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Statistical Evidence on Social and Economic Exclusion in Nepal

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Main findings

The discourse on social exclusion in Nepal is very ideological, with some authors considering basically all Nepalis as socially excluded except for male Bahuns of hill origin. This is obviously not very useful for targeted economic and social interventions, and the present report attempts to provide statistical evidence on what population groups are de facto excluded along a number of economic and social dimensions. In contrast to previous studies, we provide confidence intervals for all reported means, which allows us to identify statistically significant differences between castes and ethnic groups when it comes to economic and social development. Many findings support popular beliefs, while some findings are more surprising.

Despite concerted efforts to achieve universal basic and primary education, there are noticeable disparities in educational achievement, measured in terms of literacy and mean years of schooling. The hill Bahun/Chhetri group is ahead in terms of primary education, while the Tarai groups have less education, in particular the Dalits, amongst whom the Musahars have virtually no schooling.

When it comes to health services, however, the Tarai communities have shorter travel distances to the health posts and better access to safe drinking water. In terms of the nutritional level of children under five, the mountain/hill Janajati groups are relatively well off, followed by the hill Bahun/Chettri group. For child mortality the hill Bahun/Chhetris have the lowest rate, while surprisingly the relatively wealthy Tarai middle castes have the highest. With good access to health services and economic resources, the explanation may be lack of education in these communities, particularly among female household members.

When it comes to economic variables, we focus on land as this is still the backbone of the rural economies. The traditional Tharu and Yadav landlords of the Tarai have the largest landholdings, while they are matched by the hill Bahun/Chhetri group in terms of land value. Most Tarai Dalits have no land, and in particular the Musahars are all landless. Landlessness combined with poor education have traditionally forced the Tarai Dalits to be farm laborers, where due to a poor bargaining position they accept very low agricultural wages. There has been some increase in the agricultural wage, but more so outside agriculture where in particular wages and salaries have increased for the hill Bahuns.

In sum the hill Bahuns, but also the Gurungs, have experienced tremendous income growth. This in turn explains the low poverty rates for these groups. The Yadavs, the large traditional landlord middle caste of Tarai, also have a low poverty rate. Poverty is at its highest among the Tamang ethnic group of the hills, as well as among hill and Tarai Dalit groups.

When we summarize the findings as in the Human Development Index we find support for the traditional socio-economic ranking. The hill Bahun/Chettris are doing well, followed by the Janajatis, where the hill Janajatis dominate, thereafter come the Tarai middle castes, and at the bottom are the Dalits and the Muslims.

Acknowledgements

1:   Introduction

In the present political climate in Nepal there is a tendency to define basically all groups as economically and socially excluded. We wanted to investigate empirically whether this is the case, and if so, along what dimensions particular groups have been excluded from social and economic relations and resources. As sample sizes are small for many groups it has been important for us not to emphasize differences between groups that are not significant. It is our view that this happens way to often in the political and academic debate in Nepal. In aggregate, our findings are not very different from what others find, but in the details there are some surprises, such as the low poverty rate in the eastern Tarai (plains) despite very low wages for the poorest segments of the population. This finding may be explained by a class of surplus landless Dalit farm laborers, who are poor themselves but whose labor efforts on other peoples' farms may allow the smallholders to earn extra income outside agriculture and thus lift them above the poverty line.

We report on the changes in poverty levels and other human development indicators that have taken place during the conflict period, using for most indicators data from 1995/96 and 2003/2004. More specifically, for the period 1995/96 to 2003/2004 we report on:

- Changes in a number of socioeconomic indicators;
- Changes in poverty levels;
- Changes in human development indicators.

1.1   Methods

All indicators are disaggregated by caste and ethnic group, and proper confidence intervals are reported in order to identify statistically significant changes over time, as well as significant differences between groups. However, statistical comparisons over the period for Tarai groups could not be carried out because almost all Tarai groups were lumped together in the "other" category in the first round of the NLSS survey. We also report on social and economic indicators for different regions, urban versus rural, and for the ecological belts of Nepal. For all indicators, we report the mean for each group and confidence intervals that are corrected for possible dependency within wards, using STATA survey commands. Wards are relatively small administrative units that defined the primary sampling units in the NLSS surveys.

The poverty indicators are presented in the technical notes (Annex A). For the Human Development Index (HDI) and the Human Poverty Index (HPI) the aggregation level is higher than for the other indexes because demographic indicators demand considerably larger sample sizes. Details of the concepts and methods used to arrive at the two human development indices are given in Annex A. Details of the approach used for caste classification is described below, with complementary tables in Annex B. All indexes were calculated for aggregate categories, as well as for selected castes and ethnic groups within each of the main categories. The selection of these groups was based on the ongoing debate on social exclusion within Nepal. The first selected caste is hill Bahuns (Brahmins) because they are considered as the most privileged. Tamang and Gurung are selected among the hill origin ethnic groups (Janajati) as they are considered as the worst and best off respectively within this group. Kami is selected among the hill Dalits, and Musahar among the Tarai Dalits. As a contrast to the Musahar, Yadav is selected among the Tarai origin middle castes, and Tharu is selected as the largest ethnic group of Tarai. Muslims are also traditionally a Tarai group, and a major religious minority. One major identity marker in the present political context is Madhesi, who are people of Tarai, or some will say Indian, origin. They include both Dalits and higher

castes of Tarai origin. Some will even say that the Tarai Janajatis are Madhesi, but this is highly contested. See Hatlebakk (2007) for a discussion of social and economic exclusion and political mobilization in the Tarai.

Most indicators are based on the two rounds of the Nepal Living Standard Survey, NLSS (1995 and 2003). The nutrition indicators as well as the demographic indicators are based on the Nepal Demographic and Health Surveys, DHS (1996 and 2001). The sources of data used are given in Table 1.1 below.

Table 1.1:   Data Source by Indicators

Indicator	Source
Education	
Literacy	NLSS1&2
Mean year of schooling	NLSS1&2
Heath and sanitation	
Access to safe drinking water	NLSS1&2
Average time distance of heath post/hospital	NLSS1&2
Malnourished children under age 5	DHS 96&01
Infant mortality rate	DHS 96&01
Life expectancy at birth	DHS 96&01
Economic activity and income/consumption	
Agricultural land holding	NLSS1&2
Wage rate in agriculture	NLSS1&2
Wage rate in non-agriculture	NLSS1&2
Per capita consumption	NLSS1&2
Poverty indices	NLSS1&2

1.2   Rationale Behind the Focus on Ethnic/Caste Differentials and the Ethnic/Caste Classification

A New Global Focus on Caste and Ethnicity

The Human Development Report 2004 published by United Nations Development Program (UNDP) has placed cultural diversity on the development agenda. There are around 5000 ethnic groups in around 200 countries (UNDP, 2004). Moreover, diversity increases as people migrate. There appears to be increased pressure from ethnic groups around the world for recognition of their own ethnic and cultural identity. The spread of democracy and human rights movements has encouraged these demands for cultural, religious and linguistic recognition. The UNDP report discusses the relationship between ethnic identity and nationalistic feelings and to what extent the notion of superiority of one set of values over others may lead to conflict. The report covers numerous examples of ethnic movements across various countries and discusses many cases of inclusive policies being implemented all over the world.

The Nepalese Context

The 1990 Constitution of Nepal adopted the principles of eliminating social and economic inequalities and maintaining and promoting pluralism and cultural diversity. However, the process of cultural homogenization continued and has resulted in a great loss of cultural diversity (UNDP, 2007). Discrimination based on language, culture, religion, region, caste, ethnicity and gender still prevails throughout the country. Linguistic rights have been denied and the right to basic education in one's mother tongue and the right to information in one's native language remain unrecognized.

The present process of political transformation in Nepal, although still in progress, envisages including Janajati, Dalits, Madhesi, women and all those who are deprived and marginalized into the mainstream of development by proportionately including them at all levels of society.

Population counts by caste and ethnicity were introduced for the first time in the 1991 National Census. The census showed a huge diversity of castes and ethnic groups, languages and religions living together in a relatively small country. The recent population census of 2001 has listed 101 different castes and ethnic groups. These include:

Janajati: The indigenous nationalities of Nepal are called Janajati. In total, 59 ethnic groups have been identified. The largest groups are Magar, Tharu, Tamang, Newar, Rai, Gurung and Limbu. (For details, see Annex B).

Dalit: In total 21 Dalit groups have been identified. The largest are Kami, Damai/Dholi, Sarki, Chamar/Harijan and Musahar. The breakdown of Dalits by place of origin is given in Annex B.

Although social inclusion was considered one of the four pillars of the PRSP/The Tenth Plan (2002-2007), inclusive intervention programs have not been effective. It is commonly believed that many of the excluded groups, such as Janajati, Dalits, and Madhesi, are not adequately included in Nepal's political, social and economic spheres. Nevertheless, the common belief needs to be empirically examined in order to shed light on the extent of exclusion. Furthermore, our disaggregated analysis by caste and ethnicity is expected to provide a basis upon which concrete policy interventions can be formulated and then implemented for the creation of a more inclusive society.

Caste/Ethnic Classification Applied in the Analysis

The caste and ethnic groups were categorized purely according to their original place of residence rather than the place where they currently live. The estimate for a particular group was therefore based upon all the sampled households independently of their current place of residence. For instance, the estimates for hill Bahuns were based on all hill Bahun households from the mountains, hills and the Tarai. Moreover, only those castes and ethnic groups with a sample size greater than or equal to 20 households were counted separately. The "other" category (for example, other hill Janajati) was obtained by lumping together ethnic groups with sample sizes less than 20 households. The respective estimates for the ecological regions, based on the present place of residence in mountain, hill and Tarai regions, are presented separately.

2:   Education

Education is important not only for the enhancement of human skills with the purpose of increasing labor productivity but also for the intrinsic values it provides to the people. Educated people have a wide set of social and economic opportunities that are less available for the illiterate. This chapter presents the level of primary education in Nepal, based on basic indicators such as the literacy rate and the mean years of schooling. As of now, very few people have technical and higher education, and therefore we could not include those indicators due to the low proportions (for many groups equal to zero) of the sample having such education.

2.1   Literacy

The present literacy levels of some selected castes and ethnic groups are reported in the table below. Statistical tests were carried out to compare the castes and ethnic groups by using Tamang as the reference group. Likewise, proper statistical tests were performed to assess the changes that have taken place for these castes and ethnic groups between the two NLSS surveys.

2.1.1   Literacy Rate by Selected Caste/Ethnic Group

As evidenced in Table 2.1.1, the hill Bahuns are far better off than the other selected groups, who are then followed by Gurung, Tharu and Kami. Yadav, Tamang, and Muslim are in an intermediate category. Musahars are significantly inferior to any other group, with around one sixth of the average literacy level. The general improvement in the literacy level is most encouraging among the Tharu of the Tarai; other groups have also progressed significantly.

Table 2.1.1:   Change in Literacy (%) from 1995-96 to 2003-04 by Caste (5 Years and Above)

Caste/Ethnic Groups	Literacy % 1995		Literacy % 2003		Increase
	Mean	N	Mean	n	
Bahuns	57.7** (54.1-61.4)	2435	72.4** (69.3-75.6)	2334	**14.7**
Tamang **Reference**	21.8 (17.4-26.2)	610	32.8 (26.9-38.8)	1033	**11.0**
Gurung	37.3* (24.6-50.0)	521	53.0** (39.4-66.5)	450	15.7
Kami	27.0 (21.0-33.1)	670	43.2* (37.6-48.9)	635	**16.2**
Yadav	20.5 (15.8-25.1)	533	33.5 (27.5-39.6)	400	**13.0**
Tharu	24.8 (21.1-28.5)	1084	46.0** (39.8-52.1)	1118	**21.2**
Musahar			8.3** (1.9-14.7)	114	
Muslim	17.0 (12.3-21.7)	707	26.4 (21.0-31.7)	937	**9.4**
Nepal	36.6 (34.5-38.8)	16304	49.3 (47.1-51.5)	17728	**12.7**

Note: 1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels
  2) The figures in parenthesis are 95% confidence intervals
  3) The bold figures in the last column indicate significant change over time at the 95% confidence level

2.1.2   Literacy Rate by Main Caste/Ethnic Group

While Table 2.1.1 focused on some selected groups, we now look into the literacy level of the broader categories in 2003. Around half of the population is illiterate. Table 2.1.2 indicates that hill Bahun/Chhetris are in a better position as compared to the other groups. The Dalits of the hills are better off than their Dalit counterparts in the Tarai. Basically all Tarai groups have low literacy rates, as compared to similar castes or ethnic groups of the hills.

Table 2.1.2:   Literacy Rate (%) by Main Caste/Ethnic Group, 2003 (5 Years and Above)

Main Caste/Ethnic Groups	Mean	n	Main Ethnic Groups	Mean	n
Hill BC **Reference**	64.3 (61.5-67.0)	5456	Tarai Dalit	16.4** (12.2-20.6)	557
M/hill Janajati	52.4** (48.7-56.0)	5663	Muslim	26.4** (21.0-31.8)	937
Hill Dalit	44.3** (40.1-48.4)	1297	Other	35.1** (19.4-50.8)	89
Tarai H/Middle caste	36.8** (31.7-41.9)	2007	Nepal	49.3 (47.1-51.6)	17728
Tarai Janajati	44.1** (39.3-48.9)	1722			

Note: 1) * and ** denote significant difference from the reference category at the 95% and 99% confidence levels respectively
       2) The figures in parenthesis refer to 95% confidence intervals

2.1.3   Change in Literacy (%) from 1995-96 to 2003-04 by Region

The above analysis has been carried out with a view to identifying the castes and ethnic groups, which are culturally connected irrespective of their place of residence. The following analysis, however, is based purely upon the geographical as well as administrative division of the country.

There was a remarkable change in the literacy level from 1995-96 to 2003-04. Due to a relatively high initial level the Eastern Development Region has made limited progress. However, despite also starting out at a high level the Western Region has progressed more than average and had the highest literacy level in 2003.

In the rural Western Tarai, remarkable progress has been achieved in terms of the level of literacy. Presently, the people living in the rural areas of the Eastern Tarai are significantly less literate as compared to the Western Tarai. Likewise, the Eastern hill also lags behind in the level of literacy in comparison to the Western hill. The better level of literacy in the west may be attributed to the increasing level of out-migration from this region. The migrants are likely to have been motivated to take education and they are now in a comfortable economic condition where they can afford it.

Table 2.1.3: **Change in Literacy (%) from 1995-96 to 2003-04 by Region (5 Years and Above)**

Regions	1995		2003		Increase
	Mean	**n**	**Mean**	**n**	
Nepal	36.6 (34.5-38.8)	16304	49.3 (47.1-51.6)	17727	**12.7**
Urban	63.2 (56.0-70.5)	3390	73.7 (70.5-76.9)	5078	**10.5**
Rural	34.6 (32.4-36.7)	12914	44.8 (42.2-47.3)	12649	**10.2**
Mountain	27.0 (21.6-32.3)	1859	41.9 (36.4-47.5)	1591	**14.9**
Hill	44.2 (41.1-47.3)	8070	55.1 (52.0-58.3)	8237	**10.9**
Tarai	31.5 (28.2-34.8)	6375	45.4 (41.9-48.9)	7899	**13.9**
Eastern dev. region	40.6 (36.8-44.3)	3399	48.1 (42.9-53.3)	4101	**7.5**
Central dev. region	34.1 (30.2-38.1)	6234	45.6 (41.9-49.3)	6920	**11.5**
Western dev. region	43.0 (37.8-48.2)	2957	60.3 (55.9-64.7)	3281	**17.3**
Mid western dev. region	30.9 (26.2-35.5)	1848	47.6 (43.0-52.3)	2117	**16.7**
Far western dev. region	30.3 (23.5-37.1)	1866	46.0 (39.6-52.4)	1308	**15.7**
R-E_hill	38.8 (34.7-42.8)	3295	43.5 (38.8-48.2)	3510	4.8
R-E_Terai	29.7 (25.9-33.6)	3672	37.4 (32.6-42.2)	3886	**7.7**
R-W_hill	39.4 (35.1-43.8)	3824	52.4 (48.3-56.5)	3134	**13.0**
R-W_Terai	30.1 (25.0-35.3)	2123	50.4 (45.0-55.8)	2119	**20.3**

Note: 1) The bold figures in the last column indicate significant change over time at the 95% level
2) The figures in parenthesis are 95% confidence intervals
3) RE and RW refer to rural areas of the Eastern/Central development regions and Western/Mid-western/Far western development regions of the country respectively

2.2 Mean Years of Schooling

The mean years of schooling are another measure of basic skills. The mean years of schooling in Nepal are quite low, at around three years.

