HUMAN DEVELOPMENT AND THE ETHNIC POPULATION SUB-GROUPS IN THE 75 DISTRICTS IN NEPAL

Shyam Thapa

Introduction

As a principle, every government strives for higher socioeconomic progress for its citizens and the country. Such efforts are often guided by the underlying principles of better equity in opportunities for upward mobility and improved access to resources. When the socioeconomic condition of the vast majority improves, then only the overall level of development rises. Hence, it is important not only to periodically assess *what* level of progress has been made, but perhaps more importantly, examine *which* population sub-groups remain more disadvantaged than others so that the social and economic policies and programs can be better focused and balanced.

This paper examines how in Nepal the various population sub-groups, differentiated by ethnic group identification, are associated with the district-level human development. More specifically, it examines the ways, positive or negative, and the extent, whether strongly, moderately or weakly, that ethnic groups are associated with the level of development. An attempt is also made to identify the groups that are most disadvantaged in the development process of the country.

Definition, Data and Measurements

Development is a composite concept and hence warrants multiple indicators to assess its impact. In 1990, the United Nations Development Programme (UNDP, 1990) proposed the "human development index" (HDI) as a way to assess the relative position of each country with regard to three main dimensions of development: longevity, knowledge and standard of living.

Longevity is measured by life expectancy at birth. *Knowledge* is measured by literacy and (since 1991) mean years of educational attainment. *Standard of living* is measured by purchasing power based on real gross domestic product (GDP) per capita adjusted for the local cost of living (purchasing power parity). HDI is an unweighted average of the three measures. The index values

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for each dimension are expressed in terms of the *relative distances*, ranging from 0 to 1.

The HDI is based on the premise that human development is a "process of expanding choice." The index may thus be considered as a "measure of people's ability to live a long and healthy life, to communicate and to participate in the life of the community and to have sufficient resources to obtain a decent living" (UNDP, 1993). The three are assumed to be critical dimensions in that "if these choices are not available, many other opportunities remain inaccessible" (UNDP, 1990).

The HDI overlaps with other indicators of development (Hicks and Streeten, 1979; Baster, 1985). However, it differs from the "basic needs approach" in that it "moves away from a commodities-based approach" and instead focuses on the "issues of human choices" (UNDP, 1993).

Nepal ranked in the 22nd and 25th positions from below among 173 countries in the UNDP's 1993 and 1994 assessments (UNDP, 1993, 1994), respectively. Although the rankings are not strictly comparable due to changes in some measures over the years, there seems to have been a gradual improvement in the ranking for Nepal since 1990.

Recently, Thapa (1995a) computed the HDI ranking for each of the 75 districts of Nepal. Life expectancy and literacy data were based on the 1991 census data. Life expectancy was calculated by applying "life-table" techniques to the 10% sample of the census data. Literacy rate referred to the percentage of people six years and older who can read, write and count (CBS, 1993a).

Due to the lack of information on gross domestic product (GDP), data on total bank deposits and credits in each district, as of mid-1991, were used. These data were converted into per capita by using the data on population from the 1991 census. This measure is referred to as "resource access" per capita. Although this is a poor substitute for the GDP measure, to the extent that the GDP per capita as used in the UNDP report is purported to measure "the 'utility' or the welfare-generating capacity of income" and is an indicator of "access to resources" to "obtain a decent living," bank deposits and credits are an indirect way to assess a particular district's accessibility to resources.

Nepal's population is truly an ethnic mosaic. According to the 1991 census there are at least 60 ethnic groups (CBS, 1993b). The 60 groups include those based on both the Hindu caste system and religion. Each may be considered an ethnic group in that it represents a sub-system of institutional arrangements, values and norms. While many of the groups tend to be concentrated in certain ecological regions, several of the groups are scattered throughout the country. Some ethnographic information on many of these

groups have been reported by Bista (1972) and Gautam and Thapa-Magar (1994).

In this analysis, three other indicators of development are used as "control variables": (1) Roads and communication, (2) urbanization, and (3) health services utilization. The first refers to total number of telephone lines, newspapers, and number of airline flights per 1,000 population and the length of road (black-topped, graveled or earthen) in kilometers per 1,000 hectare of land area. Urbanization refers to percent of population that lives in nationally defined urban areas. The data are from multiple sources as described in Thapa (1995b).

