	EXPCEDU	0.8
Health	Treatment on Disease	TREDISE	0.8
	Distance from Hospital	D_HOSPI	0.8
	Personal Health-care Habits	PREHEAL	0.4
	Doctor: Population	DOCPOP	-1
Recreation	Expenses on Entertainment	EXPENTE	-0.8
	Does go to Library	DOLIBR	+1
	Is Library Facilities	LIBRFAC	+1
Safety (or) Security	Crime Rate	CRIMRAT	+0.8

Source: Calculation based on field Observation, 2012

IV. Analysis on the Comparisons of the Indices of Layshi Township and Sagaing Region in Myanmar

Under the heading , the condition of the daily social life and well-being of the native living within Layshi Township are correlated and analyzed for the indicators Obtained from the findings according to the indicators of Sagaing Region, Myanmar in 2011 with the indicators of Layshi Township in 2012.

(1) In Myanmar, the rate of residential houses with bamboo walls and earth floors amounted to 8.5 per cent and in Sagaing Region they amounted to 24.30 per cent and the rate of rank is 1st place. The rate of residential houses with bamboo walls and earth floors amounted to 58 per cent. In Naga Region of Layshi Township, as the region produces timber, and bamboos which are easily available, 33.7 per cent of the residents build their houses with bamboo wall and thatched roofs and earth floors. The largest number of houses with corrugated roofs are found in the villages situated on the western part of the township along the road at the border of India.

(2) In Myanmar, ownership of houses amounted to 94.20 per cent and in Sagaing Region, ownership of houses amounted to 96.00 per cent and the rank of ownership of houses is 10th in position. In Naga Region of Layshi Township the rate of ownership of houses amounted to 63 per cent and it is less than the average ownership of houses by 33 per cent. In the "Taungya" fields, there are temporary huts with only the roofs and without the walls. The huts are durable only for 1 year such temporary huts are owned and built by 37 per cent of the people engaged in "Taungya" cultivation.

(3) In Myanmar the rate for convenient availability of drinking water is 62.60 per cent and in Sagaing Region it is 59.90 per cent and the rank for getting drinking water conveniently is 10th in position. In Layshi Township of Naga Region the rate of availability of drinking water is 24 per cent. It is less than the average availability of drinking water by 35.90 per cent. It is found that during summer and winter drinking water becomes scarce and it even runs out. Within Layshi Township drinking water is obtained from waterfalls, springs, and springs after filtering and boiling the water.

(4) In Myanmar the rate of availability of Electric power supply is 38.00 per cent and in Sagaing Region is 32.90 per cent. The rank of the rate in availability of electric power supply is 10th in position. In Layshi Township within Naga Region the rate of getting electric power supply by means of (generators and solar energy and hydro-electric supply) is 36 percent. Although it can be obtained by using big generators and by installing small hydro-electrical generators in small villages, and by installing solar plates, the use of electricity in Layshi Township is less than the average use of electricity in Myanmar. It is also found that it is 32.9 per cent less than the electric power supply received from the main electronic power lines.

(5) In Myanmar the rate of sanitation system (Latrine) practiced and used is 67.30 per cent and in Sagaing Region is 72.20 per cent and the rank for the use of sanitation System (Latrine) is 7th in position. In Layshi Township of Naga Region the rate of Sanitation System use (Latrine) is 52 percent. In villages within the township it is found that the use of fly-proofed (Latrine) is less 20.20 per cent.

(6) In Myanmar the rate of ownership of Telephones is 3.10 per cent and in Sagaing Region it is 1.4 percent and the rank of the rate of ownership of the telephones is 14th in position. In Layshi Township of Naga Region, the rate of ownership of mobile phones is 0.06 per cent. It is found clearly that it is less than the rate of the average ownership of telephone. For communication lines, there are only post office and telegraph offices but the telephone lines have not been installed. Beginning from the year 2011, there are only 98 mobile telephones in the whole of the township. As for the climate and weather of the township as it is on the mountainous region, it receives many heavy rainy days. That is why communication by means of the mobile phones is weak.

