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Determinants of Prosperity in Nepal: Analysis of Nepal Living Standard Survey Data 2010/11

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Abstract

To give the answer of whether and to what extent educational and health status determines prosperity, this paper explains the relative effect of prosperity among the level of education and health status as the capability of an individual. The variables are qualitative in nature so the standard statistical methods, chi-square, and logistic regression techniques have been applied to identify the extent to which the factors influence the probability of both households and individuals being prosperous. For this purpose, analyzing the data from Nepal Living Standard Survey (NLSS, 2010/11), I argue that educational achievement as an individual capability is a major determining factor of prosperity rather than other variables. In conclusion, a higher level of education means a higher level of prosperity.

Keywords: capability, poverty, living standard survey

Introduction

The concept of prosperity itself is multi-dimensional. It is more than wealth (Auerswald & Acs, 2016). It reaches beyond the financial into social, political, and economic well-being. Prosperity is a state of being wealthy/rich or non-poor and happy. An example of prosperity is a person who is living full of both food and non-food items that are required for the basic standard of living with dignity and happiness they need.

The problem of reducing poverty and promoting prosperity has become more complex and problematic in policy, and academic debates (Lister, 2004). The reduction or eradication (if possible) of poverty and promotion of prosperity has now become the primary focus of every nation in the world, especially, developing countries like Nepal. However, without knowing its determining factors, a sustainable solution to

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this problem would be difficult. Therefore, the primary concern of this paper is to know what the common factors that promote prosperity and reduce poverty in Nepal are. For this purpose capability approach of both poverty and prosperity of Amartya Sen has been applied as a theoretical insight.

In this paper, the capability approach is operationalized in terms of how well an individual is educated and their health condition. I suppose those who are illiterate or only can read and write with disability/ill health are considered as not capable or capability deprivation. On other hand, the poor are those whose income is below the threshold (poverty line i.e. US$1.25 per day) and insufficient to procure a basic threshold of the consumption basket of minimum food (2124 kilocalories per person) per day and basic non-food item, the index developed by World Bank (WB) and Central Bureau of Statistics (CBS) of Nepal. In the same way, those households or individuals who are not considered poor and considered non-poor by NLSS are defined as prosperous. To answer the question of whether and to what extent educational and health status as a capability of an individual is more responsible to determine the prosperity of Nepal, I have set the hypothesis that educational and health status as capability of an individual has a role to determine the prosperity of Nepal.

Measurement of Poor and Prosperous Households and Individuals

Because of using a secondary source of data, the methods, tools, and techniques adopted by Nepal Living Standard Survey (NLSS, 2010/11) for poverty measurement are the methods of this research as well. NLSS (2010/11) applied the headcount index of poverty measurement and defined the poverty line on the basis of consumption quintile, that is, the food energy intake method.** Therefore, my method of identifying both poor and prosperous individuals and households is considered a consumption-based headcount poverty measurement, which is laready given in the data set.

Theoretical Insight and Justification

Theoretically, capability poverty is a deprivation of or failure of a person to achieve certain basic functioning (capability) to sufficiently fulfill his or her basic needs at a minimal level (Laderchi, et at., 2003). The capability approach of the

** How much household expend their income to acquire enough food and non-food item is the basic principle of food energy intake method. This is consumption based measurement.

poverty and prosperity analysis is a framework composed of two words: functioning and capabilities. In this regard, Lister (2004) wrote:

> Functioning refers to what a person actually manages to do or be; they range from elementary nourishment to more sophisticated levels such as participation in the life of the community and having self-respect. Capabilities denote what a person can do or be, that is, the range of choices that are open to the person. Critical here is the freedom people enjoy choosing between different ways of living that they can have reason to value. (Sen, 1990, p. 114, as cited in Lister, 2004, p. 16)

Here, capability contains all achievable human functioning, which can be gained through educational training, knowledge, and good health. Capability refers to the ability of a person to convert commodities into valued functioning in the context of one's life (Laderchi et at., 2003). Capability shows the range of what a person can do and therefore reflects the freedom of people. Capability is, thus, a set of vectors of functioning, reflecting the person's freedom to lead one type of life or another (Lister, 2004). In a similar manner, functioning means what we can do and what we can be. A functioning, according to Sen, is an achievement of a person; what he manages to do or to be. The set of functioning is called capability which is determined by the education (knowledge, skills, and disposition) and health status of an individual. Therefore; the capability approach has been applied to know the determinants of prosperity in Nepal.