2.2.1 Change in Mean Years of Schooling by Selected Caste

People had nearly one more year of schooling in 2003 as compared to 1995. The situation of Bahuns and Tharus has improved most. Kami and Tamang have also seen significant progress.

The Musahars have virtually no schooling and Muslims and Tamang also have a low level of schooling. The hill Bahuns had the highest level of schooling in 2003, followed by Gurung and Tharu.

Table 2.2.1:   Change in Mean Years of Schooling from 1995-96 to 2003-04 by Caste

Caste/Ethnic Groups	Schooling years 1995		Schooling years 2003		Increase
	Mean	n	Mean	n	
Bahuns	3.8** (3.5-4.2)	2367	5.0** (4.7-5.3)	2274	**1.17**
Tamang **Reference**	1.0 (0.8-1.2)	595	1.7 (1.4-2.1)	996	**0.74**
Gurung	2.3** (1.5-3.1)	508	2.9* (2.0-3.7)	434	0.62
Kami	1.3 (1.0-1.6)	642	2.1 (1.7-2.4)	619	**0.75**
Yadav	1.5* (1.2-1.9)	510	2.1 (1.5-2.7)	377	0.55
Tharu	1.4* (1.1-1.7)	1044	2.6** (2.2-3.0)	1079	**1.16**
Musahar			0.2** (0.0-0.5)	112	
Muslim	1.1 (0.8-1.4)	677	1.1** (0.8-1.4)	891	-0.02
Nepal	2.3 (2.1-2.4)	15750	3.0 (2.8-3.1)	17185	**0.7**

Note: 1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels
2) The figures in parenthesis are 95% confidence intervals
3) The bold figures in the last column indicate significant change over time at the 95% confidence level

2.2.2   Mean Years of Schooling by Main Caste/Ethnic Group

When it comes to the broader groups, the table below reveals again that hill Bahun/Chhetris were in the best position in terms of basic education in 2003. The other castes and ethnic groups are significantly behind the hill Bahun/Chhetris. The Janajatis of hill origin are at the national average. The Tarai Dalits are well below the hill Dalits as they have virtually no schooling (0.8 year) and as such they are likely to be deprived of participation in many socio-economic affairs. Likewise, the Muslims do not fair well with regard to mean years of schooling.

Table 2.2.2:   Mean Years of Schooling by Main Caste/Ethnic Group, 2003

Main Caste/Ethnic Groups	Mean	n	Main Ethnic Groups	Mean	n
Hill BC **Reference**	4.1 (3.8-4.3)	5318	Tarai Dalit	0.8** (0.6-1.0)	543
M/hill Janajati	3.2** (3.0-3.5)	5502	Muslim	1.1** (0.8-1.4)	891
Hill Dalit	2.2** (1.9-2.4)	1253	Other	2.0** (0.9-3.1)	86
Tarai H/Middle caste	2.5** (2.1-2.9)	1932	Nepal	3.0 (2.8-3.1)	17185
Tarai Janajati	2.5** (2.1-2.8)	1660			

Note: 1) * and ** denote significant difference from the reference category at the 95% and 99% confidence levels respectively
2) The figures in parenthesis refer to 95% confidence intervals

2.2.3 Change in Mean Years of Schooling by Region

The improvements in the mean years of schooling by region are shown in Table 2.2.3. There has been a noteworthy change in the mean years of schooling in the Far-western Development Region of the country. As evidenced from the table, the Western, Central and Eastern Development Regions are close to the national average for the year 2003. The remote western parts of the country still lag behind despite the progress. The urban areas are, as expected, far ahead of the rural areas.

Table 2.2.3:   Change in Mean Years of Schooling from 1995-96 to 2003-04 by Region

Regions	1995		2003		Increase
	Mean	**N**	**Mean**	**n**	
Nepal	2.3 (2.1-2.4)	15750	3.0 (2.8-3.1)	17185	**0.7**
Urban	4.8 (4.2-5.3)	3327	5.5 (5.1-5.9)	4971	**0.7**
Rural	2.0 (1.9-2.2)	12423	2.4 (2.2-2.6)	12214	**0.4**
Mountain	1.4 (1.1-1.7)	1791	2.3 (1.9-2.7)	1541	**0.9**
Hill	2.6 (2.4-2.9)	7803	3.4 (3.2-3.6)	7997	**0.8**
Tarai	2.1 (1.9-2.3)	6122	2.8 (2.5-3.0)	7647	**0.7**
Eastern dev. region	2.5 (2.2-2.8)	3296	3.0 (2.7-3.4)	3972	**0.5**
Central dev. region	2.3 (2.0-2.6)	6041	3.0 (2.7-3.3)	6736	**0.7**
Western dev. region	2.6 (2.2-2.9)	2850	3.3 (3.0-3.7)	3166	**0.7**
Mid western dev. region	1.9 (1.6-2.3)	1780	2.5 (2.1-2.9)	2043	**0.6**
Far western dev. region	1.6 (1.1-2.0)	1783	2.6 (2.1-3.0)	1268	**1.0**

Note: 1) The bold figures in the last column indicate significant change over the period at the 95% confidence levels
      2) The figures in parenthesis refer to 95% confidence intervals

3:   Health

Health is another important aspect of human life and has remained at the core of human development endeavors. Sound health not only enhances economic productivity, but also implies obvious intrinsic values and thus has a determining role in leading a long and good life. The present section presents five basic health indicators.

3.1   Access to Safe Drinking Water

Unsafe drinking water creates numerous health problems. The usual indicator of safe drinking water is piped water supply. However, in most parts of the Tarai region water from deep tube wells is considered safe, and we thus include access to tube well in our definition of safe drinking water.

3.1.1 Change in Access to Safe Drinking Water by Caste/Ethnic Group

Among the selected sub-groups in Table 3.1.1 only the hill Dalit group of Kami has seen a significant improvement in access to safe drinking water. At the national level the significant improvement of 8.8 percent is likely to have taken place due to massive drinking water programs by various government and non-government agencies. In particular, the improvement among hill Dalits may be explained by these programs.

Table 3.1.1:   **Change in Access to Safe Drinking Water from 1995-96 to 2003-04 by Caste/Ethnicity of Household**

Caste/Ethnic Groups	1995		2003		Increase
	Mean	**n**	**Mean**	**N**	
Bahuns	71.9 (64.6-79.2)	518	80.0 (73.7-86.3)	548	8.1
Tamang **Reference**	56.0 (39.3-72.7)	140	65.7 (52.2-79.2)	225	9.7
Gurung	78.4 (60.3-96.6)	127	79.8 (57.0-102.6)	124	1.4
Kami	42.9 (31.9-54.0)	154	67.4 (55.0-79.7)	161	**24.5**
Yadav	87.5** (77.6-97.3)	102	78.5 (64.2-92.9)	83	-9.0
Tharu	84.7** (74.4-95.0)	184	90.1** (81.6-98.6)	188	5.4
Musahar			58.3 (23.0-93.5)	30	
Muslim	81.5* (66.8-96.3)	124	93.3** (87.9-98.6)	168	11.8
Nepal	70.4 (66.4-74.4)	3373	79.2 (76.2-82.2)	3912	**8.8**

Note: 1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels
2) The figures in parenthesis are 95% confidence intervals
3) The bold figures in the last column indicate significant change over time at the 95% confidence level

3.1.2   Access to Safe Drinking Water by Main Caste/Ethnic Group

If we go on to the broader population categories, we find that access to safe drinking water is better in the Tarai communities as compared to those of hill origin. The hill Dalits are still the most deprived of this basic need. This may still be partly due to the social practice that denies free access by Dalits to community water supply sources. The relatively better situation of the Tarai communities is most likely to be due to the popularity of low-cost deep tube wells in the Tarai belt.

On a methodological note, the quality of water has not been taken into account here due to the lack of relevant information. Similarly, the adequacy of water supply has not been taken into consideration.

Table 3.1.2:   Access to Safe Drinking Water by Main Caste/Ethnic Group (% of Households) 2003

Main Ethnic Groups	Mean	n	Main Ethnic Groups	Mean	n
Hill BC **Reference**	76.9 (72.2-81.6)	1276	Tarai Dalit	80.2 (64.9-95.4)	126
M/hill Janajati	76.5 (71.5-81.5)	1274	Muslim	93.3** (87.9-98.6)	168
Hill Dalit	65.8* (57.0-74.6)	315	Other	92.4* (78.8-106.0)	19
Tarai H/Middle caste	87.2** (81.0-93.5)	414	Nepal	79.2 (76.2-82.2)	3912
Tarai Janajati	88.4** (82.4-94.5)	320			

Note: 1) * and ** denote significant difference from the reference category at the 95% and 99% confidence levels respectively
2) The figures in parenthesis refer to 95% confidence intervals

3.1.3 Change in Access to Safe Drinking Water by Region

Access to safe drinking water has improved more in the mountains than in the other ecological belts. Similarly, the western parts of the country have seen better progress than the central and eastern parts.

The situation in the year 2003, however, shows that the Midwestern Region is still below the national average with less than two thirds of households having access to safe drinking water. The situation in the urban areas is much better than in the rural areas, although there has been a decline in the percentage of households with access to safe drinking water in urban areas. This decline can be explained by migration to towns and cities.

Table 3.1.3:   Change in Access to Safe Drinking Water from 1995-96 to 2003-04 by Region (% of Households)

Regions	1995		2003		Increase
	Mean	**n**	**Mean**	**n**	
Nepal	70.4 (66.4-74.4)	3373	79.2 (76.2-82.2)	3912	**8.8**
Urban	95.6 (92.9-98.4)	716	89.4 (86.0-92.9)	1164	**-6.2**
Rural	68.4 (64.1-72.8)	2657	77.2 (73.7-80.7)	2748	**8.8**
Mountain	47.1 (34.8-59.4)	397	72.3 (61.3-83.2)	360	**25.2**
Hill	61.3 (55.0-67.6)	1756	69.9 (64.7-75.0)	1920	**8.6**
Tarai	83.6 (77.7-89.5)	1220	89.3 (85.6-92.9)	1632	5.7
Eastern dev. region	74.1 (67.1-81.1)	717	79.6 (73.9-85.3)	900	5.5
Central dev. region	77.8 (70.3-85.3)	1320	81.5 (76.6-86.4)	1500	3.7
Western dev. region	74.6 (66.6-82.5)	624	84.8 (78.7-90.9)	780	**10.2**
Mid western dev. region	42.9 (29.2-56.7)	360	64.0 (52.0-76.1)	456	**21.1**
Far western dev. region	59.2 (45.3-73.1)	352	75.3 (60.2-90.4)	276	16.1

Note: 1) The bold figures in the last column indicate significant change over the period at the 95% confidence level
2) The figures in parenthesis refer to 95% confidence intervals

3.2   Access to Basic Health Services

Basic health services are essential for human development. Here we report on the distance in terms of travel time to the nearest health post.

3.2.1   Average Time Distance to the Nearest Health Services by Caste/Ethnic Group

The distance to basic health services was reported in NLSS by the households themselves, and we report the average travel time for each of the selected castes and ethnic groups. Most households report the time necessary to walk to the health post. For Bahuns, Tharu and Yadavs there has been a significant improvement in access to basic health services over the years. For the other groups, however, there is more variation within each group, as shown by the larger confidence intervals, so we cannot say whether the apparent improvements are representative for these groups. Furthermore we do not know whether the improved access to health services is explained by improved road conditions or new heath facilities.

For the year 2003, the reference ethnic group of Tamang, together with the Kami and the Gurungs, have almost the same poor access to health services. The castes and ethnic groups of the Tarai are relatively better off as compared to the hill communities, which is explained by the terrain of the plain areas and the higher population density.

Table 3.2.1: Change in Average Time Distance to the Nearest Health Services from 1995-96 to 2003-04 by Caste/Ethnic Group (hrs)

Caste/Ethnic Groups	1996		2003		Increase
	Mean	n	Mean	N	
Bahuns	1.1* (0.9-1.4)	518	0.7** (0.6-0.8)	548	**-0.4**
Tamang **Reference**	2.0 (1.3-2.7)	140	1.4 (0.9-1.8)	225	-0.6
Gurung	1.5 (0.5-2.6)	127	1.1 (0.3-1.9)	124	-0.4
Kami	2.0 (1.0-3.0)	154	1.4 (0.7-2.0)	161	-0.6
Yadav	0.8** (0.6-1.0)	102	0.5** (0.3-0.6)	83	**-0.3**
Tharu	0.9** (0.6-1.2)	184	0.5** (0.4-0.6)	188	**-0.4**
Musahar			0.8* (0.5-1.1)	30	
Muslim	0.7** (0.5-0.8)	124	0.4** (0.3-0.6)	168	-0.3
Nepal	1.2 (1.1-1.4)	3373	0.8 (0.7-0.9)	3912	**-0.4**

Note: 1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels
2) The figures in parenthesis are 95% confidence intervals
3) The bold figures in the last column indicate significant change over time at the 95% confidence level

3.2.2 Average Time Distance to the Nearest Health Services by Main Caste/Ethnic Group

The households are on average around 50 minutes away from basic health services. Again, the main difference in travel time is between hill and Tarai communities. For the hill communities it takes approximately one hour to the health post, while for the Tarai communities it takes only 30 minutes.

Table 3.2.2: Average Time Distance to the Nearest Health Services by Main Caste/Ethnic Group (hrs), 2003

Main Caste/Ethnic Groups	Mean	n	Main Ethnic Groups	Mean	N
Hill BC **Reference**	0.8 (0.7-0.9)	1276	Tarai Dalit	0.5** (0.3-0.6)	126
M/hill Janajati	1.0** (0.9-1.2)	1274	Muslim	0.4** (0.3-0.6)	168
Hill Dalit	1.1 (0.7-1.4)	315	Other	0.5 (0.2-0.9)	19
Tarai H/Middle caste	0.4** (0.3-0.5)	414	Nepal	0.8 (0.7-0.9)	3912
Tarai Janajati	0.5** (0.4-0.6)	320			

Note: 1) * and ** denote significant difference from the reference category at the 95% and 99% confidence levels respectively
2) The figures in parenthesis refer to 95% confidence intervals

3.2.3 Change in Average Time Distance to the Nearest Heath Services by Region

The improvements by place of residence are very similar to the findings for the castes and ethnic groups above. There appear to have been improvements in access to health services in all regions but in the western regions the improvement is not significant. This can be explained by more variation in distance within these regions, or by small sample sizes. Access to health services has improved particularly in the mountain areas, which are now at the same level as the hill districts. Urban areas have the same good access as in 1995.