(7) In Myanmar ,the expense on food for the households was 69.40 percent and in Sagaing Region it was 75.20 per cent and ranks 15th place on the expenses spent on food for the households. In Naga Region the expenses on food for the households of Layshi Township was 81 per cent. As the occupation of the households depends on "Taungya" Shifting Hill Cultivation and as it is carried on a subsistence basis mainly, the Expenses on Food is 5.2 per cent higher. Out of the Food, expenses on traditional drinks and alcoholic drinks are mainly used as a kind of intoxicating brew known as "Hkaung Yay".

(8)In Myanmar expenses of households not on Food but on other uses is 30.60 per cent and in Sagaing Region expenses on non-food material is 24.8. percent. The rank for the expenses on the non-food materials by household is 14th. In Naga Region, expenses spent on non-edible materials by households within Layshi Township is 26 per cent. Expenses which can be spent by households on the education of children, household health, giving of religious offering and alms which amounted to about 1.2 per cent.

(9) In Myanmar (50.2) percent of the people of the people are engaged in cultivation of crops, Livestock farming, hunting and forestry and in Sagaing Region 61.20 per cent of the people are engaged in crop farming, livestock breeding, hunting and forestry and the rank in the occupations with respect to cultivation of crops, livestock husbandry and forestry is 5th in position. People engaged in crop farming, animal husbandry hunting and forestry amounted to 82 per cent . In Layshi Township as there are few job opportunities for other occupations the natives there depend mostly in jobs connections with forestry. Thus it is found that people engaged in forestry are more than the average workers of other occupations by 20.87 per cent.

(10) In Myanmar the acreage of land owned by peasant farmers is 6.10 acres and in Sagaing Region. It is 7.90 acres. The rank of the acreage of land owned by farmers is 2nd position. In Layshi Township within Naga Region 73 per cent of the farmers owned lands less than 1acre. As " Taungya" Shifting Hill Cultivation is carried on every year, the lands (forest lands) are to be cleared by cutting trees from the forest . Before crops are cultivated . As the lands become paddy fields on the highlands the expenses for the cost of changing the forest lands to the crop lands become very high the ownership of the average cultivated cropland acreage is less than 5.1 acres.

(11)In Myanmar the rate of ownership of agricultural equipment and implements is 63.70 per cent and in Sagaing Region it is 66.10 per cent and the rank for the rate of ownership of agricultural implements and equipment is 9th in position. In Layshi Township of Naga Region the rate of ownership of agricultural implements is 25 per cent. It is found that in Layshi Township the ownership of agricultural implements are less than the average stage of ownership by 41.10 per cent. The agricultural implements used by each individual farm worker are mattock, hoe, and spade. The majority of the villages (natives) are engaged in "Taungya" shifting cultivation and Upland Paddy

Cultivation (Hill Rice Farming). In the Hill Region use of animals for ploughing and narrowing the fields are very few.

(12) In Myanmar, the rate of ownership of mechanized agricultural equipment and implements is 15.90 per cent . In Sagaing Region it is 18.20 per cent and the rank for the rate of ownership of mechanized agricultural implements is 14th in position. In Layshi Township of Naga Region the rate of ownership of mechanized agricultural implements and equipments is 1 per cent only. The ploughing of agricultural lands by the use of mechanized implements and equipments by one or two farmers who lived in the Eastern part of Layshi Township. It is found that the use of mechanized agricultural equipments and implements are less than those of Sagaing Region and Myanmar by 18 percent.

(13) In Myanmar, the households which own and breed pigs and chickens (poultry) is 44.30 per cent and in Sagaing Region it is 48.30 per cent. The rank of the households who own pigs and chickens is 10th in position. In Layshi Township of Naga Region, the households who own pigs and chickens is 65 per cent. It is more than the average rate of ownership of pigs and chickens by 16.7 per cent because pigs and chickens are reared in order to eat them in their homes. A few pigs and chickens are reared only for commercial purposes.

(14) In Myanmar the average number of households was (5.50) . In Sagaing Region, the average number of household was (5.20) and the average households for region was 5 persons and above. Out of 17 regions of Myanmar, it ranks the 10th place. In Layshi Township of Naga Region, the average households is between (6-10) persons and there are 65 percent of the households of Naga people. As the social habit and custom of Naga people , member of the family live together consisting of members from the Grandparents up to the great grand children. That is why the size of the family and household is large.

