Infrastructural Development for Improving Livelihoods of Rural People: A Case Study of Kanchanpur District, Nepal.

Umesh Kumar Bohara

Teaching Assistant

Jumla Multiple Campus, Jumla

umesbohara@gmail.com

Abstract

Infrastructures are the vital prerequisite and utmost essential elementsof physical change and social development. It is a backbone of a economic development as well as a catalytic component for progress and welfare in the lives of rural poor residents. In this connection the infrastructural development play a crucial role in reducing poverty and lay the foundation stone intended for rural development and economic acceleration in remote areas of the society in every developing and underdeveloped third world. In this study the relationship between availability of infrastructures and quality living and means of subsistence is analyzed in concrete ways. The study summarizes that abundance number of basic infrastructures like drinking water, transportation, irrigation, information and communication, health services and educational institutions has the great influence on the better living conditions and livelihoods of poor people. In essence, the presence of indispensable rural infrastructures has great impact on the livelihoods of rural people in Nepal.

Key words: Infrastructure, Rural Development, Livelihoods, Poverty

Introduction and Issues

Infrastructure also contributes to inclusive rural development. People have access markets, and basic services that they need. Infrastructure also increases the opportunities of employment and off-farm activities; this increases the purchasing power, consumption pattern, and saving capacity of the people leading the reduction of poverty.

Carney (1999) points out that about 70% of the world's poor live in rural areas. Though urban poverty is rising, the correlation between poverty and remoteness from urban centres is strong in most countries and it is

expected to remain so until at least the second decade of the next century. Clearly therefore the International Development Target of halving the number of people living in extreme poverty by 2015 will be achievable if the problem of rural poverty is confronted head-on. Rural people are not only isolated from economic opportunities. They also tend to have less access to social services such as health, sanitation and education; for example, it is estimated that around 1 billion rural households in developing countries lack access to safe water supplies. Moreover, knowledge of rights and information about the way governments function is notably lacking in rural areas. in rural areas a) the poor are small farmers and b) agriculture acts as the engine of growth, investing in agriculture has long been seen as a means of simultaneously addressing both growth and equity issues.

Molden et al. (2001) gives the detail picture of the world scenario of rural population that in 1995, the world's rural population was estimated to be 55 percent of its total population. While this represents a decline of 10 percent from the proportion of rural population in 1965 (estimated to be 65%), in absolute terms, the rural population has increased from 2.1 billion in 1965 to 3.1 billion in 1995. The world's rural population is projected to grow at a slower rate over the coming decades, due to rapid urbanization and industrialization, particularly in developing countries. The total rural population over the next 30 years is projected to increase only by 6 percent, from 3.1 billion in 1995 to 3.3 billion in 2025.

Approximately half of the population of world is living in rural areas. According to the data released by the United Nations Department Of Economic And Social Affairs Population Division out of total world population 49.9 percentage of people live in rural areas of different countries, the world's least developed countries has the highest percentage (71.3) of rural population followed by developing countries (53.4%), developed countries has only small portion (25.1%) of population. The population of the developing world is still more rural than urban, some 3.1 billion people or 55 percent of the total population, live in the rural areas. (IFAD: 2011)

Shisodia(2006) points out that rural development as a process aimed at improving the well being of the people living outside the urbanized areas. Singh (1991) conclude that rural development is a strategy to enable a specific group of people, poor rural women and men to gain for themselves and their children more what they want and need. It improves helping the poorest among those who seek a livelihood in the rural areas to demand and control more of the benefits of rural development.

A well formulated plan to develop rural infrastructure focusing on agriculture, trade and tourism, will yield, huge returns and contribute enormously to the overall development of the region. The infrastructure is the backbone of an economy and the role of infrastructure in improving quality of life is well acknowledged.Better access to social and economic infrastructure not only enhances production and productivity in agriculture but also leads to a reduction in wastage. (Karmakar 2008)

Oraboune (2008) argue that importance of infrastructure as, improvement of rural road seems to be a clear means by which large number of people especially rural people

might acquire the opportunity to participate in the market economy and thereby raise themselves out of poverty. According to him there is a close link between village connecting roads and poverty reduction through increase in income opportunities to rural people. He further emphasize that rural connecting road provides market access opportunities to rural farmers and they can develop market linkage with other stake holders in the economy. This helps the farmers diversify their income sources as they have linked with more variety of functional livelihood value chain system.

Pramod and Ballal (1991) agree that close involvement of the people in the planning and implementation of the basic needs and anti-poverty programmes are essential for success. Finally they recognize that transfer of technology, education and training are very crucial to increase the sustainability of the development programmes.