Table 3.2.3:   Change in Average Time Distance to the Nearest Health Services from 1995-96 to 2003-04 by Region (hrs)

Regions	1995		2003		Increase
	Mean	**n**	**Mean**	**n**	
Nepal	1.2 (1.1-1.4)	3373	0.8 (0.7-0.9)	3912	**-0.4**
Urban	0.3 (0.3-0.4)	716	0.3 (0.2-0.4)	1164	0.0
Rural	1.3 (1.1-1.5)	2657	0.8 (0.7-0.9)	2748	**-0.5**
Mountain	1.9 (1.3-2.4)	397	1.1 (0.8-1.4)	360	**-0.8**
Hill	1.5 (1.2-1.7)	1756	1.0 (0.9-1.2)	1920	**-0.5**
Tarai	0.9 (0.7-1.1)	1220	0.5 (0.4-0.6)	1632	**-0.4**
Eastern dev. region	1.2 (0.9-1.5)	717	0.7 (0.6-0.9)	900	**-0.5**
Central dev. region	1.1 (0.8-1.3)	1320	0.7 (0.5-0.8)	1500	**-0.4**
Western dev. region	1.3 (1.0-1.6)	624	0.9 (0.6-1.1)	780	**-0.4**
Mid western dev. region	1.4 (0.8-1.9)	360	0.9 (0.7-1.2)	456	-0.5
Far western dev. region	1.8 (1.3-2.2)	352	1.1 (0.6-1.6)	276	-0.7

Note: 1)   The bold figures in the last column indicate significant change over the period at the 95% confidence level
2)   The figures in parenthesis refer to 95% confidence intervals

3.3   Malnutrition among Children under Five

We use weight for age to measure malnutrition among children. This measures the present level of malnutrition, but is a more short-term measure than the height for age (stunting) measure. Data are taken from the 1996 and 2001 DHS surveys.

3.3.1: Change in Malnutrition among Children under Five (Underweight) by Caste/Ethnic Group

The Tharu children were relatively better nourished in 2001 as compared to 1996. The other changes are not significant. We see that malnutrition was most widespread within some Tarai communities, the Muslims and the Yadav middle caste. Malnutrition was similarly common in the Kami hill Dalit community.

Table 3.3.1:   Change in Malnutrition among Children under Five (Underweight) from 1996 to 2001 by Caste/Ethnic Group (%)

Caste/Ethnic Groups	1996		2001		Increase
	Mean	n	Mean	n	
Bahuns	38.6 (33.3-43.9)	474	38.2 (33.6-42.8)	600	-0.4
Tamang **Reference**	35.7 (25.8-45.6)	284	34.3 (22.9-45.7)	399	-1.4
Gurung	15.7** (5.1-26.3)	49	22.6 (12.4-32.7)	72	6.9
Kami	49.5* (44.6-54.4)	634	49.4* (42.9-55.8)	437	-0.1
Yadav	50.9* (41.6-60.3)	104	54.4** (48.9-60.0)	181	3.5
Tharu	45.2 (40.3-50.1)	392	34.4 (29.8-38.9)	500	**-10.8**
Muslim	53.1** (45.2-61.0)	193	48.8* (44.1-53.5)	330	-4.3
Nepal	42.1 (39.9-44.3)	4009	42.0 (40.0-44.0)	6300	-0.1

Note: 1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels
2) The figures in parenthesis are 95% confidence intervals
3) The bold figures in the last column indicate significant change over time at the 95% confidence level

3.3.2   Malnutrition among Children under Five (Underweight) by Main Caste/Ethnic Group

For the aggregate groups we find that hill Janajatis were doing relatively well in 2001 with respect to nutritional status. Hill Bahun/Chettris and Tarai Janajatis, where the Tharu are the main group, were also doing relatively well. Again, the other Tarai communities had the highest percentages of malnutrition, including the relatively wealthy Tarai middle castes.

Table 3.3.2:   Malnutrition Children under Five (Underweight) by Main Ethnic Group, 2001

Main Caste/Ethnic Groups	Mean	n	Main Ethnic Groups	Mean	N
Hill BC **Reference**	41.4 (38.6-44.3)	1923	Tarai Dalit	52.8** (47.5-58.0)	216
M/hill Janajati	31.5** (26.0-37.0)	1554	Muslim	48.8** (44.1-53.5)	330
Hill Dalit	47.1* (42.5-51.7)	746	Other	54.2 (48.7-59.7)	283
Tarai H/Middle caste	50.2** (46.0-54.4)	600	Nepal	42.0 (40.0-44.0)	6300
Tarai Janajati	38.6 (33.8-43.4)	648			

Note: 1) * and ** denote significant difference from the reference category at the 95% and 99% confidence levels respectively
2) The figures in parenthesis refer to 95% confidence intervals

3.3.3   Level of Malnutrition by Eco-region

The changes in nutritional level by region of residence are shown in Table 3.3.3. There is an apparent improvement in the mountain belt, but variation within this belt probably explains why the improvement is not statistically significant. The other regions have seen basically no

change in the levels of malnutrition. This is a general finding for South Asia. Despite economic progress, it appears that nutritional improvements are lagging behind. Within Nepal there is, however, some regional variation, with lower levels of malnutrition in the hills as well as in the Eastern region, and obviously the urban areas are better off. But it is surprising that the food surplus area of the Tarai has more malnourished children than the hills, indicating that this is due to insufficient knowledge and inherited dietary norms rather than the availability of food. The high level of malnutrition among the relatively wealthy Tarai middle castes indicates the same.

Table 3.3.3:   Change in Level of Malnutrition from 1996 to 2001 by Eco-region (%)

Regions	1996		2001		Increase
	Mean	**n**	**Mean**	**n**	
Nepal	42.1 (39.9-44.3)	4009	42.0 (40.0-44.0)	6300	-0.1
Urban	26.6 (22.4-30.7)	355	28.9 (23.3-34.6)	591	2.3
Rural	43.1 (40.8-45.4)	3654	42.9 (40.9-45.0)	5709	-0.2
Mountain	49.0 (42.2-55.8)	544	43.7 (40.2-47.2)	935	-5.3
Hill	38.7 (35.5-41.8)	2083	38.5 (35.5-41.5)	2332	-0.2
Tarai	44.0 (40.7-47.2)	1780	44.6 (41.8-47.5)	3033	0.6
Eastern dev. region	36.6 (31.8-41.4)	733	36.2 (31.9-40.4)	1453	-0.4
Central dev. region	43.4 (39.3-47.4)	1174	45.3 (41.2-49.4)	1736	1.9
Western dev. region	40.4 (35.4-45.4)	779	38.7 (35.0-42.3)	1033	-1.7
Mid western dev. region	44.4 (38.9-49.9)	712	44.4 (40.0-48.8)	869	0.0
Far western dev. region	49.1 (44.4-53.7)	611	47.0 (43.3-50.7)	1209	-2.1

Note: 1) The bold figures in the last column indicate significant change over the period at the 95% confidence level
2) The figures in parenthesis refer to 95% confidence intervals

3.4   Infant Mortality

Early child death implies psychological as well as economic and health-related costs for the families involved. Many women will have to go through additional pregnancies, or bear the cost of not being allowed to raise the child.

3.4.1   Infant Mortality Rate by Main Caste/Ethnic Group

The infant mortality rate improved from 1996 to 2001, with a reduction of 13 deaths per thousand children born alive. There has been an improvement for all major castes and ethnic groups with the exception of the Janajatis. Dalits and Muslims have apparently progressed more than other groups. Again, we note that the Tarai middle castes are worse off, despite their relatively good economic conditions. This may be due to less awareness of reproductive health issues within these communities.

Table 3.4.1:   Infant Mortality Rate by Main Caste/Ethnic Group, 1996-2001 (per 1000 Live Births)

Main Caste/Ethnic group	IMR	IMR	Change in IMR
	1996	2001	
Hill BC	85	72	-13
All Janajati	91	91	0
All Dalits	121	86	-35
Tarai Middle caste	113	99	-14
Muslim	115	89	-26
Nepal	94	81	-13

3.4.2: Infant Mortality Rate by Region

Table 3.4.2 reports the infant mortality rates for different regions. There has been an improvement in the hills as well as in the western regions, while the Tarai and the Central and Eastern regions have seen less progress. The improvement in parts of the country that are traditionally considered to be less developed may be the result of targeted reproductive health programs in these regions. Nepal has, in particular, implemented a successful rural health worker program. It is, however, beyond the scope of the present report to evaluate the regional implementation of such programs, as compared to other determinants of reproductive health practices.

Table 3.4.2:   Change in Infant Mortality Rate from 1996 to 2001 by Region (per 1000 Live Births)

Regions	IMR	IMR	Change in IMR
	1996	2001	
Nepal	94	81	-13
Urban	65	51	-14
Rural	101	90	-11
Hill	90	72	-18
Tarai	91	88	-3
Eastern development region	86	88	2
Central development region	91	88	-3
Western development region	85	72	-13
Mid western development region	115	75	-40
Far western development region	126	112	-14

Note: We were not able to get reliable estimates for the mountain region due to a small sample size

3.5   Life Expectancy at Birth

While above we focused on infant mortality, we will now report on aggregate mortality as measured by life expectancy. Life expectancy is an input into the Human Development Index that will be reported below.

3.5.1   Life Expectancy at Birth by Main Caste/Ethnic Group

As we might expect in a country with a young population and a relatively high infant mortality rate, the findings for life expectancy are similar to the infant mortality findings. Again, the Janajatis saw no progress from 1996 to 2001, while there appears to have been progress for other groups, in particular for the Muslim and Dalit communities. The higher life expectancy of the hill Bahun/Chettris can to a large extent be explained by their low rate of infant mortality.

Table 3.5.1:   **Change in Life Expectancy at Birth from 1996 to 2001 by Main Caste/Ethnic Group (Years)**

Main Caste/Ethnic Groups	1996	2001	change
Hill BC	57.0	59.6	2.6
All Janajati	55.8	55.8	0.0
All Dalits	51.1	56.7	5.6
Tarai Middle Caste	51.5	54.1	2.6
Muslim	50.1	56.2	6.1
Nepal	55.1	57.8	2.7

3.5.2   Life Expectancy at Birth by Region

The regional data for life expectancy also reflect the infant mortality data. There has been progress in particular in the hills and the western regions that may, or may not, be the result of successful reproductive health programs.

Table 3.5.2:   **Change in Life Expectancy at Birth from 1996 to 2001 by Region (Years)**

Regions	1996	2001	change
Nepal	55.1	57.8	2.7
Urban	61.3	64.2	2.9
Rural	53.8	56.0	2.2
Hill	55.9	59.6	3.7
Tarai	55.7	56.3	0.6
Eastern development region	56.7	56.3	-0.4
Central development region	55.8	56.3	0.5
Western development region	56.9	59.7	2.8
Mid western development region	51.1	59.0	7.9
Far western development region	49.3	51.7	2.4

Note: We were not able to get reliable estimates for the mountain region due to a small sample size

4:   Economic Status

Income enables consumption, including education, food and health related consumption. As a result, income, and thus aggregate consumption, is a reasonably good predictor for overall well-being. The income poverty line is a widely accepted indicator of acceptable access to economic resources. The measure is not perfect, but it is correlated with a number of other indicators of well-being, and the policy of many developing countries is now geared towards lifting people above the poverty line by way of general economic policies for economic growth as well as targeted programs. The present section presents the economic status of the different peoples of Nepal with a focus on poverty. We include measures of income, but since income is hard to measure we also add the wage level, which determines the income of the poorest segments of the population, as well as land holdings, which determines economic and social status in rural areas.

4.1   Landownership

Ownership of agricultural land is, in the Nepali context, perceived as an indicator of social status. It is also the major productive asset in the rural economy. The following tables present the proportion of households having any agricultural land by different castes and ethnic groups as well as by regions of residence. In addition, the tables highlight changes that have taken place in land ownership between the two NLSS surveys.

4.1.1:   Change in Landownership over Time by Caste/Ethnic Group

There has been a significant decline in landownership at the national level. This is explained by an increase in the number of households as the population increases and sons separate from their father's household and find other occupations than agriculture. This appears to be happening first of all within the hill Bahun and Janajati communities, while in the Kami hill Dalit as well as the Tarai communities there is no increase in landlessness. This may reflect the fact that land is still considered a necessary asset in these communities, and sons keep a part of their ancestors' land when they separate from their father. In the Gurung community, on the other hand, there has been a large increase in households without land.

Among Muslims 40% are landless, and in particular among the Musahars there is basically no household with land. This does not mean that the Musahar community does not depend on agriculture. On the contrary, most of them still depend on their traditional occupation as farm laborers. The Musahar are a Dalit caste with historical roots in the plains of Nepal and India. In contrast to other Madhesi groups (people with traditional family and social links to India) many Musahars have not been able to get Nepali citizenship, which in turn means that they are not allowed to own land. They thus live on government land at the outskirts of villages, on non-productive plots in the middle of the paddy fields, or along riverbanks. Having lived in Nepal for generations, most of them are registered in the voter lists, and are entitled to attend schools and thus participate in Nepali society. The lack of landownership may in turn explain their poor bargaining position in the labor market, as we shall see below.

Table 4.1.1:   Change in Landownership from 1995-96 to 2003-04 by Caste/Ethnic Group (% of HH with Land)

Caste/Ethnic Groups	1995		2003		Increase
	Mean	N	Mean	n	
Bahuns	90.3 (86.8-93.7)	518	83.9 (79.9-87.9)	548	**-6.4**
Tamang **Reference**	93.6 (88.9-98.4)	140	86.8 (80.8-92.7)	225	-6.8
Gurung	89.7 (82.7-96.7)	127	71.3* (58.2-84.3)	124	**-18.4**
Kami	81.6** (74.3-88.9)	154	84.0 (77.7-90.3)	161	2.4
Yadav	85.4 (75.7-95.0)	102	86.2 (77.8-94.6)	83	0.8
Tharu	80.9** (72.7-89.1)	184	79.8 (72.1-87.6)	188	-1.1
Musahar			3.2** (-3.3-9.8)	30	
Muslim	60.8** (45.4-76.2)	124	60.4** (53.0-67.8)	168	-0.4
Nepal	82.1 (79.6-84.6)	3373	76.8 (74.7-78.9)	548	**-5.3**

Note:1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels

2) The figures in parenthesis are 95% confidence intervals

3) The bold figures in the last column indicate significant change over time at the 95% confidence level

4.1.2 Landownership by Main Ethnic Groups

When we look into the aggregate groups, we again find that households of hill origin are the landholders, although fewer Janajati own land. In Tarai, on the other hand, more Janajatis than Muslims own land, and as discussed above few Tarai Dalits own land. However, we note that landownership is more common among non-Musahar Tarai Dalits.

Table 4.1.2:   Landownership by Main Caste/Ethnic Group (% of Households), 2003

Main Caste/Ethnic Groups	Mean	n	Main Ethnic Groups	Mean	n
Hill BC **Reference**	85.8 (83.2-88.4)	1276	Tarai Dalit	36.3** (24.8-47.7)	126
M/hill Janajati	77.7** (74.3-81.2)	1274	Muslim	60.4** (53.0-67.8)	168
Hill Dalit	83.0 (78.0-88.1)	315	Other	63.6 (37.3-89.9)	19
Tarai H/Middle caste	68.8** (61.7-75.8)	414	Nepal	76.8 (74.7-78.9)	3912
Tarai Janajati	74.7** (68.5-80.9)	320			

Note: 1) * and ** denote significant difference from the reference category at the 95% and 99% confidence levels respectively

2) The figures in parenthesis refer to 95% confidence intervals

4.1.3   Change in Landownership over Time by Region

Changes in landownership by region of residence are shown in Table 4.1.3. The main finding here is the urban-rural difference. We mentioned before that sons separate from their fathers and find non-agricultural work. Table 4.1.3 indicates that many of them find this work in

urban areas, where the population is increasing. Some of them buy land in urban areas, so the proportion of landholders there is increasing, but most of them just move into town without becoming landowners. So in aggregate the proportion of landowners is declining. As discussed before, it is particular in the hills and in the Central and Eastern regions that people are moving out of agriculture.

The final rows of the table focus on the rural population only, and show one of the main characteristics of the rural sector of Nepal. It is only in the eastern parts of Tarai that there is a large landless rural population. This is also where the landless Musahar community resides. As discussed above, this large landless population may explain the lower agricultural wages in this region, and the large supply of agricultural workers may allow landowners to have other occupations on the side, which in turn may lift them above the poverty line and thus contribute to the lower rural poverty rate in these areas. We have previously discussed this possible link from surplus labor to a low poverty rate in Hatlebakk (2007).