(15) In Myanmar the Literacy Rate of Myanmar among the heads of the households ranks 88 per cent and the Literacy Rate of Sagaing Region is 39.30 per cent and it ranks fifth place among the Literates of Myanmar. In Naga Region, the Literacy Rate of Layshi Township was 60 per cent. The average Literacy Rate of the Heads of the households and the Literacy Rate was 20.7 per cent and the literacy is high because they had attended the Primary Schools in their villages. It is found that they could not attend the Middle School Level of Education in CBD and on other regions.

(16) In Myanmar, the rate of enrolment of schools for education is 88 per cent and in Sagaing Region it is 53.56 per cent . The rank of rate for admission to schools is 10th in position. In Layshi Township the rate of enrolment for admission to schools is 65 per cent .Although the rate of enrolment for the admission to Primary Schools are high, the rate of enrolment for the admission to Middle Schools and High Schools amounted to only 10 per cent.

(17) In Myanmar the Teacher - student Ratio is (1:33) and in Sagaing Region it is (1:30) and the rank for the Teacher - student Ratio is 6th in position. In Layshi Township of Naga Region, the Teacher - student Ratio is (1:30). The strength of the full-time teachers who serve at the Middle Schools and High Schools weak and number of the teachers is few. The number of students attending the schools is small and it is found that the teaching aids and materials are also lacking.

In Layshi Township there are 63 Primary Schools, 7 post -Primary Schools and 3 High Schools. There is no Middle Schools. If the students want to attend and go to the Middle Schools and High Schools they have to go to the township of Layshi and sub-township of Swammara which are very far for their villages. To attend the schools, the expenses for boarding and messing are very dear and thus it is found that the rate of students attending the schools is decreasing.

(18) In Myanmar inoculation of medicines for health is 80.30 per cent and in Sagaing Region it is 78.80 percent. The rank for inoculation of medicines for health is 10th in position. In Layshi Township of Naga Region the inoculation of medicines for health 78.50 per cent. The rate of inoculation is nearly the same as for the whole township but as it is a hill region, the common disease of Malaria and Eye disease cannot be prevented and cured totally.

(19) In Myanmar the number of doctors engaged in the health departments is 2.02 per cent and in Sagaing Region it is (5.15) the rank for the number of doctors who are engaged in the health services is 11th in position. In Layshi Township of Sagaing Region, the number of doctor who is engaged in the Health Services is (1) and the ratio of doctor and population is (1:16178)

(20) In Myanmar the number of nurses engaged in Health department is (3.16) per cent and in Sagaing Region it is (1.45) per cent. The rank of the number of nurses engaged in the health services is 16th in position. In Layshi Township the number of nurses is (12) and the ratio of nurse and number of population is (1:1348).

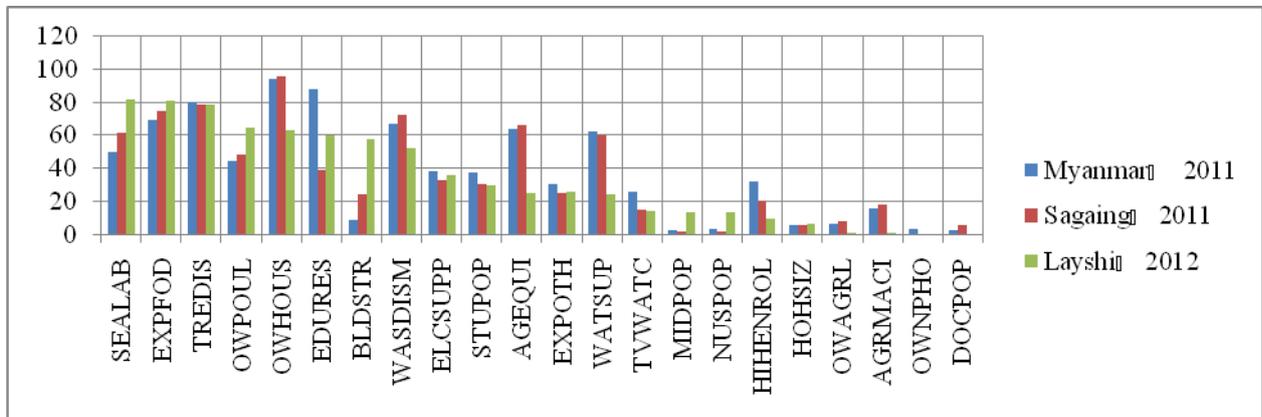
(21) In Myanmar the number of Mid-wives engaged in the health department is (2.20) per cent and in Sagaing Region it is (1.96) per cent. The rank of the number of Mid-wives engaged in the health service is 8th in position. In Layshi Township the number of Mid-wives is (12) and the ratio of the number of Mid-wives to the population is (1:1348).