Public health services utilization refers to percentage of currently married women in reproductive age groups, 15-49, who have used various maternal and child health services. The services include the following: live births in the five years preceding the survey whose mothers received at least one tetanus toxoid injection (TTI); children among those aged 12-59 months who have received *Bacille Calmette Guerin* (BCG) vaccine; children among those aged 12-59 who have received three doses of *Diphtheria Pertussis Tetanus* (DPT) vaccine; children among those aged 12-59 months who have received three doses of the polio vaccine; children among those 12-59 months who have who have received the measles vaccine; children under 5 years of age with diarrhea in the two weeks preceding the survey who were given oral rehydration therapy (ORT), either purchased or home-prepared solution; currently married women, with a birth in the five years preceding the survey, who received antenatal care from a doctor; trained nurse/midwife or traditional birth attendant; and women of reproductive age, 15-49, who are currently-in-union and are using contraception to space or limit pregnancies. These data are calculated from a 1991/92 national survey and described in detail elsewhere (Thapa, 1995b).

The main techniques of data analysis used are simple correlation coefficients and multiple regression. The unit of analysis is the district, not individuals. In this sense, it is an "ecological" research.

Results

Table 1 presents the HDI values and HDI rank for each of the 75 districts. Kathmandu ranks first and Mugu lowest. The differences between the two are vast: the former is 83 times better than the latter. The second best district is Lalitpur, but there is considerable disparity even between it and Kathmandu. Gorkha District, the hub of the making of modern Nepal, ranks in the 32nd position. Chitawan, which is becoming one of the most prosperous districts, ranks in the 8th position. Nuwakot and Sindhupalchowk, two adjoining districts of Kathmandu in the north, rank 51st and 54th, respectively. Kapilbastu, the birth place of Buddha, ranks 56th.

Table 1: Human Development Index (HDI) Values and HDI Rank for 75 Districts, Nepal, 1991

District	HDI	HDI Rank	District	HDI	HDI Rank
Kathmandu	1.000	1	Mustang	0.331	39
Lalitpur	0.624	2	Manang	0.329	40
Kaski	0.535	3	Darchula	0.328	41
Bhaktapur	0.514	4	Kanchanpur	0.326	42
Morang	0.506	5	Solukhumbu	0.325	43
Tanahu	0.486	6	Siraha	0.323	44
Terhathum	0.478	7	Bara	0.322	45
Chiatwan	0.474	8	Ilam	0.314	46
Jhapa	0.471	9	Sindhuli	0.310	47
Dhankuta	0.468	10	Mahotari	0.307	48
Syanja	0.465	11	Sarlahi	0.306	49
Parbat	0.451	12	Pyuthan	0.281	50
Bhojpur	0.432	13	Nuwakot	0.277	51
Lamjung	0.429	14	Rautahat	0.276	52
Sunsari	0.405	15	Dang	0.275	53
Rupandehi	0.404	16	Sindhupalchowk	0.272	54
Palpa	0.403	17	Bardiya	0.261	55
Arghakhanchi	0.402	18	Kapilbastu	0.260	56
Baglung	0.401	19	Dadheldhura	0.243	57
Gulmi	0.399	20	Dhading	0.238	58
Sankhuwasabha	0.398	21	Kailali	0.231	59
Myagdi	0.396	22	Baitadi	0.229	60
Kavrepalanchowk	0.394	23	Humla	0.215	61
Panchthar	0.388	24	Doti	0.212	62
Dolkha	0.386	25	Rolpa	0.202	63
Okhaldunga	0.385	26	Salyan	0.200	64
Taplejung	0.382	27	Rukum	0.196	65
Parsa	0.369	28	Rasuwa	0.192	66
Saptari	0.363	29	Dailekh	0.191	67
Banke	0.362	30	Dolpa	0.186	68
Udayapur	0.360	31	Achham	0.184	69
Gorkha	0.352	32	Jumla	0.165	70
Surkhet	0.351	33	Bajhang	0.110	71
Khotang	0.345	34	Bajura	0.093	72
Ramechhap	0.344	35	Jajarkot	0.092	73
Nawalparasi	0.336	36	Kalikot	0.068	74
Makwanpur	0.334	37	Mugu	0.012	75
Dhanusha	0.333	38	*All Nepal*	*0.334*	

Among all the districts, only five rank over 0.5. Fourteen districts have an HDI value between 0.4 and up to 0.5. Thirty districts, the largest number, belong to the HDI values of 0.3 and up to 0.4. Another 15 districts have an HDI value between 0.2 and up to 0.3. Finally, 11 districts are the worst ones with HDI values of below 0.2. It should also be noted that several of the districts cluster around the same level of HDI.