Prosperity is the composite result of economic, political, and social processes through which an individual's capability will enhance functioning i.e. health, education, and income (World Bank, 2001; UNDP, 1996). Sen (1987 & 2000) understood poverty as the failure of basic capability and enhancing capability as the indicator of prosperity. He further says, there is an instrumental relationship between income and capability. However, income would be conditional to enhance capability. His stress is on the capacity of an individual to convert commodities into functioning (happiness and freedom), which is possible through education and health status. Therefore; prosperity must be seen as the capability of an individual. This approach assumed that an individual is the best unit to capture the depth of prosperity because it is who suffers and gets benefits from their valued life. It assumes that the family may be poor, but an individual may be prosperous and vice versa. Therefore, the capability approach captures the multidimensionality and overlapping nature of both poverty and

prosperity (Abraham & Kumar, 2008; Laderchi et al., 2003; Lister, 2004). Capability sets include health, education, human capital, financial capital, social capital, and physical capital. However, in this paper, I have included educational and health status as the capability of an individual.

Data and Methods with Analytical Model

This article is based on the raw data set of NLSS (2011), prepared by the Central Bureau of Statistics (CBS). This article aims to explore the relationship between prosperity as the dependent variable and educational and health status as independent variables. Because categorical data, i.e. qualitative variables, bivariate table, chi-square test, and binary logistic regression have been used to show the association between prosperity and capability.

The Model

I have used a binary logistic regression model to assess whether and to what extent educational status and health status of people determine prosperity in the case of Nepal. The binary logistic regression model assumes the linearity of the independent variables and logs the odds of the dependent variable. Through this model, I have tried to know the impact of multiple independent variables which shows the strength among the variables. For this purpose, I have used the model developed by Cox (1958 and revised form 1970). This model can be written as

$$Yi = a + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \ldots\ldots\ldots\ldots\ldots\ \varepsilon i.$$

Where

Yi = prosperous individual (Dependent Variable), X = an independent variable (predicted value, Y depends on the value of X), a = the constant (or intercept) of the equation, and, β = the coefficient (or regression slope) of the predictor variables.

Educational Status and Prosperity

Education is one of the most important instruments to enhance the knowledge, skill, and disposition which are directly concerned with the capability of people. Education plays an important role in everyone's life to determine their public relation,

health status, and, capability to improve socio-economic status. Being educated is the indicator of a descant life and prosperity. Therefore; the researcher, tries to identify whether and to what extent poverty in Nepal is associated with educational attainment. Education always starts from the literacy level. Therefore, here, I am going to analyze the relationship between literacy and poverty to prosperity.

Literacy status is a primary step to proceeding ahead to educational attainment. CBS (2011) defined literacy as the ability to read and write a letter independently. A literate people are one who can both read and write a short and simple statement in any language. To be literate for an individual is mean having a kind ability to grasp information and to bring the required changes in their lives. On the basis of this principle, here, the researcher tries to explore whether and at what level literacy is associated with prosperity.

Table 1

Distribution of Literate & Illiterate Population across Poor and Prosperous Categories

Literacy Status	Poor		Prosperous		Nepal 26808	
	No	%	No	%	No	%
Can Read Only	2957	17.43	14007	82.57	16964	63.23
Can Read and write	2801	17.01	13583	82.9	16383	61.11
Pearson's $\chi 2$ of Can Read and write = 757.321 and 37.085 and both P=0.000						

Note. Calculated by the researcher himself from Nepal Living Standard Survey raw data set 2010/11, CBS.