Table 4.1.3:   Change in Landownership from 1995-96 to 2003-04 by Region (%)

Regions	1995		2003		Increase
	Mean	**n**	**Mean**	**n**	
Nepal	82.1 (79.6-84.6)	3373	76.8 (74.6-78.9)	3912	**-5.3**
Urban	38.3 (26.6-49.9)	716	41.6 (36.4-46.8)	1164	3.3
Rural	85.6 (83.0-88.1)	2657	83.7 (81.4-86.0)	2748	-1.9
Mountain	96.7 (93.8-99.6)	397	96.6 (93.7-99.5)	360	-0.1
Hill	87.9 (85.2-90.5)	1756	80.3 (77.6-83.0)	1920	**-7.6**
Tarai	73.7 (69.0-78.4)	1220	70.3 (66.6-73.9)	1632	-3.4
Eastern dev. region	75.2 (68.9-81.4)	717	73.4 (68.5-78.4)	900	-1.8
Central dev. region	75.8 (70.6-81.0)	1320	67.0 (62.3-71.6)	1500	**-8.8**
Western dev. region	89.5 (86.5-92.4)	624	84.1 (80.2-88.0)	780	**-5.4**
Mid western dev. region	89.9 (84.7-95.0)	360	89.9 (85.3-94.6)	456	0
Far western dev. region	97.6 (94.4-100.8)	352	94.4 (90.1-98.8)	276	-3.2
R-E_hill	93.3 (89.0-97.6)	717	92.8 (89.1-96.4)	768	-0.6
R-E_Terai	69.3 (63.5-75.1)	744	67.0 (62.3-71.8)	816	-2.2
R-W_hill	94.5 (92.3-96.7)	828	93.5 (91.0-96.0)	756	-1.0
R-W_Terai	89.0 (84.9-93.2)	368	87.4 (83.3-91.6)	408	-1.6

Note: 1) The bold figures in the last column indicate significant change over time at the 95% confidence level
2) The figures in parenthesis are 95% confidence intervals
3) RE and RW refers to rural areas of the Eastern/Central development regions and Western/Mid-western /Far western development regions of the country respectively

4.2   Average Area of Landholding

We now report on the average landholding measured in hectares.

4.2.1   Change in Average Land Area by Caste/Ethnic Group

As the number of households has increased in Nepal, the average landholding has declined from 0.85 ha in 1995 to 0.6 ha in 2003. When we look at the selected sub-groups, there is a significant decline only for the Bahuns of hill origin. For other groups there is so large a variation in the size of landholding that we cannot say whether the apparent decline is a real effect or a random coincidence for each particular group. But there are significant inter-group differences in the level of landholdings. Among the hill communities, the Gurung have less land than the Tamang, which may be because Gurung households to a larger extent have non-agricultural occupations. The Kami hill Dalits also have less land than the Tamangs. The Tharu and Yadav Tarai communities have larger landholdings compared to other Tarai communities, such as the Muslims and in particular the landless Musahar community.

Table 4.2.1:   **Change in Average Land Area from 1995-96 to 2003-04 by Caste/Ethnic Group (ha per HH)**

Caste/Ethnic Groups	1995		2003		Increase
	Mean	**n**	**Mean**	**n**	
Bahuns	0.96 (0.78-1.14)	518	0.70 (0.60-0.81)	548	**-0.26**
Tamang **Reference**	0.78 (0.52-1.03)	140	0.57 (0.48-0.66)	225	-0.21
Gurung	0.52 (0.42-0.61)	127	0.43* (0.32-0.53)	124	-0.09
Kami	0.43* (0.26-0.60)	154	0.41* (0.31-0.52)	161	-0.02
Yadav	1.02 (0.71-1.33)	102	1.03** (0.71-1.36)	83	0.01
Tharu	1.29* (0.95-1.64)	184	1.06* (0.66-1.45)	188	-0.23
Musahar			0.00** (0.00-0.00)	30	
Muslim	0.78 (0.39-1.17)	124	0.49 (0.32-0.65)	168	-0.29
Nepal	0.85 (0.77-0.93)	3373	0.60 (0.56-0.65)	3912	**-0.25**

Note: 1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels
2) The figures in parenthesis are 95% confidence intervals
3) The bold figures in the last column indicate significant change over time at the 95% confidence level

4.2.2   Average Land Area (ha) by Main Caste/Ethnic Group

When we look at the broader groups, we find that hill Bahun/Chettris have more land than other hill communities. They have twice the landholding size of the hill Dalits. Note that some of these households of hill origin reside in the Tarai. The Tarai middle castes and Janajatis have about the same landholdings as the hill Bahun/Chettris, while again, the Muslims and in particular the Tarai Dalits have less land. Even though we here include the landholding Dalit castes, they still have on average only half the landholding of the Dalits of hill origin.

Table 4.2.2:   Average Land Area (ha) by Main Caste/Ethnic Group, 2003

Main Caste/Ethnic Groups	Mean	n	Main Ethnic Groups	Mean	n
Hill BC Reference	0.71 (0.64-0.78)	1276	Tarai Dalit	0.16** (0.06-0.27)	126
M/hill Janajati	0.53** (0.47-0.59)	1274	Muslim	0.49* (0.32-0.65)	168
Hill Dalit	0.34** (0.28-0.41)	315	Other	0.58 (0.05-1.10)	19
Tarai H/Middle caste	0.65 (0.51-0.79)	414	Nepal	0.60 (0.56-0.65)	3912
Tarai Janajati	0.88 (0.62-1.15)	320			

Note: 1) * and ** denote significantly different from the reference category at the 95% and 99% confidence levels respectively

2) The figures in parenthesis refer to 95% confidence intervals

4.2.3   Change in Average Land Area by Region

If we now switch attention from the traditional areas of origin to the households' actual areas of residence, then we find that the decline in landholdings is relatively evenly distributed throughout the country. The main exception is the drastic decline in the Far Western region, which we believe is due to some large farms in the 1995 data set. Other than that, there is a larger decline in the Eastern and Mid-Western regions, where landholdings were initially large. We also note that landholdings are not much larger in Tarai as compared to the hills, but farm yields are normally better in Tarai.

Table 4.2.3:   Change in Average Land Area (ha) from 1995-96 to 2003-04 by Region

Regions	1995		2003		Increase
	Mean	n	Mean	n	
Nepal	0.85 (0.77-0.93)	3373	0.60 (0.56-0.65)	3912	**-0.25**
Urban	0.42 (0.23-0.62)	716	0.30 (0.24-0.37)	1164	-0.12
Rural	0.88 (0.80-0.97)	2657	0.66 (0.61-0.71)	2748	**-0.22**
Mountain	1.11 (0.83-1.40)	397	0.84 (0.68-0.99)	360	-0.27
Hill	0.75 (0.64-0.87)	1756	0.53 (0.48-0.58)	1920	**-0.22**
Tarai	0.90 (0.79-1.01)	1220	0.64 (0.55-0.72)	1632	**-0.26**
Eastern dev. region	0.99 (0.81-1.17)	717	0.74 (0.64-0.84)	900	**-0.25**
Central dev. region	0.64 (0.53-0.74)	1320	0.45 (0.39-0.51)	1500	**-0.19**
Western dev. region	0.75 (0.65-0.86)	624	0.61 (0.50-0.73)	780	-0.14
Mid western dev. region	0.96 (0.73-1.19)	360	0.66 (0.56-0.77)	456	**-0.30**
Far western dev. region	1.42 (1.07-1.77)	352	0.75 (0.56-0.94)	276	**-0.67**

Note: 1) The bold figures in the last column indicate significant change over the period at the 95% confidence level

2) The figures in parenthesis refer to 95% confidence intervals

4.3 Value of Agricultural Land

The value of the household's landholding will reflect the size that we discussed above, but also the quality of land as well as the demand, where the latter in turn reflects migration patterns and developments in the non-agricultural sectors. For the household, land is a productive asset, but also a means of saving and status, and it is used as collateral to get loans. In urban areas the land has additional value as potential house-plots.

4.3.1 Average Value of Land Area (NRs) per Household by Selected Castes/Ethnic Group

Among the selected castes and ethnic groups, Tharu, Bahuns and Yadavs are significantly better off than other groups. Thereafter come Gurung, M

uslims and Tamang, while the hill Dalit group of Kami is significantly poorer. And again, the Musahars have no land.

Table 4.3.1:   Value of Agricultural Land by Select Caste/Ethnic Groups (NRs)

Caste/Ethnic Groups	2003	
	Mean	**n**
Bahuns	558516** (465497-651536)	548
Tamang **Reference**	166750 (123638-209862)	225
Gurung	222465 (117158-327773)	124
Kami	113098* (86289-139907)	161
Yadav	432496** (298257-566735)	83
Tharu	609261** (382876-835647)	188
Musahar	97** (0-295)	30
Muslim	196725 (135653-257796)	168
Nepal	558516 (465497-651536)	548

Note: 1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels
      2) The figures in parenthesis are 95% confidence intervals

4.3.2 Value of Land Area (NRs) by Main Caste/Ethnic Group

For the aggregate groups the Tarai Janajati, amongst whom Tharu is the largest group, and hill Bahun/Chettris are the wealthiest. The Dalits are at the bottom with inferior landholdings.

Table 4.3.2:   Value of Agricultural land by Main Caste/Ethnic Group, NRs, 2003

Main Caste/Ethnic Groups	Mean	N	Main Ethnic Groups	Mean	n
Hill BC **Reference**	478040 (407881-548199)	1276	Tarai Dalit	71259** (19085-123433)	126
M/hill Janajati	240807** (205012-276602)	1274	Muslim	196725** (135653-257796)	168
Hill Dalit	112395** (91095-133696)	315	Other	250783* (57260-444307)	19
Tarai H/Middle caste	341592* (228127-455057)	414	Nepal	331806 (297299-366312)	3912
Tarai Janajati	495922 (340948-650896)	320			

Note: 1) * and ** denote significant difference from the reference category at the 95% and 99% confidence levels respectively
        2) The figures in parenthesis refer to 95% confidence intervals

4.3.3 Value of Land Area (NRs) by Region

As we may expect, average land values are higher in Tarai than in the hills. The plains land, with better access to irrigation and transportation, is attractive for agriculture and housing, as well as non-farm economic activities. Furthermore, land values are at their highest in the western Tarai. This is not due to outliers in the data; the median land value is also much larger in the western Tarai. In the hills the median rural land value is 129 000, while in the eastern Tarai it is 80 000 and as much as 260 000 in the western Tarai. So there is major land inequality in the eastern Tarai, while in the west people in general have high land values.

This east-west difference in the Tarai can be explained by the better non-farm income possibilities in the east, which in turn can be explained by the availability of surplus labor in terms of landless low-caste households in the east. The availability of surplus labor can be explained by the labor market on the Indian side of the border. From the western Tarai there are very short distances to Delhi and other major urban labor markets, while there are no similar labor markets in the state of Bihar that borders the eastern Tarai. Laborers from eastern Tarai travel as far as Punjab for seasonal agricultural work.

Table 4.3.3:   Value of Agricultural Land by Region (NRs), 2003

Regions	2003	
	Mean	**n**
Nepal	331806 (297299-366312)	3912
Urban	421527 (318519-524534)	1164
Rural	314135 (278139-350131)	2748
Mountain	307050 (255869-358231)	360
Hill	265024 (215922-314126)	1920
Tarai	365905 (312566-419243)	1632
Eastern dev. region	279800 (225769-333831)	900
Central dev. region	320658 (258292-383024)	1500
Western dev. region	391943 (310130-473756)	780
Mid western dev. region	296923 (214186-379660)	456
Far western dev. region	455070 (313341-596800)	276
R-E_hill	309302 (226637-391968)	768
R-E_Terai	281204 (228819-333590)	816
R-W_hill	245289 (201211-289366)	756
R-W_Terai	498588 (387667-609508)	408

Note: 2)   The figures in parenthesis are 95% confidence intervals
        3)   RE and RW refers to rural areas of the Eastern/Central development regions and Western/
              Mid-western /Far western development regions of the country respectively

4.4   Wage Rates in Agriculture

The agricultural wage rate, in particular in eastern Tarai where a large class of people are farm laborers, defines the income of the poorest people of Nepal. For other groups wage labor is only an additional income during peak season. Note that we report the mean for all agricultural laborers at a certain point in time, but the number of agricultural laborers may have changed over the period.

4.4.1   Change in Agricultural Wage Rate by Caste/Ethnic Group

First we note that the largest increase was for the Yadavs, while at the same time fewer Yadavs worked as agricultural laborers. So the lowest paid Yadav farm laborers have apparently found work in other sectors. For other groups there is no significant change in the wage level, but for the full sample wages have significantly increased. We find that the Musahars have significantly lower wages than others, which can be explained by a poor bargaining position: as discussed above, they are all landless and at the very bottom of the caste hierarchy.

Table 4.4.1: **Change in Agricultural Wage Rate from 1995-96 to 2003-04 by Caste, NRs per Day**

Caste/Ethnic Groups	1995 (in 2003 prices)		2003		Increase
	Mean	n	Mean	n	
Bahuns	92 (63-121)	153	107 (82-132)	108	15
Tamang **Reference**	76 (57-95)	112	82 (71-92)	189	6
Gurung	86 (46-127)	45	78 (65-92)	26	-8
Kami	80 (71-89)	142	89 (80-98)	105	9
Yadav	65 (51-80)	199	90 (67-113)	52	**25**
Tharu	68 (48-88)	201	84 (74-95)	211	16
Musahar			56** (43-69)	137	
Muslim	57 (39-76)	119	68 (59-78)	210	11
Nepal	68 (63-74)	2659	76 (72-81)	2555	**8**

Note:1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels
  2) The figures in parenthesis are 95% confidence intervals
  3) The bold figures in the last column indicate significant change over time at the 95% confidence level

4.4.2 Agricultural Wage Rate by Main Caste/Ethnic Group

For the larger groups there are significant differences in wage levels, mainly between hill and Tarai origin groups. Tarai middle castes, Muslims and Tarai Dalits earn less than other people.

Table 4.4.2: **Agriculture Wage Rate by Main Caste/Ethnic Group, 2003, Nrs per Day**

Main Caste/Ethnic Groups	Mean	n	Main Ethnic Groups	Mean	n
Hill BC **Reference**	94 (83-105)	310	Tarai Dalit	59** (52-65)	442
M/hill Janajati	82 (74-91)	630	Muslim	68** (59-78)	210
Hill Dalit	89 (83-95)	274	Other	64* (48-79)	23
Tarai H/Middle caste	75* (65-85)	314	Nepal	76 (72-81)	2555
Tarai Janajati	82 (74-90)	352			

Note: 1) * and ** denote significant difference from the reference category at the 95% and 99% confidence levels respectively
  2) The figures in parenthesis refer to 95% confidence intervals

4.4.3 Change in Agricultural Wage Rate by Region

At the regional level there has been a significant increase in the agricultural wage rate in the Tarai, as well as in the Eastern Development Region. But except for the lower wages for the Musahar, the main finding is that average wages are quite uniform throughout the country.