(22) In Myanmar the rate of ownership of Television is 25.7 percent and in Sagaing Region it is 15.20 per cent. The rank for the rate of ownership of TV is 13th in position. In Layshi Township of Naga Region the rate of ownership of TV is 4 per cent. It is found that the rate of ownership is very few and it is less than the rate of ownership of TV by 10.20 per cent. As the availability of electric power is few the ownership of Television and watching of TV is few.

In Layshi Township it is found that in the medical health services specialist doctors are needed. Nurses are also needed. Nurses are also needed in all villages. In all the villages medicines,

instruments needed in the operation theatre are also lacking. Importing of knowledge and education for personal hygiene are also required. Although Layshi Township lies in Sagaing Region but as it sits at the extreme edge of the boundary between India and Myanmar. There are problems of difficulties regarding transportation, as well as large expenses on transport. It is found that there are differences in the average condition with the indicators of Sagaing Region in Myanmar.

Figure (2) Comparisons of the Indices of Layshi Township, Sagaing Region and Myanmar



Source; National Planning and Economic Department, Myanmar and Field Observation Data, 2012

Analysis of the comparison of the HDI Index of the neighboring countries of Myanmar, during the year 2011, according to HDI of UNDESA (2011), Barro and Lee (2010), UNESCO Institute for statistics (2011), World Bank (2011a) and IMF (2011), the Human Development Index of Myanmar was (0.483) and in the rank of South East Area, the rank of Myanmar was 149. That is why it had been demarcated as it has low Human Development. The rank of Myanmar and its neighboring country of India had the rank of (134) and the India Index number was 0.547. The rank of Thailand was 103 and China was (101). Its Index number was (0.687). That is why it was found that it had the rank of Medium Human Development.

V. Layshi Township of Naga Land :SWOT Analysis

Strengths--Abundant Fertile land, Agro climate conditions for diversified cropping, Organic by default, Rich biodiversity, Abundance of mineral reserves

Weaknesses--Uncertain political environment, Substance agriculture, Traditional Land holding, Poor state finance and inadequate taxation, Inadequate road and power, telecom infrastructure, Lack of effective credit mechanism, Weak market linkage for agro –products, Under developed trading and marketing centre, Educated unemployed youth, Widespread use of only Naga Language.

Opportunities-Organic farming for international markets, Timber and non- timber forest product, Species , horticulture and agro –processing, Medical , aromatic plants and floriculture, Animal husbandry and fisheries , Mineral and other natural resources, Physical proximity to ASEAN countries

Threats-Inadequate food security, Possible increase in rural unemployment, Market-related with cash for crops as well as supply and demand of crops, Delayed development of infrastructure , Migrant labourers in the foothills.

Conclusions

In this research paper, if the QOL Indicator of Layshi Township and the related concessions are analysis, with respect to the physical Indicator (Low), in order to get the Electric Power Supply Projects and Plans for the construction and installations of the Great Power Lines should be made and carried out. In order to have good Water supply System, Systematic irrigation system should be operated. In conserving the Forest Area excessive cutting of trees should be prohibited and by reducing the area of Taungya Shifting Cultivated lands to a systematic system of upland Rice Cultivated Lands can be carried on stations or Bus stops or Terminals for Vehicles to rest .Moreover, knowledge of the new methods of crop farming should be imported to the farmers of the township. Near and along the main roads, extension and expansion of roads should be carried on so that there may be improved upgraded roads and highways. Moreover there should be ware houses or go-downs at the bus stops pr terminal points so that goods ar commodities can be stored before sending them to their destinies. Such places for rest should be constructed especially aat the junctions of the crossroad. Accessibility of vehicles should be smooth and the time of arrival and departure for the vehicles should be punctual and regular. In watching mains by Television, and listening the news and good music programmes, good electric generators and transformers should be installed . Similarly,as the township has only mobile phones as telephone utilities and as there is no telephones connection with cables the numbers of mobile phones should be sold and distributed to the villages.