Table 1 shows that out of the total applicable population, 63.23% can read-only, and 61.11% can read and write both. While comparing this population into poor and prosperous categories, we found poor are really poor in literacy. Among those who can read only and can read and write both are 17.43% and 17.01% percent respectively poor and the rest are prosperous. If we compare this figure to national data on poverty, i.e. 25.2% is significantly less. Here the literacy of the poor is significantly less than the poverty rate of Nepal in comparison to the prosperous. Both of these figures are sufficient to conclude that the prosperity of Nepal is associated with illiteracy. In the same way, Pearson's $\chi 2$ (757.321) of Can Read and write is significant at a P value of 0.000, which is significantly less than alpha ($p = 0.000 < \alpha = 0.05$). Since we

have sufficient evidence to reject H0 i.e. there is no association between literacy and prosperity with a 0.01 confidence interval. It means a research hypothesis): There is an association between literacy and prosperity is accepted with a 0.01 confidence interval. In conclusion, we are 99 % confident that the prosperity of Nepal is highly associated with the literacy or educational attainment of people. Therefore, we can conclude that the higher the rate of educational attainment, the higher the rate of prosperity.

Educational Background and Poverty

NLSS (2010/11) categorized educational status into three broad categories; they are: never attended school (32.45%), ever attended school in the past (28.27%), and currently attending school (39.27%). Overall never attending school' is larger than 'ever attended school but smaller than 'currently attending' school. It indicates school-going children from poor families are increasing. However, the purpose of this explanation is to examine whether there is an association between educational background and prosperity.

Table 2

Distribution of both Poor and Prosperous individuals across Educational Backgrounds

Educational background (26808Cases from 28670 (6 & above years of age)	From poverty to prosperity		Nepal: 26808
	Poor: 6113	Prosperous: 20695	
Never Attended School	30.03	69.97	32.45
Attended school/college in past	14.86	85.14	28.27
Currently attending school/college	22.55	77.45	39.27
Nepal	22.8	72.2	100
Pearson's $\chi 2 = 530.475$, d.f. = 2, P = 0.000			

Note: Calculated by this researcher himself from Nepal Living Standard Survey raw data set 2010/11, CBS.

It is universally accepted that education is the most important factor to enhance the quality of life of an individual. It means both poverty and prosperity are directly associated with educational background. Here, the comparison between poverty and educational background indicates that most of the poor are educationally poor as well. Among the never attended school population, 30.3% are from a poor family, which is

significantly higher than the poverty rate (25.2 %) in Nepal. When talking about ever attended school/college in the past; the percentage of poor people who are 'ever attended school' is significantly less (14.86%) than that of the overall percentage within the educational background (28.27%) of Nepal. It indicates that at a proportionate level; most of the poor have not attended school in their lifetime. The average percentage of 'ever attended school in past' is 28.27%, which is significantly higher than the poor people who attended school in the past. Another category of educational background is currently attending school. Among those currently attending school/college (39.27%), 22.55% are poor and the rest are prosperous. While comparing it with the national figure (22.8%), there is no significant (22.55%: 22.80%) difference with the comparison of the overall percentage of currently attending school/college. This figure indicates that school/college-going children are increasing in poor households as well. Attending school/college in the past is the determining factor of prosperity in present is the major finding of this table. The value of $\chi 2$ (530.475) is significant at a 0.01% level of significance. The value of $P = (0.000) < \alpha = (0.05)$ gives sufficient evidence to reject i.e. there is no association between educational background and prosperity. By supporting Sen, it can be concluded that the prosperity of Nepal is highly associated with the educational background of the people.

Level of Education and Prosperity

People having a higher level of education would have a more prosperous life than the others is a basic understanding of society. On the basis of the capability approach to prosperity, table 3 has given a picture of the association between the level of education and prosperity.

Among the valid population, altogether, only 14.9% poor have got any level of education. And the rest (85.15%) of prosperous categories have got an education. This figure is sufficient to claim that most of the poor are not getting an education. It means there is a close relationship between educational status and prosperity. While looking at the distribution of educational status across poor and prosperous categories most of the poor have got only primary (75.1%) and secondary (15.2%) levels of education. Here, the proportion of getting higher education among poor and prosperous categories is unevenly distributed. The statistics in table 4 are sufficient to claim that there is a close association between prosperity and educational status. Since; the value of $\chi 2$

(371.130) is significant at a 99% (p = 0.000) level of confidence. It means, the null hypothesis (): There is no association between educational status and prosperity is rejected, and the research hypothesis : There is an association between educational status and prosperity is accepted with a 0.01 confidence interval. However, the nature and quality of education are other issues. The figure in table 3 supports the conclusion that a higher level of education is meant to higher the rate of prosperity.