Table 4.4.3:   Changes in Agricultural Wage Rate from 1995-96 to 2003-04 by Region, NRs per Day

Regions	1995 (in 2003 prices)		2003		Increase
	Mean	n	Mean	n	
Nepal	68 (63-74)	2659	76 (72-81)	2555	**8**
Urban	56 (49-64)	90	82 (70-94)	213	**26**
Rural	68 (63-74)	2569	76 (72-81)	2342	**8**
Mountain	69 (53-85)	310	77 (68-86)	235	8
Hill	77 (66-89)	626	82 (74-91)	709	5
Tarai	66 (59-72)	1722	74 (69-80)	1611	**8**
Eastern dev. region	61 (57-66)	732	72 (65-78)	706	**11**
Central dev. region	66 (56-75)	1143	77 (69-85)	1246	11
Western dev. region	76 (66-86)	411	84 (74-93)	289	8
Mid western dev. region	72 (50-93)	253	88 (77-99)	166	16
Far western dev. region	87 (53-121)	120	80 (64-95)	148	-7

Note: 1) The bold figures in the last column indicate significant change over the period at the 95% confidence level

2) The figures in parenthesis refer to 95% confidence intervals

4.5   Non-agricultural Wage Rates

As discussed in Hatlebakk (2008) non-agricultural wage labor has been a pathway out of poverty in Nepal. People switch from agricultural to non-agricultural labor, where they may work more days for better pay. And even within these sectors, Table 4.5.1 shows a good increase in the wage level from 1995 to 2003. In the present report we also include the daily payments of people who get their salary on a monthly basis. This explains the relatively high daily wage as compared to the agricultural sector. By comparing the number of workers to the number of households we also note an increase in the number of non-agricultural laborers, in particular among the Tharus.

4.5.1   Change in Non-agricultural Wage Rate by Caste/Ethnic Group

For most of the focused castes and ethnic groups there is so much variation in the wage level that we cannot document a significant change in their wages. Only for the hill Bahuns do we find a significant increase in non-agricultural wages, which also contributes to the highest wage level in 2003.

Table 4.5.1: **Change in Non-Agricultural Wage Rate from 1995-96 to 2003-04 by Caste/Ethnic Group, NRs per day**

Caste/Ethnic Groups	1995 (2003 prices)		2003		Increase
	Mean	n	Mean	N	
Bahuns	136 (122-150)	241	171** (155-188)	283	**35**
Tamang **Reference**	155 (99-212)	91	115 (97-133)	164	-40
Gurung	141 (116-165)	46	158 (118-199)	66	17
Kami	94 (78-110)	98	111 (88-133)	95	17
Yadav	127 (56-198)	32	130 (103-158)	30	3
Tharu	122 (97-147)	86	134 (124-144)	158	12
Musahar			91 (23-159)	11	
Muslim	125 (92-158)	76	126 (97-154)	118	1
Nepal	133 (125-141)	1900	152 (137-167)	2535	**19**

Note: 1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels
2) The figures in parenthesis are 95% confidence intervals
3) The bold figures in the last column indicate significant change over time at the 95% confidence level

4.5.2 Non-agricultural Wage Rate by Main Caste/Ethnic Group

For the broader groups we find that Dalits, both of hill and Tarai origin, as well as the Tarai Janajatis, earn less than other people.

Table 4.5.2: **Non-agricultural Wage Rate by Main Caste/Ethnic Group, 2003, NRs per Day**

Main Caste/Ethnic Groups	Mean	n	Main Ethnic Groups	Mean	n
Hill BC **Reference**	156 (145-166)	724	Tarai Dalit	114** (97-131)	90
M/hill Janajati	170 (130-211)	900	Muslim	126 (97-154)	118
Hill Dalit	113** (97-130)	224	Other	148 (71-225)	15
Tarai H/Middle caste	157 (137-177)	213	Nepal	152 (137-167)	2535
Tarai Janajati	132** (121-144)	251			

Note: 1) * and ** denote significant difference from the reference category at the 95% and 99% confidence levels respectively
2) The figures in parenthesis refer to 95% confidence intervals

4.5.3 Change in Non-agricultural Wage Rate by Region

When it comes to regional differences, the increase in wages has primarily taken place in urban areas and in the Central-Western Development Regions, which include major cities such as Kathmandu, Pokhara, and a number of industrial cities in the Tarai.

Table 4.5.3:   Change in Non-agricultural Wage Rate from 1995-96 to 2003-04 by Region, NRs per Day

Regions	1995 (2003 prices)		2003		Increase
	Mean	**n**	**Mean**	**n**	
Nepal	133 (125-141)	1900	152 (137-167)	2535	**19**
Urban	139 (123-156)	646	176 (141-211)	1075	37
Rural	131 (122-141)	1254	137 (129-144)	1460	6
Mountain	133 (91-174)	248	134 (113-154)	191	1
Hill	139 (127-151)	1091	156 (129-183)	1361	17
Tarai	125 (115-136)	561	149 (140-159)	983	**24**
Eastern dev. region	140 (120-160)	333	138 (123-154)	434	-2
Central dev. region	137 (124-149)	925	166 (137-194)	1216	29
Western dev. region	125 (113-137)	241	151 (138-165)	395	**26**
Mid western dev. region	125 (93-157)	198	127 (111-143)	312	2
Far western dev. region	122 (96-147)	203	124 (107-142)	178	2

Note: 1) The bold figures in the last column indicate significant change over the period at the 95% confidence level
2) The figures in parenthesis refer to 95% confidence intervals

4.6   Per Capita Consumption

In this section we report on annual per capita price-adjusted consumption based upon the two NLSS surveys. In the next section the consumption levels are compared to a nutrition-based poverty line. We can see that the national average is in the range of 15000 rupees per person per year; this is approximately USD 200. The consumption measured in PPP-USD will of course be higher.

4.6.1   Change in Average Consumption by Caste/Ethnic Group

Real consumption has increased for all groups, except for the Tamangs. In particular the hill Bahuns and Gurungs have had a remarkable increase in consumption. The other groups have also seen some growth, but are still relatively poor on average, with per capita incomes in the range of 10 000 rupees per year.

Table 4.6.1: **Change in Average Consumption from 1995-96 to 2003-04 by Caste/Ethnic Groups (in NRs)**

Caste/Ethnic Groups	Mean 1995 (2003 prices)	n	Mean (2003)	n	Increase
Bahuns	13815** (12387-15242)	518	23088** (19700-26476)	548	**9273**
Tamang **Reference**	8816 (7132-10501)	140	8833 (7393-10274)	225	17
Gurung	14388* (10361-18415)	127	22168** (15611-28725)	124	**7780**
Kami	7428 (6502-8354)	154	10884 (9005-12764)	161	**3456**
Yadav	10069 (9142-10996)	102	12477** (10781-14174)	83	**2408**
Tharu	8539 (7560-9518)	184	11817** (10169-13465)	188	**3278**
Musahar			9032 (6446-11619)	30	
Muslim	8092 (7479-8705)	124	10857* (9488-12226)	168	**2765**
Nepal	10792 (10255-11329)	3373	15706 (14759-16652)	3912	**4914**

Note: 1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels
2) The figures in parenthesis are 95% confidence intervals
3) The bold figures in the last column indicate significant change over time at the 95% confidence level

4.6.2 Per Capita Consumption (NRs) by Main Caste/Ethnic Group

When we look into the aggregate groups, we again find that the hill Bahun/Chettris and the hill Janajatis have higher incomes than others, while the Tarai middle castes are in an intermediate position.

Table 4.6.2: **Per Capita Consumption (NRs) by Main Caste/Ethnic Group, 2003**

Main Caste/Ethnic Groups	Mean	n	Main Ethnic Groups	Mean	n
Hill BC **Reference**	19213 (17261-21165)	1276	Tarai Dalit	9217** (8361-10073)	126
M/hill Janajati	17849 (15805-19893)	1274	Muslim	10857** (9488-12226)	168
Hill Dalit	10517** (9405-11630)	315	Other	12159 (5166-19152)	19
Tarai H/Middle caste	14307** (12606-16009)	414	Nepal	15706 (14759-16652)	3912
Tarai Janajati	11736** (10479-12994)	320			

Note:1) * and ** denote significant difference from the reference category at the 95% and 99% confidence levels respectively
2) The figures in parenthesis refer to 95% confidence intervals

4.6.3 Change in Average Consumption by Region

When it comes to regional differences, we again find economic growth in most areas, with the exception of the high mountain belt, as well as the Far West. As expected, there has been tremendous growth in urban areas, and probably as a result of that a slightly higher growth in

the hills as compared to the Tarai, and higher growth in the Central and Western regions as compared to the rest of the country.

Table 4.6.3:   **Change in Average Consumption from 1995-96 to 2003-04 by Region, (in NRs)**

Regions	1995		2003		Increase
	Mean(in 2003 prices	n	Mean	n	
Nepal	10792 (10253-11332)	3373	15706 (14759-16652)	3912	**4914**
Urban	22865 (18763-26967)	716	33663 (29856-37470)	1164	**10798**
Rural	9893 (9400-10385)	2657	12528 (11682-13375)	2748	**2635**
Mountain	8957 (7585-10329)	397	10178 (9297-11068)	360	1201
Hill	11756 (10859-12654)	1756	17621 (15970-19272)	1920	**5865**
Tarai	10243 (9513-10974)	1220	14846 (13598-16093)	1632	**4603**
Eastern dev. region	10834 (9922-11745)	717	14024 (12486-15562)	900	**3190**
Central dev. region	12505 (11377-13634)	1320	18274 (16268-20279)	1500	**5769**
Western dev. region	10945 (9859-12030)	624	17340 (14693-19988)	780	**6395**
Mid western dev. region	7691 (6763-8619)	360	11993 (9804-14183)	456	**4302**
Far western dev. region	8391 (6445-10337)	352	10605 (8850-12360)	276	2214

Note: 1) The bold figures in the last column indicate significant change over the period at the 95% confidence level
2) The figures in parenthesis refer to 95% confidence intervals

4.7   Poverty Situation

As poverty is defined as per capita consumption below a poverty line, we might expect the poverty estimates to reflect the consumption estimates reported above. This will not necessarily be the case, as some regions may have an equal distribution of income just above the poverty line, and thus be relatively poor in consumption terms, but still have few people below the poverty line. In addition to the poverty head count (the share of the population below the poverty line), we will report the average distance from the consumption level to the poverty line (the poverty gap). The latter measures the depth of poverty. If many people have an income just below the poverty line, then poverty may be high while the poverty gap may be relatively small.

4.8   Head Count Poverty

We first report on the percentage of poor households in different caste/ethnic groups and regions.

4.8.1   Change in Poverty by Caste

Poverty has declined in Nepal from 42% in 1995 to 31% in 2003. Due to relatively small sample sizes we cannot say that all groups have benefitted, but Tharus and hill Bahuns have had a significant decline in the poverty rate. In 2003 the poorest groups are Tamang, Musahar, Kami and Muslims, while the poverty rate is the lowest for hill Bahuns, Gurungs and Yadavs.

This poverty ranking corresponds with the social ranking of these castes and ethnic groups in Nepali society. Hill Bahuns and Gurungs are considered to be at the top of the social hierarchy in the hills, and Yadav similarly in the Tarai together with some other middle and high caste groups. Tamang and Kami are considered to be at the lower end of the social hierarchy in the hills, and many Muslims and in particular the Musahar are considered to be at the lower end in the Tarai communities. We thus conclude that there is a strong correlation between economic and social exclusion.

Table 4.8.1:   **Change in Poverty Level from 1995-96 to 2003-04 by Caste/Ethnic Groups (Head Count) (%)**

Caste/Ethnic Groups	1995		2003		Increase
	Mean	n	Mean	n	
Bahuns	6.6 (4.4-8.8)	518	2.0** (0.9-3.1)	548	**-4.6**
Tamang **Reference**	16.2 (8.4-24.1)	140	22.0 (16.0-28.1)	225	5.8
Gurung	8.6 (3.4-13.8)	127	4.7** (-0.5-9.9)	124	-3.9
Kami	19.5 (14.7-24.2)	154	10.9** (7.4-14.4)	161	**-8.6**
Yadav	7.1 (3.1-11.1)	102	4.0** (1.4-6.6)	83	-3.1
Tharu	12.7 (9.0-16.5)	184	7.6** (4.5-10.7)	188	**-5.1**
Musahar			17.2 (8.2-26.2)	30	
Muslim	11.3 (6.6-16.0)	124	9.3** (5.5-13.1)	168	-2
Nepal	11.7 (10.3-13.2)	3373	7.5 (6.5-8.6)	3912	**-4.2**

Note:1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels
     2) The figures in parenthesis are 95% confidence intervals
     3) The bold figures in the last column indicate significant change over time at the 95% confidence level

4.8.2 Poverty by Main Caste/Ethnic Group

If we go on to the aggregate groups, then the hill Bahun/Chettris have the lowest poverty rate among the hill origin groups, while in particular the hill Dalits have the highest poverty rate. Among the Tarai communities the middle castes have the lowest poverty rate, while in particular the Tarai Dalits have the highest rate of poverty. Again, the traditional caste hierarchy is reproduced in economic terms.

Table 4.8.2:   Poverty (Head Count) by Main Ethnic Group, 2003 (%)

Main Caste/Ethnic Groups	Mean	n	Main Ethnic Groups	Mean	n
Hill BC **Reference**	4.2 (2.9-5.6)	1276	Tarai Dalit	11.0** (7.8-14.1)	126
M/hill Janajati	10.0** (7.6-12.4)	1274	Muslim	9.3* (5.5-13.1)	168
Hill Dalit	11.1** (8.5-13.7)	315	Other	12.1 (-0.9-25.0)	19
Tarai H/Middle caste	4.8 (3.1-6.5)	414	Nepal	7.5 (6.5-8.6)	3912
Tarai Janajati	8.1** (5.5-10.6)	320			

Note: 1) * and ** denote difference from the reference category at the 95% and 99% confidence levels respectively

2) The figures in parenthesis refer to 95% confidence intervals

4.8.3   Change in Poverty Level by Region

When it comes to regional development we find that poverty has declined particularly in the mountain belt, and also in the Tarai, while there is not a significant decline in the hills. In the development regions there has been a significant decline, except for the Central region, which started out with the lowest poverty rate. For the rural areas in the last four rows of Table 4.7.3 the main finding is that the poverty rate is far lower in the eastern Tarai than in the other areas. As we have discussed above this may be explained by easy access to surplus landless labor in this part of the country.

Table 4.8.3:   Change in Poverty Level from 1995-96 to 2003-04 by Region (Head Count) (%)

Regions	1995		2003		Increase
	Mean	**n**	**Mean**	**n**	
Nepal	41.8 (38.1-45.4)	3373	30.8 (27.8-33.9)	3912	**-11**
Urban	21.6 (9.7-33.4)	716	9.6 (5.7-13.4)	1164	-12
Rural	43.3 (39.4-47.1)	2657	34.6 (31.1-38.1)	2748	**-8.7**
Mountain	57.0 (47.1-66.9)	397	32.6 (24.5-40.7)	360	**-24.4**
Hill	40.7 (34.8-46.6)	1756	34.5 (29.6-39.4)	1920	-6.2
Tarai	40.3 (35.1-45.4)	1220	27.6 (23.3-31.8)	1632	**-12.7**
Eastern dev. region	38.9 (32.9-44.9)	717	29.3 (22.6-36.0)	900	**-9.6**
Central dev. region	32.5 (26.4-38.6)	1320	27.1 (22.5-31.7)	1500	-5.4
Western dev. region	38.6 (31.1-46.0)	624	27.1 (19.9-34.4)	780	**-11.5**
Mid western dev. region	59.9 (50.3-69.4)	360	44.8 (37.7-51.9)	456	**-15.1**
Far western dev. region	63.9 (51.6-76.3)	352	41.0 (27.6-54.3)	276	**-22.9**
R-E_hill	36.1 (29.2-43.1)	717	42.9 (35.4-50.4)	768	6.8
R-E_Terai	37.2 (30.5-43.8)	744	24.9 (20.0-29.8)	816	-12.3
R-W_hill	55.0 (47.2-62.8)	828	37.4 (30.5-44.3)	756	-17.6
R-W_Terai	46.1 (38.0-54.1)	368	38.1 (29.1-47.2)	408	-7.9

Note: 1)   The bold figures in the last column indicate significant change over time at the 95% level

2)   The figures in parenthesis are 95% confidence intervals

3)   RE and RW refers to rural areas of the Eastern/Central development regions and Western/ Mid-western /Far western development regions of the country respectively

4.9   Poverty Gap

The incidence of poverty measured by the head count index does not measure the depth poverty. For instance, a person with an annual consumption of rupees 1000 below the poverty line and a person with rupees 2000 below the poverty line will be counted equally. The poverty gap index, on the other hand, calculates how far the average person is below the poverty line (as a percentage of the income that defines the poverty line), counting zero for the non-poor. One of the striking advantages of this index is that it indicates the resources required to lift all the poor to the poverty line.