Awareness of livelihoods and diversity can lead to the better formulated rural poverty reduction policies than those based conventionally on sectors and sub sectors(Ellis; 2000) .The adequacy of infrastructure helps to determine the states success or failure in agriculture in terms of level of production and diversifying the sector. He also explains that many people, especially the rural poor, and areas do not have access to even minimal infrastructure services. He adds further if a nation aspires to attain maturity in economic growth; it must give a big push to upliftment of the network of physical infrastructure like energy, transport, etc (Bhatia; 1999).

Fan and Zhang (2004) found that about more than 70 percent of population in rural areas depend upon land for their livelihood;

people in rural areas prefer to invest their surplus earnings in purchasing land.

Improvements in living standards of rural people that we act only in one field, say education which will automatically create enthusiasm and faith to act in all other fields, providing a cascading effect to all side emancipation of rural people (George; 2010).Donnges et al. (2006) examine that access is only improved if road investments result in positive changes in transport. Benefits may then arise from improved access to markets and jobs. They describe again other benefits may result from improved transport services, reduced travel and transport costs and employment created during construction and maintenance. Li and Liu (2009) found in their study that rural infrastructure not only provides essential agricultural production conditions such as roads, telecommunications, powers and irrigation systems, but also provides education and medical services related to enhancing the quality of life of rural labors.The importance of rural infrastructure has been a crucial to promoting economic growth and development. He also suggested that the development of rural infrastructure must be seen as an integral part of the entire economic growth and development (Bulus&Adefila; 2014).

Gunatilaka (1999) identifies the poverty reduction measures that rural poverty needs to incorporate policies to develop both production-oriented and welfare-oriented infrastructure, in order to improve poor people's productive capacity and quality of life. Providing services such as irrigation, power and transport in rural areas would open up new opportunities for diversifying incomes and employment in backward areas.

Chandra (2006) points out that development of agricultural and rural areas is both a big challenge and a lifetime opportunity before the political masters, planners, bureaucrats and the people at large o prove that they are fully and truly connected to transferring villages into a very dynamic and vibrant socio-cultural and economic entity. Rural development planning the schemes are 'supply' based and not 'demand' based to achieve acceptability and active participation of the targeted beneficiaries. It is needless to emphasize that the schemes and projects should be 'demand' based (Azad; 2006).

Douglas et al. (1986) describe the importance of rural infrastructure as it plays a significant role in agricultural development, the availability of electricity, roads; markets and credit are all part of the rural environment in which farmers make decisions about cropping practices. First, access to infrastructure has an impact on farming practices, second, the adoption of new farming practices, including hybrid seeds and fertilizers in turn have an impact on agricultural yields.

Naranyanamoorthy et al. (2006) in their empirical survey research of 256 districts in India found that the district having value of agricultural output above the average are better placed in terms of rural infrastructure development (irrigation, road, literacy, school facility, rural electrification, fertilizers) than other districts. This implies significant scope for increasing agricultural output by improving rural infrastructure such as irrigation, roads, education, and electrification etc.

Cheema (1985) highlights that each country in Asia several policies, programmes and projects have been introduced to increase

agricultural productivity; raise income and living standards of rural people, provide employment opportunities; facilitate the participation of the people in local decision-making; and increase access of the rural poor to government facilities and programmes.

Donnges et al. (2005) in their Integrated Rural Accessibility Planning in Nepal Guideline revel that a new Local Infrastructure Development Policy was approved in late 2004 in Nepal. This policy covers infrastructure for local transportation, irrigation and river control, small hydro power and alternate energy, drinking water, sewerage and sanitation, housing, building and urban development, management of solid waste and social infrastructure including government offices, health, education etc.). The policy aims at increasing the participation of the local people in physical and social infrastructure development to enhance the social services, economic opportunities and mobilization of local resources.

Dev et al. (2003) in their study of Community forest in Nepal suggest poverty reducing manners and sustainable income for better livelihoods as community forestry can open up new livelihood opportunities for Forest Users Group members, for example the cultivation of the spice cardamom or the tapping of resin in the forest. In such cases, a critical issue is the distribution of these benefits amongst different groups in the FUG. Thus, the sustainable level of 'income' can be improved, with fewer concerns about gathered forest products and/or more secure livestock production.