Table 3

Distribution of Poor and Prosperous Populations across the highest levels of Education

Level of Education	Pass-out (Proverty to prosperity)			Currently Attending (10526)		
	Poor	Prosperous	Total	Poor	Prosperous	Total
Primary	75.1	45.4	49.8	85.3	60.5	66.1
Secondary	15.2	22.8	21.7	11.1	18.4	16.7
SLC	5.4	14.9	13.5	1	31.	2.6
Intermediate	3.5	9.0	8.2	2.1	9.7	8.0
Bachelor	0.5	5.1	4.4	0.5	6.5	5.1
Master	0.1	2.6	2.2	0.0	1.7	1.3
Professional Degree	0.0	0.2	0.2	0.0	0.1	0.1
Level less	0.2	0.1	0.1	–	–	–
Nepal	14.9	85.1	100.0	22.6	77.4	100.0
Pearson's $\chi 2 = 371.13$;df=7; p value = 0.000						

Note: Calculated by this researcher himself from Nepal Living Standard Survey raw data set 2010/11, CBS.

Health Status as an Indicator of Capability and Prosperity

There is a saying that health is wealth. If people are healthy, there is a high chance of economic well-being within society. When talking about health; good health is the composite of different components. Generally, people take health as biological and medical factors only and forget about other wider spectrums of determinants of health. According to the capability approach to prosperity, health status is one of the major indicators of capability and socio-economic well-being.

In the same way, theory of social Darwinism of Herbert Spencer and the Market and social environment approach of Simmel (1978) argues that if people are physically

and mentally well, there is maximum chances of uplifting from poverty to prosperity. To examine whether the prosperity of Nepal is associated with the health status of members of the household, some important indicators were analyzed.

Though there is a never-ending debate that whether prosperity is due to good health or good health is because of economic well-being. My concern, here, is whether good health helps to uplift people into prosperity. Table 4 shows the health status of people on the basis of their own judgment across poor and prosperous categories.

Table 4

Distribution of Health Status across the poor and Prosperous Categories

Present Health Status	Poor		Prosperous		Nepal	
Excellent	3690	22.56	12669	77.44	16359	57.45
Good	2812	24.55	8671	75.45	11492	40.36
Fair	147	24.7	448	75.3	595	2.09
Poor	9	32.14	19	66.86	28	0.1
Nepal	6667	23.4	21807	76.6	28474	100
Pearson's $\chi 2$ = 16.706, df = 3, P value = 0.001						

Note: Calculated by this researcher himself from Nepal Living Standard Survey raw data set 2010/11, CBS.

While looking at table 4, there is no significant gap in the health status of people across the poor and prosperous categories. As data show; 57.45% have excellent health status. Among them 22.56% are poor and the rest are prosperous category, whereas the national figure for poverty is 23.4%. Proportionately it is not a significant difference. In the same way, if we look at proportionately in each category; prosperous: poor (Good Health 75.45%: 24.55%, Fair Health 75.3%: 24.7%, Poor Health 66.86%: 32.14%). On the basis of the percentage figures given in table 4, it is difficult to decide whether there is a strong association between prosperity and health status. However, the value of $\chi 2$ (16.706) at 99.00% level of confidence with P=0.001) supports us to reject (): there is no association between health status and prosperity with a 0.01 confidence interval. It means there is a strong association between health status and prosperity. On the basis of this figure, it can be concluded that a higher level of health status is meant to lower the level of poverty and higher the level of prosperity. It means the health

status of an individual is one of the major instruments of capability which will uplift from poverty to prosperity.

