Chapter 6
Analysis of Poverty between People with and without Disabilities in Nepal

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1. Introduction

Persons with disabilities[1] face persistent inequality that hinders international poverty reduction strategies. Inclusive growth and development that seeks to "increase the capabilities, opportunities, and incomes of... groups which are consistently on the margins of economic, social and political life" is needed to address this persistent inequality (UNDP, 2013 p.xi). According to the World Bank (WB) and the World Health Organization (WHO, 2011), people with disabilities make up nearly 15 percent of the global population. Without involving them in development, progress in poverty reduction is severely hindered. One of the major factors for the low prioritization of disability issues is the dearth of data. As a result, people with disabilities are almost invisible in socio-economic status and poverty still remains as one of the major challenges for them, especially in developing countries. This paper is a preliminary attempt at quantitatively examining relations between disabilities and poverty.

1.1 Literature review

Studies on disability and poverty are rare. Some have focused on the role of education through findings on high returns to education for persons with disabilities (Lamichhane and Sawada, 2013), to improve the opportunities of people with disabilities, while others have studied the employment gap and wage differential between individuals with and without disabilities (Mitra and Sambamoorthi, 2008) to identify

1. In this paper, our definition of disability is in line with the UN convention on the rights of persons with disabilities that indicates disability to recover from the loss or limitation of social, economic and political opportunities because of the disabling environment and society's failure to respond to the difficulty arising from impairment itself. Impairment is a condition of the body or mind, such as lacking legs or hands, vision or hearing loss, or depression; it is an attribute of the individual.

barriers hindering equal outcomes. While Africa remains a hotbed for research with studies conducted on disabilities and the living conditions there through a comparison of people with and without disabilities (Loeb, et al. 2008), none have been conducted in Nepal or other South Asian countries.

Emerging evidence also shows a vicious circle of low education and subsequent poverty among people with disabilities in developing countries (Filmer, 2008; WHO & WB, 2011). Filmer (2008) states that young people with disabilities are substantially less likely to be in school compared to people without disabilities and suffer disadvantages due to disabilities. It also states that disability is associated with long-term poverty in developing countries, since their lack of school participation suggests they are less likely to have acquired sufficient training for better jobs and higher income (Ibid., 2008).

Among the 15 percent of people with disabilities in the world (WHO & World Bank, 2011), nearly 80 percent live in developing countries, making the worldwide population with disabilities one of the poorest and most marginalized segments of society (ILO, 2007; DFID, 2000). It is also estimated that people with disabilities make up 15 to 20 percent of the poor in developing countries (Elwan, 1999). While there are multiple factors contributing to the poverty among people with disabilities, poor and unequal access to education or employment and the unequal distribution of other resources are likely to be among the major causes of their poverty. Barnes and Sheldon (2010) argue that people with disabilities are systematically excluded from the mainstream of economic and community life in almost all societies. They further state that poverty and exclusion encountered by persons with disabilities and other oppressed groups in all societies will not be eliminated without fundamental structural change at the international level, thus highlighting the need for the inclusion of disability issues in development goals.

Additionally, while inequality, exclusion and (in)direct discrimination are widespread, people with disabilities are not yet considered to be the subject of investment when it comes to the formation of their human capital. Yeo and Moore (2003) report that in some developing countries, the belief persists that disability is associated with evil, witchcraft, bad omens or infidelity. The prevailing belief is that even if people with disabilities are educated and employed, they are less likely to make use

of their acquired human capital. Such a biased belief is one of many other reasons encouraging the exclusion of disability issues from being on the agenda of development goals. However, with their empirical findings, Lamichhane and Sawada (2013) have challenged this biased and traditional perception that people with disabilities cannot benefit from the investment in their human capital formation. In their study of the return on the investment in education for people with disabilities in Nepal, they found it to be ranging from 19.2 to 25.6 percent, which is two or three times higher than for people without disabilities (Psacharopoulos and Patrinos, 2004). Thus, it can be said that education and employment together play a central role in reducing poverty and improving the quality of life of people with disabilities. Since participation in the labor market is an essential component of economic and social development (Durlauf & Fafchamps, 2005), the lack of access of persons with disabilities to the labor market is a serious constraint to the improvement of their livelihoods.