According to the classification proposed by the UNDP (1994), countries with an HDI below 0.5 are considered to have a low level of human development, those between 0.5 and 0.8 a medium level, and those above 0.8 a high level. If we follow the same classification for Nepal, there is only one district (Kathmandu) that has a *high level* of human development. Furthermore, only four districts (viz., Lalitpur, Kaski, Bhaktapur and Morang) have a *medium level* of human development. The vast majority, 70 districts, have a *low level* of human development. Many of the most deprived districts lie in the mountains and the hills of the Mid- and Far-western regions in the country.

The ethnic composition of the country's total population is shown in Table 2. The groups are listed in descending order according to the percentage share of the total population. The census identified 60 ethnic groups. Besides these 60 groups, additional unspecified groups are listed under "other" in each of the three ecological regions (Mountain, Hill and Terai, which refers to the plain belt in the south) with a total of 4.4%. The foreigners (without ethnic identification) and "not stated" categories constitute 0.05% of the total.

The 60 identified ethnic groups also include those based on language, religion, and the Hindu caste hierarchy system. Bengali is the only linguistic group, representing 0.04% of the population. The religious groups include Muslim, Churaute (Hill Muslim), Marwari, and Sikh. These four ethnic sub-groups represent 3.8% of the total population.

The groups based on the four-fold Hindu caste system include: (1) Bahun (13.8%), (2) Chetri and Thakuri (17.7%), (3) Newar (5.6%), and (4) Kami, Damai, Sarki, and Gaine, known as "lower caste" (8.7%). They represent a total of 45.8% of the total population in the country.

The various other groups represent a total of 46.0% of the population (excluding "other" and unspecified categories). Some of these ethnic groups may be Hindus and Buddhists by religion, while others follow tribal-based religion. (Some of the Newars also belong to the non-Hindu, Buddhist group, but the census does not distinguish between them.)

Table 2:Ethnic Composition of the Population of Nepal, 1991

Ethnic Group	Percent	Number	Ethnic Group	Percent	Number
Chetri	16.05	2,968,082	Dhobi	0.41	76,594
Hill Bahun	12.92	2,388,455	Kumhar	0.39	72,008
Magar	7.24	1,339,308	Kanu	0.38	70,634
Tharu	6.46	1,194,224	Khatway	0.36	66,612
Newar	5.63	1,041,090	Rajput	0.30	55,712
Tamang	5.51	1,018,252	Majhi	0.30	55,050
Kami	5.21	963,655	Kayastha	0.29	53,545
Yadav	4.14	765,137	Danuwar	0.27	50,754
Muslim	3.53	653,055	Haluwai	0.24	44,417
Other Terai	3.39	627,514	Sunuwar	0.22	40,943
Rai	2.84	525,551	Chepang	0.20	36,656
Gurung	2.43	449,189	Rajbhar	0.18	33,433
Dami	1.99	367,989	Marwari	0.16	29,173
Thakuri	1.62	299,473	Gangain	0.12	22,526
Limbu	1.61	297,186	Thami	0.10	19,103
Sarki	1.49	276,224	Dhimal	0.09	16,781
Teli	1.36	250,732	Thakali	0.07	13,731
Kushwha	1.11	205,797	Bhote	0.07	12,463
Chamar	1.10	203,919	Darai	0.06	10,759
Other Hill	1.00	184,216	Shikh	0.05	9,292
Sanyasi	0.98	181,726	Bengali	0.04	7,909
Kurmi	0.90	166,718	Wadi	0.04	7,082
Terai Bahun	0.88	162,886	Bote	0.04	6,718
Sudhi/Kalwar	0.88	162,046	Jirel	0.03	4,889
Musahar	0.77	141,980	Lepcha	0.03	4,826
Dhanku	0.74	136,944	Gaine	0.02	4,484
Mallha	0.60	110,413	Raji	0.02	3,274
Sherpa	0.60	110,358	Raute	0.02	2,878
Bania	0.55	101,868	Churoute	0.01	1,778
Kewat	0.55	101,482	Other Mountain	0.01	1,741
Dhusadh	0.50	93,242			
Rajbansi	0.44	82,177	Foreign	0.02	2,951
Kumal	0.41	76,635	Not Stated	0.03	4,858
			Total	100.00	18,491,097

Note: The ethnic groups are listed according to the percentage share in the total population.
Source: CBS (1993).