Multivariate Analysis from Binary Logistic Regression

The binary logistic regression is carried out to examine the impact of multiple independent variables on dependent variables. This analysis supports examining the strength of the independent variables to determine the prosperity of Nepal, which is designed as $Yi = a + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \ldots\ldots$,

Table 5

Logistic Regression Analysis of Educational and Health Status as Determinant Factors of Prosperity

					95% C.I.for EXP(B)	
	B	S.E.	Sig.	Exp(B)	Lower	Upper
Can Read and Write a Letter	0.46	0.1	00.004	1.584	1.302	1.926
Attending School/College				**0**		
Never Attended	0.216	0.505	0.0669	0.418	0.461	2.338
Attended and Completed	0.275	0.498	0.058	1.317	0.496	3.494
Completed Educational Status						
Professional Degree	12.734	0.541	0.008	0.236	0.820	0.682
Master Level	18.215	0.498	0.004	3.702	1.394	9.833
Bachelor Level	18.206	0.268	0.006	1.113	1.067	0.191
Intermediate	3.656	0.277	0.519	0.836	0.486	1.44
Secondary/SLC	2.538	4767.75	0.997	80680201	0	.
Primary Level	1.234	23193.3	0.768	81420670	0	.
Level less Training	1.294	0.216	0.876	0.168	0.11	0.257
Present Health Status						
Good	-19.257	12693.9	0.999	0	0	.
Fair	-19.43	12693.9	0.999	0	0	.
Poor	-19.76	12693.9	0.999	0	0	.
Constant	21.845	12693.9	0.999	3.07E+09		

Note: Calculated by this researcher himself from Nepal Living Standard Survey raw data set 2010/11, CBS.

Among the independent variables, people having a Master's level degree with a Beta value (regression slope) of 18.215, P value < 0.05 (0.004), and Odds Ratio >

1 (3.702) are high chances to be prosperous than people having a lower degree. In the same way, people having bachelor's degrees are likely to be prosperous with a significant P value (0.006 < 0.05), 18.206 Beta value (regression slope), and Odds ratio or the expected beta (1.113) in the comparison of people having an intermediate level of education and lower level. All the data (beta value, P value, and Odds ratio) prove that people having lower degrees (secondary, primary, and level less are likely to be poorer in comparison to people having a higher degree (Table 5). If we compare people who never attended and attended educational institutions we found a significant difference in the Odds ratio (1.317 > 0.418). However, in other indicators (P value and beta value), three is small differences between these two categories. In the same way, both the beta values and the Odds ratios are decreasing according to the lower level of educational status. However, contributions of health status to determine prosperity in the comparison of educational status are found null in this data. The data from table 5, can be concluded that the higher the level of education, the higher the chances of being prosperous.

Conclusion

In this paper, I have turned Amartya Sen's capability approach to poverty into the capability approach to prosperity to look forward to whether there is a relationship between capability and prosperity. Sen (2000), argued that the main cause of poverty in society is incapability or capability deprivation, which includes educational and health status. If people will get such opportunities, they will be more capable and enhance their quality of life. Education is one of the most important instruments that will enhance the level of knowledge, skills, and disposition or the qualities of an individual. These qualities would determine individuals' income, health (and that of their children), and capability to maintain public relations. The cross-table analysis of household characteristics and prosperity (table 1, 2, and 3) shows that prosperity is highly associated with educational status. The figures in the tables strongly support the statement of Amartya Sen that education is a major factor that enhances the capability of people and helps minimize poverty and maximize prosperity. All figures support the conclusion that a higher level of education is meant to higher the rate of prosperity. In the same way, table 4 supports the statement of Amartya Sen that the health status of an individual is another most important indicator of capability which can easily

minimize the level of poverty and maximize the condition of prosperity in society. With the help of Pearson's $\chi 2$ test, (P=0.001) we are 99 % confident that there is an association between prosperity and health status. It means that health status is one of the major indicators of capability that determines the prosperity of people. From the chi-square test, we conclude that 'the higher the level of health status, the higher the level of prosperity.

While using the logistic regression technique to identify the relative effect on prosperity among educational and health-related variables (Table 5), it is found high intensity in the upper-level degree compared to a lower degree for prosperity. By the analysis of both Pearson's $\chi 2$ test and binary logistic regression, the educational status of people as an individual capability has a great role to reduce poverty and promote prosperity in Nepal. In conclusion, higher the level of education higher the chances of being prosperous.

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