Study Area

Nepal lies in the transitional region between Indo-Malayan and Palearctic bio-geographical realms. Its unique geographical position and the altitudinal and climatic variations have resulted in nine bio-climatic zones, from tropical to naval within a vertical span of less than 200km. Most of Nepali territory (86%) comprises of the hills and mountains. (Nepal Status Paper; 2012)

Nepal is of almost quadrilateral shape, approximately 800 kilometers long and 200 kilometers wide. It lies between latitudes 26^0 and 31^0N, and longitudes 80^0 and 89^0E. Naturally, Nepal is divided into three geographical areas: Mountain, Hill and Terai(plain belt). These ecological belts extend east-west and are vertically crossed by Nepal's major, north to south flowing river systems.

The southern flat plains or Teraineighboring India are part of the northern edge of the Indo-Gangetic plane. This is the main arable land of Nepal and irrigated by of three main Himalayan rivers. This region has subtropical to tropical climate zones. The northern hilly and mountainous part is linked with Tibetan Pleatu of Chinese autonomous region. Nepalofficially the Federal Democratic Republic of Nepal, has 7 number of newly devised provinces is a landlocked located in South Asia, with an area of 147,181 square kilometers (56,827 sq mi) and a population of about 27 million(CBS, 2011). Nepal is the world's 93rd large country by area and the 41st most populous nation. (World Population Data Sheet; 2017)

Nepal is very poor country in the world, Nepal's 10th Five Year Plan set out the overall national development objective of reducing poverty from 31% to less than 21 % by the end of 2015, but this goal is not achieved so far yet. The Millennium Development Goal progress report currently estimates Nepal's poverty rate to be at 25.4% (MDG progress report 2010, UNDP). This figure however is contested by another report (MPI-UNDP/OHPI 2010) which states that Nepal's current poverty rate is at 65% which is significantly higher than what the former report states. This also goes to further prove that Nepal still has quite a few challenges in overcoming poverty and therefore the poor and inadequate infrastructure issues are main cause of misery and distress of Nepali people, thus special focus should be to poverty alleviation from rural areas is seen tough and challenging due to lack of high amount of investment in rural infrastructure development projects since more than 85% of Nepal's population is still living in rural areas, dependent on subsistence farming with the surrounding natural resources as their only means for a livelihood.

The above scenario tells us that infrastructure gaps present a significant challenge for Nepal's short and longer term development goals. Therefore Nepal has to invest between sufficient budgets well over a billion dollar annually, to adequately develop its infrastructure especially in the rural sectors. The employment and nonfarm occupational diversification has been increased in the recent decades due to the implementation of infrastructural developments works in Nepal.

According to Nepal Living Standard Survey (2010/11) the average household income grew by more than 363 percent between 1995/96 and 2010/11 (NRs. 43,732 versus NRs.202, 374). During the same period, mean per capita income increased from Rs.

7,690 to Rs. 41,659 (an increase by 442 percent).

Nepal Multidimensional poverty Index (2018), shows that 28.6% of Nepal's population is multidimensional poor. Naturally, the rural- urban divide is evident with 7% of urban population and 33% of rural population being multidimensionally poor. Study find the unique feature from the newly formed seven provinces that provinces 6 and 2 have the highest rate of multidimensional poverty, with second person being multidimensionally poor(50%) followed by provinces 5 and 7 (approximately 30%). Province 3 has the lowest (12.24%) level of multidimensional poverty. provinces 4 and 1are ranked 2nd and 3rd positions in terms of their low poverty level with 14.19 and 19.67 percent of MPI respectively. According to the study it is found that Nepal halved its MPI 2006-2014. The incidence of multidimensional poverty has gone down from 59% in 2006 to 39% in 2011 and 29% in 2014.

Major investments in social infrastructure like health, education and sanitation and Physical infrastructure like transportation, communication, electricity, drinking water, market, and finances will be necessary to lift poorest of the poor out of multidimensional poverty.

Methodology of the Study

This article is based on both primary and secondary data. The research is mainly based on quantitative data than qualitative; the quantitative data are collected adopting non-probability sampling technique with the help of self administered interview schedule that consists of questions of different types of scale. The interview schedules the filled up interview schedules are collected and coding, editing, and entry of data into SPSS

software package is made thoroughly. In analyzing, statistical description, tabulation, simple percentage average and testing hypothesis were made by using this SPSS software computer programme.

There are 7 blocks or wards in with 3979 households. The total numbers of Households in the study area is the universe of this study and out of 3979 households the 120 HHs were selected using Area and Simple Random sampling technique procedure. Again from each 120 HHs an individual aged between (20-60) years is requested to tap or fill up the interview schedule so, each House hold (HH) is the sampling unit of the study. The information obtained from this study sample is the primary source of information. Based on this primary source of data tables and, findings, summary and conclusions are drawn.