In Economic Indicator (Medium) there should be more areas in ownership of the agricultural land. In this sector as most farmers own only 1 acre of cropland , the farmer may not receive adequate amount of the crops or money. There should be an increase in the household income per month in order to be able spend on other general items needed for the family. By getting sufficient income the villages can eat meals with meat and vegetables regularly. In this township there are also people who own their own business with permanent employees and laborers. The households mostly spend their income on food. In order to reduce their expenses on food some of the villages breed animals for their livelihood. By carrying out the livestock farming they can spend more many on Food or on any thing that they want. Although the Economic Indicator shows that it is in the medium

level, when it is compared with the expenses of Myanmar as a whole this township still needs to be upgraded in order to reach the living standard level of Myanmar.

With regard to the social life Indicator (medium) and the use of the languages of Naga and Barmar, the households of Nagaland should learn Myanmar language and literature more than their own language and literature. For the illiterates the 3 Rs classes should be opened for them.

In education Indicators (Low) sector, there are difficulties and problems for children attending the high schools from their villages are very far. There are lack of sufficient teachers, lack of teaching aids and lack of sufficient income for the parents of the families. In order to spend money for the expenses on child Education. In order to increase their incomes, in order to educate their children the parents and elders of the households should create and should be engaged in cottage industries and in handicraft industries. More teachers should be employed in the schools in order to solve the problem of insufficient teaching staff.

For Health Indicators with (Very Low) value, treatment of diseases should be given to the patients by the doctors, nurses, and mid-wives efficiently. As the distance of the hospitals are very far from the villages there should be sufficient doctors and nurses as well as mid-wives to give good treatment and medical care to the patients. Medicines and good medical aid should be given to the patients.

For Recreation Indicators with (Low) value by going to the Library one can learn to read books on health, education and can get general knowledge regarding health, education, agriculture and economic knowledge. There should be good library facilities in the library. Books, Daily Newspaper, Journals, Chairs, Seats and other media related with computer and Internet should be kept. For Safety Indicators (Very Low) or security measures should be taken and the occurrence of crime and the crime rate should be reduced.

In Myanmar, out of 48 Millennium Development Goals (MDG) Indices, the ratio of people earning less than one American Dollar (1 \$) per day should be reduced to half. The ratio of hungry starving people from famine should also be reduced to half. All the boys and girls (of schooling age) should get Primary School level of education. There should be equal rights in education for the Men and Women too. Death and mortality of children under 5-years of age should be reduced to two-thirds. The spread of fatal diseases such as Malaria and HIV /AIDS should be stopped, eliminated and reduced. There should be less loss in the reduction of natural environment and loss of mineral resources. Knowledge for use of safe purified clear drinking water should be given to the ignorant poor people. Clean sanitation system should be carried out in the township especially in the poor wards. In order to reduce the problems of debts of the poor people living in the wards, creation of jobs for them should be implemented. Distribution of medicine should be given to the poor people. Only when the benefits of getting news and new technologies are known and also only when jobs are

created as a strategy for the poor, by 2015, the Layshi Township can be upgraded to reach the goal of Medium Human Development Level according to HDI (Human Development Index).

Suggestions

In order to calculate and measure the Human Happiness Index (HHI) of Layshi Township situated in the autonomy of Naga Land within Sagaing Region of Myanmar, the following suggestion are ;

- Formulation and implementation of a comprehensive agriculture and forest Policy.
- Development through operations of the relatives of Bamboo; encouragement of organic farming; establishment of storages processing and marketing of agro-produce.
- Promotion of industries based on agriculture, forestry and mineral resources and indigenous skill in weaving and craftsmanship
- Strengthening of the Village Development Boards
- Heavy Investment in infrastructure development and connectivity through State Road Policy
- Improvement in power generation and distribution network
- Investment in technology to witness sustained progress in the spheres of economic activity and basic services.
- Setting up and nurturing centers of learning and active research including for strengthening knowledge- basic economy
- Revival and reconstruction of traditional institutions
- To Develop the tourism as an industry
- Explore possible social security network to ensure equal access of quality education and medical services.
- Continued focus on Government reforms

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