4.9.1   Change in Poverty Gap by Caste/Ethnic Group

First we note that the national poverty gap is relatively small, and has declined from 12% in 1995 to 8% in 2003. This means that with 8% of the income that defines the poverty line, that is approximately 600 rupees per person at the national level, everyone can theoretically be lifted up to the poverty line. As for the head count, the poverty gap has significantly declined for hill Bahuns and Tharus, and also for the hill Dalit caste of Kami. In 2003 the Tamang and

the Musahar were the poorest groups, with Tamang living in the hills north of Kathmandu and the Musahar in the eastern Tarai.

Table 4.9.1:   Change in Poverty Gap from 1995-96 to 2003-04 by Caste (%)

Caste/Ethnic Groups	1995		2003		Increase
	Mean	n	Mean	n	
Bahuns	6.6 (4.4-8.8)	518	2.0** (0.9-3.1)	548	**-4.6**
Tamang **Reference**	16.2 (8.4-24.1)	140	22.0 (16.0-28.1)	225	5.8
Gurung	8.6 (3.4-13.8)	127	4.7** (-0.5-9.9)	124	-3.9
Kami	19.5 (14.7-24.2)	154	10.9** (7.4-14. 4)	161	**-8.6**
Yadav	7.1 (3.1-11.1)	102	4.0** (1.4-6.6)	83	-3.1
Tharu	12.7 (9.0-16.5)	184	7.6** (4.5-10.7)	188	**-5.1**
Musahar			17.2 (8.2-26.2)	30	
Muslim	11.3 (6.6-16.0)	124	9.3** (5.5-13.1)	168	-2
Nepal	11.7 (10.3-13.2)	3373	7.5 (6.5-8.6)	3912	**-4.2**

Note: 1) * and ** respectively denotes difference from the reference category at the 95% and 99% confidence levels
2) The figures in parenthesis are 95% confidence intervals
3) The bold figures in the last column indicate significant change over time at the 95% confidence level

4.9.2 Poverty Gap by Main Caste/Ethnic Group

For the aggregate groups the findings are the same as for the head count: the social hierarchy is reproduced. The hill Bahun/Chettris have the lowest poverty gap among the hill communities, and the Tarai Middle castes the lowest gap among the Tarai communities.

Table 4.9.2:   Poverty Gap by Main Caste/Ethnic Group, 2003 (%)

Main Caste/Ethnic Groups	Mean	n	Main Ethnic Groups	Mean	n
Hill BC **Reference**	4.2 (2.9-5.6)	1276	Tarai Dalit	11.0** (7.8-14.1)	126
M/hill Janajati	10.0** (7.6-12.4)	1274	Muslim	9.3* (5.5-13.1)	168
Hill Dalit	11.1** (8.5-13.7)	315	Other	12.1 (-0.9-25.0)	19
Tarai H/Middle caste	4.8 (3.1-6.5)	414	Nepal	7.5 (6.5-8.6)	3912
Tarai Janajati	8.1** (5.5-10.6)	320			

Note: 1) * and ** denote significant difference from the reference category at the 95% and 99% confidence levels respectively
2) The figures in parenthesis refer to 95% confidence intervals

4.9.3   Change in Poverty Gap by Region

For the regions we find that the poverty gap has declined in all the ecological belts, but more in the mountain belt than in the hills and the Tarai. When it comes to the east-west division,

there has only been a decline in the three western development regions. So most of the improvement is due to the very deep poverty initially in the western parts of the country. This is obviously a very positive development. And we see from the rural data in the four lower rows of Table 4.8.3 that this increase in incomes for the vey poor took place in the western hills. This positive development is probably due to high migration among the poor of the western hills to work in India.

Table 4.9.3:   Change in Poverty Gap from 1995-96 to 2003-04 by Region (%)

Regions	1995		2003		Increase
	Mean	**n**	**Mean**	**n**	
Nepal	11.7 (10.3-13.2)	3373	7.5 (6.5-8.6)	3912	**-4.2**
Urban	6.5 (1.6-11.5)	716	2.2 (1.1-3.3)	1164	-4.3
Rural	12.1 (10.6-13.7)	2657	8.5 (7.3-9.7)	2748	**-3.6**
Mountain	17.7 (12.9-22.5)	397	6.9 (4.5-9.3)	360	**-10.8**
Hill	13.3 (10.6-15.9)	1756	9.8 (7.9-11. 7)	1920	**-3.5**
Tarai	9.5 (7.8-11.2)	1220	5.8 (4.6-6.9)	1632	**-3.7**
Eastern dev. region	9.5 (7.4-11.6)	717	7.7 (5.5-9.8)	900	-1.8
Central dev. region	8.2 (6.0-10.5)	1320	6.8 (5.0-8.7)	1500	-1.4
Western dev. region	10.8 (7.8-13.7)	624	6.5 (4.1-9.0)	780	**-4.3**
Mid western dev. region	19.6 (15.0-24.3)	360	10.3 (8.0-12.7)	456	**-9.3**
Far western dev. region	21.1 (15.3-26.9)	352	8.9 (5.7-12.0)	276	**-12.2**
R-E_hill	10.5 (7.5-13.4)	717	13.1 (9.8-16.3)	768	**2.6**
R-E_Terai	8.0 (6.0-10.0)	744	5.0 (3.8-6.1)	816	-3.1
R-W_hill	19.0 (15.4-22.5)	828	9.0 (7.0-11.1)	756	**-9.9**
R-W_Terai	11.4 (8.6-14.2)	368	8.3 (5.5-11.0)	408	-3.2

Note: 1)   The bold figures in the last column indicate significant change over time at the 95% level
       2)   The figures in parenthesis are 95% confidence intervals
       3)   RE and RW refers to rural areas of the Eastern/Central development regions and Western/ Mid-western /Far western development regions of the country respectively

5:   Human Development Indexes

The human development indices aggregate social indicators from the economic, education and health domains. We present the standard Human Development Index (HDI) as well as the Human Poverty Index (HPI). In particular for the Life Expectancy sub-index large sample sizes are necessary, and we thus only present the indexes for aggregated groups. Furthermore, it is hard to estimate confidence intervals for these aggregate indexes, although the reader should keep in mind that similar index values are probably not significantly different from each other. There were a number of data issues that had to be solved in calculating these indexes, and any differences in estimated index values as compared to the Nepal Human Development Report (2009) do not imply that one of the estimates is more correct than the other. A detailed joint effort would probably be necessary to make unified estimates. We first present the sub-indexes for HDI. For details see the technical annex.

5.1   The HDI Education Index

The education index is calculated by aggregating literacy and mean year of schooling with a two-thirds weight assigned to the adult literacy rate and one-third to the mean years of schooling. Note that we here use the adult literacy rate, so the numbers will be different from Table 2.1.2, where we report the literacy rate for all people of age 5 or older.

5.1.1   Education Index by Main Caste/Ethnic Group

The education index has drastically improved from 1995 to 2003, mainly due to an increase in the literacy rate from 36% in 1995 to 48% in 2003. In particular the middle and high castes, as well as the Janajati, have benefitted from improved literacy. The hill Bahun/Chettris are best off in terms of primary education, followed by the Janajatis, while the Muslims have the lowest level of education.

Table 5.1.1:   Change in the Education Index from 1995-96 to 2003-04 by Main Caste/Ethnic Group

Main Caste/Ethnic Groups	1995					2003				
	Literacy (%)	Mean yr schooling	Literacy Index	Schooling index	Education Index	Literacy (%)	Mean yr schooling	Literacy Index	Schooling index	Education Index
Hill BC	46.6	3.1	0.4662	0.2077	0.3800	61.7	4.1	0.6173	0.2711	0.5019
Janajati	35.1	2.1	0.3514	0.1396	0.2808	49.3	3.0	0.4930	0.2011	0.3957
Dalit	23.3	1.3	0.2327	0.0888	0.1847	30.4	1.7	0.3042	0.1138	0.2408
Tarai Middle Caste	19.2	1.5	0.1919	0.1024	0.1621	36.3	2.5	0.3626	0.1668	0.2974
Muslim	19.2	1.1	0.1917	0.0744	0.1526	26.2	1.1	0.2616	0.0733	0.1988
Nepal	35.6	2.3	0.3562	0.1533	0.2886	48.0	3.0	0.4795	0.2013	0.3868

5.1.2   Education Index by Region

Note that the national-level education index has grown faster than both the urban and the rural index. This is because people have moved from the rural to the urban sector. Within different regions the progress has been approximately the same for all regions. The Western region is doing slightly better than the other regions, which was also the case in 1995.

Table 5.1.2:   Change in the Education Index from 1995-96 to 2003-04 by Region

Region	1995					2003				
	Literacy (%)	Mean yr schooling	Literacy Index	Schooling index	Education Index	Literacy (%)	Mean yr schooling	Literacy Index	Schooling index	Education Index
Nepal	35.6	2.3	0.356	0.153	0.289	48.0	3.0	0.480	0.201	0.387
Urban	64.0	4.8	0.640	0.317	0.533	72.8	5.5	0.728	0.367	0.608
Rural	33.3	2.0	0.333	0.135	0.267	42.7	2.5	0.427	0.169	0.341
Eastern dev. region	39.6	2.5	0.396	0.167	0.319	48.2	3.0	0.482	0.200	0.388
Central dev. region	34.1	2.3	0.341	0.153	0.279	45.5	3.0	0.455	0.200	0.370
Western dev. region	40.9	2.6	0.409	0.173	0.330	55.5	3.3	0.555	0.220	0.443
Mid western dev. region	31.0	1.9	0.310	0.127	0.249	45.2	2.5	0.452	0.167	0.357
Far western dev. region	26.5	1.6	0.265	0.107	0.212	43.9	2.6	0.439	0.173	0.351
Mountain	25.1	1.4	0.251	0.093	0.198	40.0	2.3	0.400	0.153	0.318
Hill	42.3	2.6	0.423	0.173	0.340	53.4	3.4	0.534	0.227	0.432
Tarai	31.4	2.1	0.314	0.140	0.256	44.3	2.8	0.443	0.187	0.358

5.2   The HDI Life Expectancy Index

As we have discussed above, the life expectancy in a poor country like Nepal is highly determined by the infant mortality rate.

5.2.1   Life Expectancy Index by Main Caste/Ethnic Groups

Table 5.2.1 reproduces Table 3.5.1, and we note that hill Bahun/Chettris were doing best in 2001, while Muslims and Dalits have had the best progress.

Table 5.2.1:   Change in the Life Expectancy Index from 1996 to 2001 by Main Caste/Ethnic Group

Main Caste/Ethnic Groups	1996		2001	
	Life Expectancy at Birth	Life Expectancy Index	Life Expectant at Birth	Life Expectancy Index
Hill BC	57.0	0.5333	59.6	0.5767
Janajati	55.8	0.5133	55.8	0.5133
Dalit	51.1	0.4350	56.7	0.5283
Tarai Middle caste	51.5	0.4417	54.1	0.4850
Muslim	50.1	0.4183	56.2	0.5200
Nepal	55.1	0.5017	57.8	0.5467

5.2.2   Life Expectancy Index by Region

Table 5.2.2 reproduces Table 3.5.2, and shows progress in the hills as well as in the western regions, in particular the Mid-West.

Table 5.2.2:   Change in the Life Expectancy Index from 1996 to 2001 by Region

Region	1996		2001	
	Life Expectancy at Birth	Life Expectancy Index	Life Expectancy at Birth	Life Expectancy Index
Nepal	55.1	0.5017	57.8	0.5467
Urban	61.3	0.6050	64.2	0.6533
Rural	53.8	0.4800	56.0	0.5167
Hill	55.9	0.5150	59.6	0.5767
Tarai	55.7	0.5117	56.3	0.5217
Eastern dev. region	56.7	0.5283	56.3	0.5217
Central dev. region	55.8	0.5133	56.3	0.5217
Western dev. region	56.9	0.5317	59.7	0.5783
Mid western dev. region	51.1	0.4350	59.0	0.5667
Far western dev. region	49.3	0.4050	51.7	0.4450

5.3   The HDI Income Index

Instead of GDP data on income, which would be hard to disaggregate by caste and ethnic group, we use the reported incomes from the NLSS surveys. We decided to use income, and not consumption, as we considered incomes to be more similar to GDP data. We have adjusted for regional price variations, and we have converted Nepali rupees into USD-PPP. Logarithmic functions are applied in the index to reduce the contribution of the highest incomes.

5.3.1   Income Index by Main Caste/Ethnic Group

The income data replicates the consumption data discussed above: in 2003, hill Bahun/Chettris and Janajatis had the highest incomes, while Tarai middle castes were in second position. Most groups have seen an increase in income. The Muslim group is an exception: while consumption increased also in this group, there is no reported increase in income. Most likely this is an income measurement problem, as consumption data is normally more reliable.

Table 5.3.1:   Change in the Income Index from 1995-96 to 2003-04 by Main Ethnic Group

Main Caste/Ethnic Groups	1995 (2003 prices)		2003	
	Per Capita Income (ppp$)	Income Index	Per Capita Income (ppp$)	Income Index
Hill BC	1338	0.4329	1691	0.4720
Janajati	1182	0.4123	1548	0.4572
Dalit	635	0.3084	837	0.3546
Tarai Middle caste	1013	0.3864	1208	0.4159
Muslim	915	0.3695	883	0.3635
Nepal	1186	0.4128	1420	0.4428

5.3.2   Income Index by Region

Also for the regional data there is a mismatch between reported consumption and income. As consumption is increasing almost everywhere, the reported incomes have been stagnant in rural Nepal, and also for the Tarai belt as a whole. We believe this to be a measurement problem. People are probably reluctant to report new income sources.

Table 5.3.2:   Change in the Income Index from 1995-96 to 2003-04 by Region

Region	1995 (2003 prices)		2003	
	Per Capita Income (ppp$)	**Income Index**	**Per Capita Income (ppp$)**	**Income Index**
Nepal	1186	0.4128	1420	0.44284
Urban	2306	0.5238	3110	0.57369
Rural	1102	0.4006	1121	0.40337
Mountain	702	0.3253	977	0.38039
Hill	1098	0.3999	1624	0.46528
Tarai	1339	0.433	1309	0.42925
Eastern dev. region	1160	0.4092	1277	0.42513
Central dev. region	1381	0.4382	1654	0.46829
Western dev. region	1099	0.4001	1487	0.45052
Mid western dev. region	1018	0.3872	1150	0.40759
Far western dev. region	952	0.3761	1018	0.38734

5.4   Human Development Index

Now we take the simple average of the education, life expectancy and income indexes to compute the Human Development Index (HDI).

5.4.1   Human Development Index by Main Caste/Ethnic Group

The hill Bahun/Chettris are doing best in terms of human development as measured by the HDI, followed by the Janajati group, where the hill Janajatis dominate, while the Dalits and the Muslims are at the bottom.

Table 5.4.1:   Change in Human Development Index from 1995/96 to 2001/03 by Main Caste/Ethnic Group

Main Caste/Ethnic Groups	1995/96				2001/03			
	Education Index	Income Index	Life Expectancy Index	HDI	Education Index	Income Index	Life Expectancy Index	HDI
Hill BC	0.3800	0.4329	0.5333	0.4487	0.5019	0.4720	0.5767	0.5169
Janajati	0.2808	0.4123	0.5133	0.4021	0.3957	0.4572	0.5133	0.4554
Dalit	0.1847	0.3084	0.4350	0.3094	0.2408	0.3546	0.5283	0.3746
Tarai Middle caste	0.1621	0.3864	0.4417	0.3301	0.2974	0.4159	0.4850	0.3994
Muslim	0.1526	0.3695	0.4183	0.3135	0.1988	0.3635	0.5200	0.3608
Nepal	0.2866	0.4128	0.5017	0.4004	0.3862	0.4428	0.5467	0.4586

5.4.2   Human Development Index by Region

When it comes to the regional variation the hills and the Western development region are doing well in terms of all three elements of the human development index.