The article also depends on secondary source of data. Some governmental, non-governmental sector and international publications and reports related to study and area are also the source of secondary data.

The Jhalari Village, a grass root based basic and small local level administrative unit of Kanchanpur district in Nepal. Researcher selected the small administrative unit because of familiarity and closeness to the Scio-economic characteristics of the study area.

The study area is a rural locale is fulfilled with urban features, having basic infrastructural facilities and economic activities. In addition, the study area lies across the Mahindra national Highway roughly 27 kilometer far from the Nepal-India border. Just about, 15 years before there were lack of all the basic physical facilities like, rural roads, information and

communication, electricity, drinking water, sanitation, health services and educational institutions.

 In the recent years the Jhalari VDC leaped ahead and numerous socio-economic activities and figures are improving dramatically, so researcher selected this place as study area. From each of 120 households equal number (120) of respondents are selected as a participant of this research study, hence each HH is a sampling unit of this survey.

The two non-probability sampling techniques used for selection a study sample, first the Proportional Sampling Method is used to determine the exact proportion of sample population from each ward/block, subsequently to identify the particular households for interviewing and collecting information Simple Random Sampling Technique is used in this research work. To make the study participatory females are also given priority, approximately half (45%) female respondents were then randomly sampled again to assign the gender assurance for the interview of this research work. Well structured questionnaires are the main tools of datacollection, were used for studying various aspects of economic, social, and infrastructural relationships and impacts of the study area.

Results

After the inception of rural infrastructural development programme the changes are witnessed in the life style of the people of the study area. Respondents run businesses, got trainings for livelihood protection viz.

Poultry farming, Vegetable farming, craft training, fish farming etc. These programmes brought the fruitful results for the upliftment of SC and ST community people.

Jhalari Village Development Committee is in the crossroads between rural and urban features. There is accessible National Highway, district road networks and rural agricultural road networks, but most part of the roads are under construction and in the phase of advancement. There is well positioned infrastructure of information of communication, including latest 3G internet technology.

There is abundance of primary secondary and higher schools, nonetheless lack of technical colleges. The almost all the houses of Jhalari are under the grid connection of national electricity line. The drinking water supply to some extent is the problem of this area. Tube wells are the main source of drinking water some sources are polluted with arsenic content. Sanitation is within contentment condition, there are community forests, which provide the firewood, grass, and timber to the respondents of the study area. The land is agricultural land is very fertile and productive. There is a small bazaar in Jhalari VDC, is the main commercial and trade centre of the area. These all infrastructures are main basics of the transformations on the livelihoods of the rural respondents of the Jhalari VDC. The following table entails further information about these changes.

Table 1: Association between Total Income of Family and Educational Status of Respondents

Income Level Rs.	Educational Status					Total
	Illiterate	Primary	Secondary	Senior Secondary	Graduate and Above	
< 20000	10	7	2	1	1	21
21000-100000	8	43	16	12	4	74
100000 above	2	1	5	6	2	25
Total	20	51	23	19	7	12 120

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.591[a]	8	0.012
Likelihood Ratio	16.717	8	0.033
Linear-by-Linear Association	8.323	1	0.004
No. of Valid Cases	120		
a. 9 cells (60.0%) have expected count less than 5. The minimum expected count is 1.23.			

Source: Calculated from field Survey

Description

H_0: There is no association between educational status and income level of households of the respondents.

H_a: There is association between educational status and income level of households of respondents.

The above table shows the cross tabulation and calculated value of Chi-Square is 19.591. The Tabulated value of chi-Square for a 0.05 probability level with 20 degree of freedom is 31.410

Result/ Discussion

The computed value of χ^2 19.591 is greater than the tabulated value of χ^2 (31.410) at 0.05 significant level with a df of 8, hence rejected the null hypothesis (H_0) and accepted alternative hypothesis (H_a). Therefore the result of the hypothesis is there is association between educational status and income level of respondents of the study area.

Table 2: Association between Cell Phone Accessibility and Income Level of Respondents

Total Income of Family(Rs)	Mobile Phone Accessibility of People		Total
	Access	Out of Reach	
< 210000	17	4	21
21000-100000	73	1	74
100000 above	24	1	25
Total	114	6	120

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.851[a]	2	0.004
Likelihood Ratio	8.202	2	0.017
Linear-by-Linear Association	4.661	1	0.031
No. of Valid Cases	120		

a. 7 cells (50.0%) have expected count less than 5. The minimum expected count is 1.05.