The simple correlation coefficient between each of the ethnic groups and HDI is presented in Table 3. The coefficient shows the degree of linear association between each ethnic group and HDI. Of all the groups, three (Newar, Marwari and Hill Bahun) are positively and significantly associated with the district-level HDI. This indicates that the districts with a higher percentage of these three ethnic groups also have higher levels of human development. The difference between Newars and the others are vast. These three groups represent 18.7% of the total population. The average correlation between these three groups (pooled data) and HDI is 0.631 ($p<.001$).

Table 3: Simple Correlation Coefficient between Various Ethnic Groups and Human Development Index (HDI): 75 Districts, Nepal, 1991

Ethnic Group	Correlation	Ethnic Group	Correlation
Newar	0.562**	Kewat	0.046
Marwari	0.395**	Jirel	0.043
Hill Bahun	0.337*	Bania	0.039
		Thami	0.036
Thakuri	-0.552**	Rajput	0.036
Kami	-0.499**	Muslim	0.029
Chetri	-0.460**	Dhobi	0.026
Wadi	-0.301*	Khatway	0.019
Raute	-0.289*	Thakali	0.016
Damai	-0.281*	Dhanku	0.014
		Teli	0.013
Bengali	0.249	Mallha	0.012
Churoute	0.243	Tamang	0.007
Dhimal	0.197	Bhote	0.004
Gangaini	0.173	Kushwha	0.002
Shikh	0.170	Sudhi	0.001
Rajbansi	0.169	Terai Bahun	0.001
Limbu	0.163		
Bote	0.159	Sanyasi	-0.213
Darai	0.156	Raji	-0.174
Rai	0.147	Sarki	-0.130
Kumal	0.120	Other Hill	-0.061
Other Mountain	0.115	Lepcha	-0.054
Gaine	0.093	Tharu	-0.051
Gurung	0.089	Kumhar	-0.025
Majhi	0.074	Kurmi	-0.017
Other Terai	0.072	Dhusadh	-0.014
Halwai	0.070	Yadav	-0.012
Sunuwar	0.064	Kanu	-0.011
Rajbhar	0.061	Kayastha	-0.010
Mushar	0.059	Chamar	-0.007
Magar	0.058	Sherpa	-0.001
Chepang	0.054	Danuwar	-0.001

** $p < .001$ * $p < .01$

Note: In each block, the ethnic groups are listed according to the correlation values in descending order. Foreign and Not Stated categories are excluded.

Another six ethnic groups, representing 24.9% of the population, are inversely associated with HDI. HDI is significantly lower in districts that have a larger percentage, especially of Thakuri, Kami and Chetri. The average correlation between these six groups (pooled data) and HDI is -0.541 ($p<.001$).

Another 39 groups are positively associated with HDI, but the correlation is very weak (<0.10) for 27 groups. The average correlation between the 39 groups (pooled data), representing 37.8% of the total population, and HDI is 0.263 (not significant). Similarly, the remaining 15 groups, representing 18.6% of the population, are inversely associated with HDI, but the correlations are not statistically significant. The average correlation between these 15 pooled groups and HDI is only -0.082.

These results thus indicate that the vast majority of the ethnic groups (N=54) cluster around the average value of HDI. They are not associated in any significant way, either positively or inversely, with the district level HDI.

In order to assess the total contribution of the ethnic groups to the variations in HDI, we carried out multiple (including step-wise) regression analysis. Several equation models were estimated and they are presented in Table 4.

Table 4: Regression Results of the Effects of Ethnic Groups and Other Indicators of Development on Human Development Index (HDI): 75 Districts, Nepal, 1991

Variable	Beta Coefficient	R^2 (%)	F
Three Ethnic Groups+	.565**		
Six Ethnic Groups++	-.459**	60.5	55.17**
Roads and Communication	.434**		
Three Ethnic Groups+	.334**		
Six Ethnic Groups++	-.402**	73.3	65.08**
Urbanization	.340*		
Three Ethnic Groups+	.393**		
Six Ethnic Groups++	-.393**	68.4	51.18**
Health Services Utilization	.309**		
Three Ethnic Groups+	.433**		
Six Ethnic Groups++	-.300**	65.2	44.27**

+Newar, Marwari, and Hill Bahun

++Thakuri, Kami, Chetri, Wadi, Raute, and Damai

**$p<.001$ *$p<.01$

Note: For definition of development variables, see text.