Table 5.4.2:   Change in human development index from 1995/96 to 2001/03 by region

Region	1995/96				2001/03			
	Education Index	Income Index	Life Expectancy Index	HDI	Education Index	Income Index	Life Expectancy Index	HDI
Nepal	0.287	0.413	0.502	0.400	0.387	0.443	0.547	0.459
Urban	0.533	0.524	0.605	0.554	0.608	0.574	0.653	0.612
Rural	0.267	0.401	0.480	0.382	0.341	0.403	0.517	0.420
Mountain	0.199	0.325	0.462	0.329	0.318	0.380	0.463	0.387
Hill	0.339	0.400	0.515	0.418	0.431	0.465	0.577	0.491
Tarai	0.255	0.433	0.512	0.400	0.358	0.429	0.522	0.436
Eastern dev. region	0.319	0.409	0.528	0.419	0.389	0.425	0.522	0.445
Central dev. region	0.277	0.438	0.513	0.410	0.372	0.468	0.522	0.454
Western dev. region	0.329	0.400	0.532	0.420	0.444	0.451	0.578	0.491
Mid western dev. region	0.248	0.387	0.435	0.357	0.358	0.408	0.567	0.444
Far western dev. region	0.206	0.376	0.405	0.329	0.350	0.387	0.445	0.394

5.5   Human Poverty Index

The Human Poverty Index (HPI) is also a composite of education, health and economic indicators but the indexes are selected to pick up the development of the poorest segments of the population. The HPI is a negative measure, so the lower the number the better off are the people. It is composed of a number of percentages, such as the illiteracy rate, the malnutrition rate, etc, as shown in the tables below.

5.5.1   Human Poverty Index by Main Caste/Ethnic Group

The ranking of the castes and ethnic groups are as for the HDI index. The hill Bahun/Chettris are best off, followed by the Janajatis, while the Dalits and the Muslims are at the bottom.

Table 5.5.1:   Change in the Human Poverty Index from 1995-96 to 2003-04 by Main Caste/Ethnic Group

Main Caste/Ethnic Groups	1995						2003					
	Adult illiteracy (%)	% of persons not expected to survive age 40	% of hh no access to safe water	Malnourished children under five	Eco-provision %	HPI (%)	Adult illiteracy (%)	% of persons not expected to survive age 40	% of hh no access to safe water	Malnourished children under five	Eco-provision %	HPI (%)
Hill BC	53.4	23.0	36.9	41.2	39.1	42.1	38.3	19.7	23.1	41.4	32.3	31.9
Janajati	64.9	23.7	30.6	32.9	31.8	47.4	50.7	22.0	20.6	33.4	27.0	37.7
Dalit	76.7	30.4	54.8	49.5	52.2	59.2	69.6	24.3	29.6	48.9	39.3	51.6
Tarai Middle caste	80.8	28.8	12.5	50.9	31.7	57.9	63.7	25.4	12.8	50.2	31.5	46.7
Muslim	80.8	32.2	18.5	53.1	35.8	58.7	73.8	21.1	6.7	48.8	27.8	52.4
Nepal	64.4	25.5	29.6	42.1	35.9	47.9	52.1	22.1	20.8	42.0	31.4	39.4

5.5.2   Human Poverty Index by Region

Also the regional variation in HPI replicates the HDI findings. The hills as well as the Western Development Region are doing better than the other regions.

Table 5.5.2:   Change in the Human Poverty Index from 1995-96 to 2003-04 by Region

Region	1995						2003					
	Adult illiteracy (%)	% of persons not expected to survive age 40	% of hh no access to safe water	Malnourished children under five	Eco-provision %	HPI (%)	Adult illiteracy (%)	% of persons not expected to survive age 40	% of hh no access to safe water	Malnourished children under five	Eco-provision %	HPI (%)
Nepal	64.4	25.5	29.6	42.1	35.9	47.9	52.1	22.1	20.8	42.0	31.4	39.3
Urban	36.0	16.2	4.4	27.2	15.8	26.3	27.2	11.2	10.6	28.9	19.7	21.3
Rural	66.7	27.1	31.6	43.1	37.3	49.7	57.3	24.2	22.8	42.9	32.9	43.0
Eastern dev. region	60.4	23.4	25.9	35.9	30.9	49.2	51.8	23.4	20.4	36.3	28.3	38.8
Central dev. region	65.9	24.5	22.2	43.4	32.8	48.1	54.5	23.8	18.5	45.3	31.9	41.1
Western dev. region	59.1	22.7	25.4	40.4	32.9	44.1	44.5	19.2	15.2	41.7	28.5	34.0
Mid western dev. region	69.0	30.8	55.3	44.4	49.8	53.7	54.8	19.0	36.0	42.9	39.4	42.6
Far western dev. region	73.5	32.9	42.7	49.1	45.9	55.3	56.1	28.9	24.7	44.5	34.6	43.2
Mountain	74.9	47.6	53.5	49.0	51.3	57.4	60.0	30.1	27.6	43.8	35.7	45.8
Hill	57.7	22.8	38.7	38.7	38.7	45.3	46.6	21.3	30.2	38.5	34.3	36.9
Tarai	68.6	24.6	16.4	44.2	30.3	50.5	55.7	23.9	10.7	44.6	27.7	41.1

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6: Summary of the Findings

6.1.1 Achievements in Education

Nepal still lags far behind in terms of the very basic indicators of literacy and mean years of schooling. Around half of the people are still illiterate. However, there has been progress for most groups, and in particular for the largest ethnic group of the Tarai, the Tharus. The hill high castes still have the best primary education. And not only they but all hill groups have a better primary education than similar groups in the Tarai. The hill Dalits, for example, have better primary education even than the Tarai middle castes. At the bottom, with basically no primary education, we find the Tarai Dalits. Only 8% of the Musahar can read and write. In the rural areas there has been remarkable progress in the western parts of the country, where the literacy rates are at the national level, in contrast to, for examplee, the rural eastern Tarai, where only 37% can read and write.

6.1.2 Achievements in Health

The hill Dalit group of Kami has seen an improvement in access to safe drinking water. However, the hill Dalits are still at the bottom along this health dimension. In general, the Tarai communities have better access to safe drinking water, which is explained by the widespread use of tube wells.

Nepali households are on average fifty minutes away from basic health services, while in the Tarai the average is only 30 minutes. So the hill communities, in particular the Kami, Tamang and Gurung, have inferior access to health services.

Now, there is no automatic link between access to safe drinking water and health services to health outcomes. Although for hill Dalits there seems to be a link, we also find that the Tarai middle castes have many underweight children. The same is the case for other Tarai groups with the exception of the Tarai Janajati. The Tharus in particular have seen a major improvement in child nutrition. They are now as well nourished as hill Bahun/Chettris and hill Janajatis.

The inferior position of the relatively wealthy Tarai middle castes also shows up in the infant mortality data, although this group, together with most other groups, have seen a remarkable drop in infant mortality. The only exception is the aggregate Janajati group where the mortality rate was already at a low level. The Dalits have seen the highest drop in mortality, followed by the Muslims, while the hill Bahun/Chettris have the best outcome on this indicator.

Life expectancy data mirror the infant mortality rates, with the best progress among Muslims and Dalits, where life expectancy increased by six years during a five-year period.

6.1.3 Economic Progress

Land
Rural landlessness is an eastern Tarai phenomenon. In particular, the Tarai Dalit group of Musahar has no land. But other Tarai Dalit groups, as well as the Muslims, also have many landless households. In the hills most people own land, but for some groups, in particular the Gurungs, it appears that sons are no longer getting a piece of their father's land. Probably they have taken up other occupations than farming. The proportion of landowners in urban areas is

increasing, indicating that many people are moving to towns and cities, where they invest in land.

When it comes to the amount of land owned, there has been a steady decline as the number of households has increased. In 2003 the traditional Tharu and Yadav landlords of Tarai still had the largest farms. The Tharu landlords hire farm labor from their own community, while the Yadav landlords tend to hire labor from the Tarai Dalit communities, in particular the Musahars of eastern Tarai.

If we go on to measure the value of the land, and not only the size, then the hill Bahuns, in addition to the Tharu and the Yadav, are the wealthiest landowners. The hill Bahuns tend to have more valuable land along the highways and in urban areas. Also for rural land values we find an east-west difference in the Tarai. In rural western Tarai the population pressure is not the same as in the east, so most people in the west have their own farm, which in turn gives a larger average.

Wages

There has been a slight increase in the real agricultural wage rate to an average of 76 rupees per day in 2003. Note that many of these people only work a few days during the peak season. For the landless, who depend more on agricultural wage labor, the wages are lower. The Musahars earned 56 rupees per day on average in 2003 including the value of in-kind payments, which are normally the larger part of the payment.

There has been an increase in non-agricultural wages, in particular for the hill Bahuns, who earned 171 rupees per day in 2003. The average for Nepal was 152 rupees, double the agricultural wage, so switching from farm labor to non-farm labor has been one pathway out of poverty. The wage increase has primarily taken place in urban areas, which in turn explains the increase in Tarai.

Consumption

While the agricultural wage rate represents the reservation wage for the poorest segments of the population, consumption data is a more direct way to identify the poor. All groups, except for the Tamang, have had an increase in real income, and hill Bahuns and Gurungs have had a tremendous growth in income. In 2003 they had double the income of other groups.

Poverty

As most groups have benefitted from the income growth, poverty has declined, with Bahuns, Gurungs and Yadavs having the lowest poverty rates in 2003. The poorest groups are the Tamangs, as well as the Dalits of both hill and Tarai origin.

The poverty gap has in particular declined for the Kami, Tharu and Bahuns. And there has been a promising development in the western parts of the country, where the poverty gap used to be extensive but is now near the national average.

6.1.4   Human Development Indices

Let us now turn to the composite indexes. As we may expect, these indexes reflect the previous findings.

Dalits and in particular the Muslims have a low level of primary education. When it comes to life expectancy there are small differences between groups, except for the Bahun/Chettris, who have a higher life expectancy. The Bahun/Chettris are also doing better on income than the other groups, and again the Dalits and the Muslims are at the bottom. The Janajatis are doing well on average. In aggregate, we find that the Bahun/Chettris are doing best on the Human Development Index, followed by the Janajatis, while Dalits and Muslims are at the

bottom. The Human Poverty Index puts more weight on the poorest households, but again we have the same ranking, with Bahun/Chettris doing best, followed by the Janajatis, where the hill Janajatis are the largest group. And again, the Dalits and the Muslims are at the bottom.

6.1.5   Summary

The hill Bahun/Chettris are doing best on economic as well as social indicators. And not only they but hill Janajatis are doing better than Tarai Janajatis, and hill Dalits better than Tarai Dalits on most indicators. At the very bottom of the socio-economic hierarchy we thus find the Tarai Dalits, and for some indicators the Muslims, who also reside mainly in the Tarai. The exceptions are drinking water and health facilities, where the Tarai communities have easier access due to the terrain of the Tarai plains. Other exceptions are the Tharu, who are doing well on child nutrition, while the Tarai middle castes are not doing well on this essential development indicator despite being well off in economic terms. When it comes to infant mortality there has been a tremendous improvement for all groups.

In respect to land we find that the Tharu and Yadav landlords still have the largest holdings, while there is a landless class of Tarai Dalits, in particular in the eastern plains. This landlessness, in turn, implies a low wage for the same group of eastern Tarai farm workers. Although hill Janajatis are doing fairly well, an exception is the Tamang, who have had a stagnant consumption level, and thus still have a high level of poverty. In sum, the composite Human Development Index ranks the hill high castes first, followed by the Janajatis, then the Tarai middle and high castes, and at the bottom the Dalits and the Muslims.

Annex A: Technical Notes

This section includes a detailed account of the methods adopted in order to arrive at the estimates. It consists of the definitions of the indicators with the approach that has been used to make them comparable across the various castes, ethnic groups and locations. In addition, it also provides the methods that have been used to enable comparisons of the estimates for the two different NLSS surveys (1995 and 2003) and the NDHS (1995 and 2001). While doing so, common definitions of the indicators have been strictly followed to make both intra- and inter-period comparisons. The observed differences have also been tested for statistical significance using appropriate statistical tests. Price differences have been duly taken into account. The mortality indicators and life expectancy at birth have been calculated with standard indirect techniques using DHS 1995 and 2001 data. The West Model life table has been considered appropriate in the case of Nepal. The sample designs adopted by the survey institutions are not equal probability design. All indicators obtained here are, therefore, weighted by probability weights provided by the survey institutions in order to obtain reliable estimates. Standard errors are also corrected taking into account the survey design, where in particular households within a ward are not necessarily independent observations. Details of the selected indicators are found below.

A1:   Definition of Various Indicators

Literacy Rate
Literacy has been defined as the self-reported ability to both read and write. All people aged five years and above have been included.

Mean Years of Schooling
Mean years of schooling are defined as the average number of years spent at school by all people six years of age and above irrespective of their present schooling status.

Access to Safe Drinking Water
Access to safe drinking water has been defined as access to either piped water (tap connected to the house or public tap) or deep tube well or covered well without making any investigation of the adequacy of supply as well as the quality of drinking water.

Access to Health Services
Access to health services has been measured in terms of the average time distance from the house to the nearest primary health care services as reported by the household. One day is set equal to twelve hours of travel time.

Nutritional Level
Nutritional level has been measured as the proportion of underweight children of five years of age and under. The threshold values of weight for age used in this report are based upon those which were used at the Department of Health Services, Government of Nepal.

Infant Mortality Rate
The ratio of number of children that died before attaining the age of one to the total number of live births.

Life Expectancy at Birth
Number of years of survival by each population cohort at age zero based on the prevailing age-specific mortality rates at a particular time.

Agricultural Landholding
The ratio of households that have any quantity of agricultural land.

Area of Land
Area of agricultural land per household, counting zero for landless households.

Average Land Value
Total value of land, if sold, reported by the household, counting zero value for landless households.

Per Capita Consumption
Consumption per person per year. Price adjustments have been made in order to render them comparable. The price indices were retrieved from the report "Resilience Amidst Conflict, An Assessment of Poverty in Nepal 1995-96 and 2003-04" and are given below.

Nepal 1995-96 and 2003-04, Poverty Lines in Current Prices per Person per Year, NRs

	1995-96				2003-04,			
Area	Food	Non-food	Total	Relative Price	Food	Non-food	Total	Relative Price
Kathmandu	4032.5	2643.4	6675.9	1.31	6722.0	4334.8	11056.8	1.44
Other urban	3539.2	1912.6	5451.8	1.07	4919.2	2981.9	7901.1	1.03
Rural west hill	3813.0	1590.0	5403.0	1.06	5613.0	3288.5	8901.5	1.16
Rural east hill	3946.1	1787.9	5734.0	1.13	5311.2	2758.5	8069.7	1.05
Rural west Tarai	2949.5	1223.9	4173.4	0.82	4308.4	3110.0	7418.4	0.96
Rural east Tarai	3114.1	1540.5	4654.6	0.91	4323.2	1755.6	6078.8	0.79
All Nepal	3488.9	1599.8	5088.7	1.00	4966.4	2729.4	7695.8	1.00

Source: Resilience Amidst Conflict, An Assessment of Poverty in Nepal 1995-96 and 2003-04, CBS/N,
September 2006 (page 122)

The relative prices in the above table for the two-reference period were used to convert the monetary value at national prices with a view to eliminating the effect of price variation across different areas. The same report estimates the extent of price changes over the period at 48%. Thus in order to measure the changes in real terms the 1995-96 estimate of consumption at national prices was converted to 2003-04 national prices with the help of the multiplier

Per Capita Income
Income per person at a particular time, price adjusted.