Source: Calculated

Description

H_0: There is no association between access to ICT and income level of households of in the study area.

H_a: There is association between access to ICT and income level of households in the study area.

The above table shows the cross tabulation and calculated value of Chi-Square is 10.851. The Tabulated value of chi-Square for at 0.05 probability level with 5 degree of freedom is 11.071

Result/ Discussion

The computed value of χ^2 10.851 is greater than the tabulated value of χ^2 (11.071) at 0.05 significant level with a df of 5, hence rejected the null hypothesis (H_0), and accepted alternative hypothesis (H_a). Therefore the result of the hypothesis is there is association between access to ICT and income level of respondents of the study area. Therefore it is obvious that the hypothesis formulated in this research article is tested and proves the intricate positive relationship between the availability of basic infrastructures and improvements in the means of earnings, livelihoods and living standards of people of rural area.

Table 3: Test for Equality of Mean Income of Sample Households

Exact Income (in Nepali Rupees.)	Region wise Distribution of Households						
	Sisaiya	Lalpaniya	Juda Pitambar	KalapaniStationpur	Kasrol	Banjariya	Dipnagar Kaluwapur
10000	6	1	5	1	3	-	6
25000	8	1	12	3	6	3	15
50000	7	1	2	3	3	3	7
100000	7	1	2	2		6	3
150000	-	1	-	-	1	1	-
Total Income	611,006 n= 28	135,002 n=5	450,002 n=21	235,002 n=9	380,001 n=13	275,007 n=13	785,003 n=31
Average Income	21,821.6	27,000.4	21,428.7	26,111.3	29,230.8	21,154.4	25,332.7
Total N= 120							

	Sum of Squares	df	Mean Square	F	Sig.(p)
Between Groups	2.235E10	6	3.725E9	3.505	0.003
Within Groups	1.201E11	113	1.063E9		
Total	1.425E11	119			

Source: computed

From the above table it is observed that the computed F statistic value is 3.505 with a corresponding significant value p=0.003. Since the p value is smaller than 0.05, the null hypothesis is getting rejected, therefore it can be concluded that the average income of the households in different villages differ significantly

Conclusions

This research study constructed secondary data at national level and district level and primary data at local level based on which hypotheses constructed and tested to quantify the impact of the various basic infrastructures on the means of living and livelihood of rural residents as well as poverty reduction in rural areas by different years. The following conclusions can be drawn from the study.

- Rural roads, irrigation, fertilizer, helped farmers, especially small land holders to adopt new agricultural technologies. It seems that the new technology increased the supply of agricultural products, thus the rural peasants are benefited from infrastructural development.

- Infrastructural development in rural areas is like a ray of hope for better standard of living, means of earning, as there is a great impact on literacy, skill, employment, income, business and allied activities of people after the inception and availability of basic infrastructures in rural areas.

- In recent years, investment in infrastructural development and inputs in subsidies(credit, trainings, bore pump irrigation, new agricultural vehicles and technologies, fertilizer) yielded high level of agricultural production and reduction the level of poverty significantly.

- Approaches and availability of to ICT in the rural areas helped the people in the transformations of their occupations from agricultural activities to non-farm business related activities. Hence the means of earning and living standards of people is improved significantly.

It is Concludes that there is intricate relationship between infrastructural development and improvement in the livelihoods of the rural people. Rural areas are isolated and marginalized sectors; there are no proper basic infrastructures. Because of this lacking, rural residents are in the state of deprived, distressed and deteriorated condition. When we provide plenty of infrastructures to the rural areas, unquestionably it change the images and fate of the rural people as well as villages from deprived, underdeveloped to prosperous, potential, vibrant, smart and successful economic zones. Hence the conclusion of the study is that infrastructure development decreases the rural poverty, and increases the livelihoods, means of earning and living standard of the rural people.

References

Azad, R. N. (2006). *Rural Development and Poverty Alleviation: Time for Reckoning* (Vol. Indian

Village: 2020). (Y. P. Singh, Ed.) New delhi: Concept Publishing Company.

Bhatia, M. S. (1999). Rural Infrastructure and Growth in Agriculture. *Economic and Political Weekly, 34* (13), A-43.

Bulus, J. S., & Adefila, J. O. (2014). The Study of Rural Infrastructure Facilities in Kajura area, Kaduna State of Nigeria. *International Journal Humanities anf Social Science, 4* (2).