The first panel shows the relationship between the two "pooled" categories of ethnic groups (differentiated by those having positive and negative correlation) and HDI. The three groups and six groups explain 39.9% and 20.6% of the total variation in HDI, respectively (as indicated by the step-wise regression). Overall, these nine ethnic groups explain nearly 60.5% of the total variation in the district level HDI.

In the second panel of the table, a development indicator, roads and communication, is included. When this development variable is taken into account, the effects of ethnic groups on HDI decrease. The first group consisting of Newar, Marwari and Hill Bahun are the most affected. These results indicate that these groups have higher correlation with HDI, partly because they live in relatively more advanced districts. However, the development status of a district is not the sole factor for the high correlation with HDI. Ethnicity remains important even after controlling for the effects of development of a district. The development indicator, roads and communication, accounts for 49.2% of the total variation in HDI. An additional 24.1% is accounted for by the two broad ethnic groups. The total amount of variance explained by the three variables is thus 73.3%.

A similar pattern of results is found when we introduce two other indicators of development, urbanization and health services utilization. Urbanization reduces the degree of correlation between ethnic differences and HDI. However, it does not take away all the ethnic differences. The introduction of the urbanization variable in the model explains 42.9% of the variance in HDI, and the remaining 25.5% is explained by the ethnic groups. Thus, the total variance explained by the three variables in the model is 68.4%.

Similarly, health services utilization has an independent effect on HDI. It reduces the effects of ethnicity considerably. The six ethnic groups are the most influenced. It suggests that increases in health services utilization help reduce the overall degree of inverse association with HDI. Public health services utilization accounts for 48.9% of the total variance, and the remaining 16.3% is accounted by the ethnic groups. The total variance explained is thus 65.2%.

Of the three development indicators considered, roads plus communication helps explain the largest amount of variance in HDI. Public health services utilization plays a more influencial role than the other two indicators in minimizing the ethnic differences. In each case however, the effects of ethnic groups remain highly significant.

Discussion and Conclusion

The human development index (HDI) ranges from a low of 0.012 to a high of 1.0, with a national average of 0.334, in the 75 districts in Nepal. However,

in 73 of the 75 districts, the values are below 0.55. The vast majority of the districts have thus a low level of HDI.

This research sought to examine how the various ethnic groups are associated with the HDI level. The analysis showed that only three groups (Newar, Marwari, and Hill Bahun) are strongly and positively associated with higher level of HDI. Newars, followed by Marwaris, are the most favorably associated.

In contrast, Thakuri, Chetri, Kami, Damai, Wadi and Raute are inversely associated with HDI. Chetris are the largest majority in this group. The majority of the Chetris and Thakuris live in the Western, Mid-western and Far-western hill regions of Nepal, which are known be the least developed areas.

The analysis further showed that the effects of the ethnic groups on HDI are attenuated when other development variables are taken into account. However, the effects remain highly significant in accounting for the variation in HDI. The issue of "cause and effect" may also be raised. Is HDI in a district higher because particular ethnic groups live there or is it because a higher level of HDI in a district causes the ethnic groups in that district to aspire and achieve relatively more?

A district with a higher level of HDI most probably influences all ethnic groups to achieve higher. The ethnic differences would thus be minimized but not eliminated because, as the present analysis has found, the level of development of a district does not explain away the ethnic differences. Therefore, percentage share of particular ethnic groups in a district remains independently important in determining that district's HDI level.

The results present a great challenge to improving human development. First, the efforts aimed at improving HDI need to also simultaneously address the development of other dimensions, such as roads, communication, utilization of health services, and urbanization. A strong correlation exists between these dimensions of development and the HDI.

HDI, which focuses on "issues of human choices" (UNDP, 1993), does not appear to considerably improve without simultaneously focusing also on other "basic needs" or "commodities based" dimensions of development. At the same time, some of these dimensions cannot be developed without a higher level of HDI itself. For example, research has found that literacy, which is a component of HDI, is essential for increasing health services utilization (Thapa, 1995b). This means HDI is a determinant also. Clearly, efforts to improve HDI must be based on a multidimensional approach.

Second, while improvements in these other dimensions of development could considerably help raise the level of human development, they alone will not help reduce the differences that exist among the ethnic population sub-

groups. Specific social and economic policies and strategic programs aimed at the disadvantaged groups need to be developed such that the differences between the various groups can be minimized and, at the same time, their participation can be more effective in improving human development in Nepal.

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