Wage Rates
The wage rate, although calculated as the wage per day, includes not only those working on a daily basis, but also wage income derived by wage earners on daily, long-term, and contract/piece rate bases.

The wage income has been derived by accumulating all wage income earned on a daily/monthly/yearly basis, whether in the form of cash or kind, and the amount received during the whole period. The wage income was then divided by the work days spent during the reference period to arrive at the wage per day. The wage rate for a particular caste and ethnic group/area was finally calculated as a weighted average taking workdays as the weight. Thus, these calculations of average wages involve double weights – the usual sampling weight and workdays as an additional weight. Wage rates have been obtained separately for agricultural and non-agricultural wage earners. These calculations may not be exactly comparable with other estimates, which either take into consideration the wage-earners working on a daily basis only or the wages of those derived in cash. The elimination of the price effect follows the same procedure as in the case of income/consumption above.

Poverty indicators
Two poverty indicators, poverty incidence (head count) and poverty gap, have been calculated.

Poverty incidence for a given caste and ethnic group/area is defined as the proportion of the population who live in households with an average per capita expenditure below the poverty line. The poverty lines used in the calculations are given above.

Poverty gap is the average distance below the poverty line, counting zero for households who are above the poverty line.

The formula used to calculate the above indicators is taken from the report "Small Area Estimation of Poverty, Calorie Intake and Malnutrition in Nepal, CBS/N, WFP, The World Bank Kathmandu, Nepal, 2006"

$$P_j = \left[\sum_{i=1}^{N} ((z-E_i)/z)^j * I(E_i) \right] / N$$

Where, N = population size
  E_i = Expenditure of the ith person
  z = poverty line
 I (E_i) = 1, when the expenditure is below the poverty line
  = 0, otherwise
  j = 0 for poverty incidence
  j = 1 for poverty gap

A2:   Concepts and Definition of Human Development Indices

The present study has applied different human development indices in order to assess the situation of different castes and regions. The report also presents the components of the human development (HD) indices separately.

Of the various HD indices, only two, i.e. HDI and HPI-1, have been used for the present study. The following diagram indicates the conceptual aspects behind these indices. The calculation process, however, has mostly followed the procedures adopted by the human development reports. The following section is devoted to indicating the methodology and the data sources utilized while calculating the indicators required for the computation of the above indices by caste and region.

HDI

HDI is calculated by taking the simple average of the three indices, life expectancy at birth, education, and income. In calculating the education index, two sub-indices of adult literacy and mean years of schooling are aggregated, giving a 2/3 weight to adult literacy and a 1/3 weight to mean years of schooling.

Life expectancy index = (Life expectancy at birth-25)/(85-25), 85 years and 25 years are considered maximum and minimum thresholds respectively.

Adult literacy index = (Adult literacy rate/100), 100% and 0% are considered maximum and minimum thresholds respectively.

Mean years of schooling index = (Mean years of schooling/15), 15 years and 0 years are considered maximum and minimum thresholds respectively.

Income index = [lnY-ln100]/[ln40000-ln100], 40000PPP$ and 100 PPP$ are considered maximum and minimum thresholds respectively where Y=per capita income in PPP$.

HPI-1

HPI_1 is calculated as a function of the adult illiteracy rate, percentage of people not expected to survive up to the age 40, and deprivation in economic provisioning (measured by the simple average of the percentage of people without access to safe water and the percentage of malnourished children under age). The following formula was used while calculating the index:

$$\text{HPI-1} = [(p_1^3 + p_2^3 + p_3^3)/3]^{1/3}$$

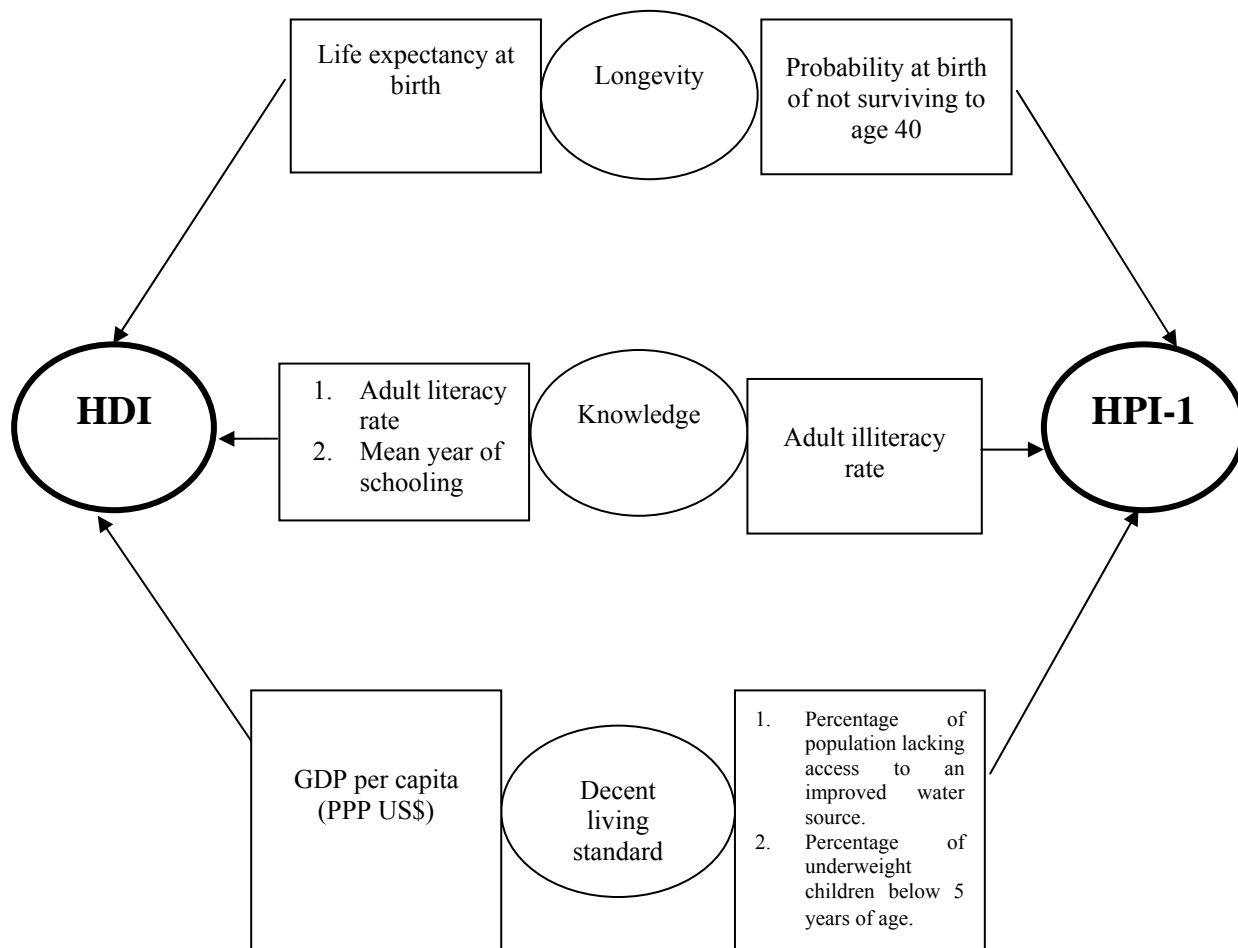where

p_1= adult illiteracy rate

p_2= percentage of people not expected to survive up to the age 40

p_3= the simple average of the percentage of people without access to safe water and the percentage of malnourished children under age five

Human Development Index and Human Poverty Index-1
Same Dimensions, Different Indicators

	Life expectancy at birth	Longevity	Probability at birth of not surviving to age 40	

| HDI | 1. Adult literacy rate 2. Mean year of schooling | Knowledge | Adult illiteracy rate | HPI-1 |

GDP per capita (PPP US$)	Decent living standard	1. Percentage of population lacking access to an improved water source. 2. Percentage of underweight children below 5 years of age.

Annex B: Nationalities and Dalits of Nepal

B1:   Indigenous Nationalities of Nepal

Mountain					
1. Bara Gaunle	2. Bhutia	3. Byansi	4. Chhairotan	5. Dolpo	6. Larke
7. Lhomi (Shingsawa)	8. Lhopa	9. MarphaliThakali	10. Mugali	11. Siyar	12. Tangbe
13. Thakali	14.Thudam	15. Tingaunle Thakali	16. Topkegola	17. Sherpa	18. Wallung
Hill					
1. Bankaria*	2. Baramo	3. Bhujel/Gharti	4. Chepang	5. Dolpo	6. Larke
7. Fri**	8. Gurung	9. Hayu	10. Yolmo***	11. Jirel	12. Kushbadia****
13. Kusunda	14. Lepcha	15. Limbu	16. Magar	17. Newar	18. Pahari
19. Rai	20. unuwar	21. Surel*****	22. Tamang	23. Thami	24. Yakkha
Inner Tarai					
1. Bote	2. Danuwar	3. Darai	4. Kumal	5. Majhi	6. Raji
7. Raute					
Tarai					
1. Dhanuk******	2. Dhimal	3. Gangai	4. Jhangad	5. Kisan	6. Meche
7. Rajbanshi (Koch)	8.Satar/santhal	9. Tajpuri	10. Tharu		

Source: UNDP (2007) NEPAL STATISTICS AND INDIGENOUS PEOPLES
* Bankaria is a Chepang sub-group and they live in inner Tarai. ** Fri is a Pahari sub-group. *** Yolmos reside in mountain region, not hill. **** Kusbadias live in Banke and Bardia, mid-western region Tarai. They are also known as Patharkatta and designated as Janajatis and Dalits (double identity). ***** Surel is a Jirel sub-group. ****** Dhanuk is designated as a Scheduled Caste in India.

B2:   Dalits of Nepal

hill Dalits					
1. Kami	2. Damai	3. Sarki	4. Badi	5. Gaine	6. Hudke
Dalits now included under Newar					
1. Kasai**	2. Chyame**	3. Pode**	4. Kuche**	5. Kusule**	
Tarai Dalits					
1. Bantar	2. Chamar	3. Musahar	4. Dhobi	5. Halkhor	6. Doom
7. Khatbe	8. Pathatkatta*	9. Tatma	10.Paswan(Dushadh)		

UNDP (2007) NEPAL STATISTICS AND INDIGENOUS PEOPLES
* known as Kusbadias in Janajati list. ** The occupational groups Kusule, Kasai, Kudhe, Chuame,and pode are considered as Janajati under Newar community and no longer considered as Dalits; they are therefore included in Newar Community.

Dalits: The term "Dalit" refers to those Hindu castes who have been placed at the bottom of the caste hierarchy as Shudra and treated as untouchables by "upper castes". The National Dalit Commission has listed 21 castes as Dalit. But the 2001 census listed only 15 Dalit castes, of which 5 are hill Dalits and 10 are Madhesi Dalits. The five hill Dalits are Badi, Damai, Gaine, Kami and Sarki. The 10 Madhesi Dalits are Bantar, Chamar, Chidimar, Dhobi, Doom, Dusadh, Halkhor, Khatwe, Musahar and Tatma.

B3:   Population by Caste/Ethnic Group, 2001 and NLSS 2003 Sample

Main Ethnic Groups	Population	% in population	% in the sample
HILL BC Castes	7023220	30.9	28.6
hill Janajati	6234554	27.4	28.6
hill Dalits	1615577	7.1	7.6
Tarai H/Middle Castes	3370241	14.8	12.6
Tarai Janajati	2226147	9.8	11.7
Tarai Dalit	1059605	4.7	3.9
Religious Minority	975949	4.3	6.5
Others	231641	1.0	0.5
Nepal	22736934	100.00	100.0

B4:   Caste/Ethnic Groups by Regions of Origin and Sample Size in NLSS, 2003

Regions of origin and caste	No of castes in the sample	No of households in the sample
1.0 Mountain	**3**	
1.1 Mountain Janajati	**3**	
1.1.1 Sherpa/Bhote/Hyalmo	3	20
2.0 Hill	**23**	
2.1 Hill Bahun / Chhetri	**4**	
2.1.1 Hill Brahmins	1	548
2.1.2 Chhetri	1	622
2.1.3 Thakuri	1	76
2.1.4 Sanyasi	1	30
2.2 Hill Janajati	**14**	
2.2.1 Newar	1	411
2.2.2 Magar	1	248
2.2.3 Tamang	1	225
2.2.4 Rai	1	139
2.2.5 Gurung	1	124
2.2.6 Limbu	1	64
2.2.7 Bhujel/Gharti	1	21
2.2.8 Other hill Janajati: Thakali,Chepang/Praja,Sunwar,Janajati/ Adibasi,Lepcha,Thami,Barmu/Bharmu	7	22
2.3 Hill Dalits	**5**	
2.3.1 Kami	1	160
2.3.2 Sarki	1	70
2.3.3 Damai/Dholi/Badi/Gaine	3	84
3.0 Tarai	**53**	
3.1 Tarai Bahun/Chhetri and other high castes	**6**	
3.1.1 Tarai Brahmins	1	22
3.1.2 Other Tarai high castes: Marwari,Kayastha,Bangali,Rajput, Punjabi/Sikh	5	28
3.2 Tarai middle caste	**24**	
3.2.1 Yadav	1	83
3.2.2 Mallah	1	44
3.2.3 Teli-Sudi	2	57
3.2.4 Baniya	1	30
3.2.5 Koiri	1	20
3.2.6 Sonar	1	20
3.2.7 Other Tarai middle castes: Kalwar,Thakur/Hajam, Kanu,Kurmi,Kewat,Kahar,Badhai,Kumhar,Lohar,Dhuniya,Barai, Nuniya,Mali,Haluwai,Lodha,Rajbhar, Bing/Banda	17	110
3.2 Tarai Janajatis	**14**	
3.3.1 Tharu	1	188
3.3.2 Dhanuk	1	48
3.3.3 Other Tarai Janajatis:Majhi,Danuwar,Kumal,Darai, Rajbansi,Dhimal,Santhal/Satar,Gangai,Jhangad,Tajpuriya,Raji, Meche	12	85
3.4 Tarai Dalits	**8**	
3.4.1 Chamar/Harijan	1	47
3.4.2 Musahar	1	30
3.4.3 Other Tarai Dalits: Dusadh/Paswan,Khatwe,Tatma, Chidimar,Dhobi,Bantar	6	49
3.5 Religious Minority	**1**	
3.5.1 Muslim	1	168
4.0 Others		19
Total	79	3912

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SUMMARY

The discourse on social exclusion in Nepal is very ideological, with some authors considering basically all Nepalis as socially excluded except for male Bahuns of hill origin. This is obviously not very useful for targeted economic and social interventions, and the present report attempts to provide statistical evidence on what population groups are de facto excluded along a number of economic and social dimensions. There are noticeable disparities in educational achievement, measured in terms of literacy and mean years of schooling. The hill Bahun/Chhetri group is ahead in terms of primary education, while the Tarai groups have less education, in particular the Dalits, amongst whom the Musahars have virtually no schooling. When it comes to health services, however, the Tarai communities have shorter travel distances to the health posts and better access to safe drinking water. In terms of the nutritional level of children under five, the mountain/hill Janajati groups are relatively well off, followed by the hill Bahun/Chettri group. For child mortality the hill Bahun/Chhetris have the lowest rate, while surprisingly the relatively wealthy Tarai middle castes have the highest. When it comes to economic variables, we focus on land as this is still the backbone of the rural economies. The traditional Tharu and Yadav landlords of the Tarai have the largest landholdings, while they are matched by the hill Bahun/Chhetri group in terms of land value. Most Tarai Dalits have no land, and in particular the Musahars are all landless. Landlessness combined with poor education have traditionally forced the Tarai Dalits to be farm laborers, where due to a poor bargaining position they accept very low agricultural wages. There has been some increase in the agricultural wage, but more so outside agriculture where in particular wages and salaries have increased for the hill Bahuns.

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