Carney, D. (1999). Approaches to Sustainable Livelihoods for Rural Poor. *Overseas Development Insitute ODI* .

CBS (2010/11) *Nepal Living Standard Survey.* Kathmandu: National Planning Commission, Government of Nepal.

Chandra, S. (2006). *Our Villages: ground Realities and Future Prospects* (Vol. Indian Village: 2020). (Y. P.

Singh, Ed.) New Delhi: Concept Publishing Company.

Chattopadhyay, B. C. (1985). *Rural Development Planning in India: A Case Study of Monghyr Sadar and*

Jamalpur C.D. blocks Bihar 1971-1991 . New delhi: S. Chand & Company Ltd.

Cheema, G. S. (1985). *Programme Implementation for Rural Development: An Introduction.* (G. S. Cheema, Ed.) New Delhi: Sterling Publishers Private Limited.

BIBLIOGRAPHY \l 1033 Dev, O. P., Yadav, N. P., Springate-Baginski, O., & Soussan, J. (2003). Impacts of Community

Forestry on Livelihoods in the Middle Hills of Nepal. *Journal of Forest and Livelihood, 1* (3), 64-77.

 BIBLIOGRAPHY \l 1033 Donnges, C., Ojha, J., & Pearse, C. (2005). *Integrated Rural Accessibility Planning in Nepal.*Bankok: ILO.

 Douglas, B. F., & Hans, B. P. (1986). Impact of Rural Electrification and Infrastructure on Agricultural

Changes, 1966-1980. *Economics and Politcal Weekly, 21* (1), 26-34.

Ellis, F. (2000). *Rural Livelihoods and Diversifying in Developing Countries.* New York: Oxford University Press, .

Fan, S., Zhang, L. X., & Zhang, X. (2004). *Economic Change and Cultural Change, 52* (2).

George, T. H. (2010). *Changing Scenario of Rural Labour Market.* (S. B. Verma, Ed.) New Delhi: Deep Publications Pvt. Ltd.

Gunatilaka, R. (1999). Rural Infrastrucure Programmes for Poverty Reduction: Policy isses from the Sri-

Lankan Experience. *Regional Consultation on WDR201 for South Asia on " Poverty Reduction and Social Progress Bangladesh".*

IIFAD (2011) *Rural Poverty Report, Facts and Figures.* Enabling poor rural people to overcome poverty IFAD.

BIBLIOGRAPHY \l 1033 Karmakar, K G.(2008) "Agricultural and Rural Development in North-Eastern India: The Role of

NABARD." *ASCI Journal of Management* (Administraive Staff College of Indai) 37(2), 89-108.

Li, Z. Z., & Liu, X. (2009). The Effects of Rural Infrastructure Development on Agricultural Production

Technical Efficiency: Evidence from Data of Second National Agricultural Census of China. *International Association of Agricultutal Economists Conference.* Beijing.

Molden, D., Amarasinghe, U., & Hussain, I. (2001). *Water for Rural Development.* International Water Management Institute IWMI.

Narayanamoorthy, A., & Hanjra, M. A. (2006). Rural Infrastructure and Agricultural Output Linkages: A study of 256 Indian Districts. *indian Journal of Agriultural Economics, 61* (3). BIBLIOGRAPHY \l 1033 NPC (2012)Government of Nepal. *Nepal Status Paper United Nations Conference on Sustainable Development(Rio+20).* Kathmandu:

National Planning Commission, Government of Nepal.

NPC (2018)*Multidimentional Poverty Index of Nepal.* Kathmandu: National Planning Commission, Government of Nepal.

Oraboune, S.(2008) "Infrasructure(Rural Road) Development and Povery Alleviation in Lao

PDR." *Institute of Developing Economics, JETRO IDE Discussion Paper.* Chiba, Japan.

Pramod, B., & Ballal, N. M. (1999). *Sustainable Development of the Rural Poor.* Bombay: Himalayan Publishing House.

PRB (2017) *World Population Data Sheet.* Newyork: Population Reference Bureau.

Shisodia, H. S. (2006). *The Development of Rural India Through Quality and value Education* (Vol. Indian Village: 2020). (Y. P. Singh, Ed.) New Delhi: Concept Publishing Company.

Singh, K. (1999). *Rural Development* . New Delhi: Sage Publications.

Swain, M. (2010). *Training Over Irrigaion Management: Prospects and Constraints.* (S. B. Verma, Ed.) New Delhi: Deeep and Deep Publications Pvt. Ltd.