The importance of human capital formation and poverty reduction for persons with disabilities is the main motivating factor that led us to this empirical work. In this paper, we compare poverty between people with and without disabilities in Nepal. Some studies have examined the role of education in fostering employment or wages, but none have compared poverty between persons with and without disabilities. This study is thus unique in that it seeks to compare the poverty profile together with poverty factors between these two groups. Poverty analysis is conducted using information from 5,988 households in the nationally representative data – Nepal Living Standard Survey (NLSS 2010/11) – published in 2011 by the Central Bureau of Statistics (CBS), Government of Nepal (CBS, 2011).

1.2 Nepal as the case country

Nepal, one of the poorest countries in South Asia, with a high rate of poverty and a low level of human development, experienced a violent civil conflict from 1996 to 2006 (Deraniyagala, 2005). Despite poverty reduction being the central policy focus of the country, Nepal is in the group of low income countries, with per capita income of 470 USD, and a high poverty level of 25.2 percent (WB, 2011).

Wagle (2005) analyzed multidimensional poverty in Nepal based on the

main indicators of poverty dimensions such as economic well-being, capacity and inclusion (economic, political and civic/cultural). Using data from a random survey of 625 households from Kathmandu, he found that among all of these poverty dimensions, the capability dimension appears to be highly influential, affecting every other dimension. He further suggests that economic well-being helps transform capabilities into other activities indicative of living conditions, including political and civic/cultural inclusion. However, his study has not addressed people with disabilities. The latest population census states that 1.94 percent of the total population of 26.6 million has some form of disability (CBS, 2012).

At the end of the decade-long civil war in 2006, despite many laws being amended to bring marginalized and historically excluded groups into the inclusive development framework, substantial improvement in the livelihood of people with disabilities is yet to be achieved. As Nepal is still in a transitional phase as a post-conflict nation, information on disability, poverty and the impact they have on each other is important for the formulation of policies and strategies to address disability issues not only in Nepal but also in other developing countries similar to Nepal. The rest of the paper is organized as follows: in section 2, we describe briefly the poverty of persons with disabilities on a global level; in section 3, data and empirical strategies are described; section 4 presents results and findings; and concluding remarks are presented in section 5.

2. Disability and poverty: a global comparison

This section shows the basic data on disability and various development indicators in 15 selected countries from different regions of the world, as shown in Table 1.

These countries are selected according to WB's classification in the World Development Report 2012. From low income countries (LIC) with less than a Gross National Income (GNI) per capita of $1,005, Nepal, Bangladesh, Kenya and Ethiopia were selected; from lower middle income countries (LMC) with a GNI per capita between $1,006 and $3,975, India, Sri Lanka, Pakistan, Ghana and Ecuador were selected. For upper middle income countries (UMC), South Africa, Malaysia and Brazil were used. Similarly, for Organization of Economic Cooperation and Development (OECD) member-countries with more than $12,276 GNI per capita, Norway,

Table 1: Disability, income, employment, schooling and poverty in selected countries

S. N.	Country	Classification of Economy	GNI per Capita (USD)	Prevalence of Disability* (%)	Unemployment Rate (%)	Average Schooling (years)	Poverty (% of Population below $1.25)
1	Nepal	LIC	490	21.40	2.70	4.00	55.10
2	Bangladesh	LIC	640	31.90	5.00	5.80	49.60
3	Kenya	LIC	780	15.20	N.A	7.30	19.70
4	Ethiopia	LIC	380	17.6	5.40	N.A	39.00
5	India	LMC	1,340	24.90	3.60	5.10	41.60
6	Sri Lanka	LMC	1,270	12.90	4.90	11.10	7.00
7	Pakistan	LMC	1,050	13.40	5.00	5.60	22.60
8	Ghana	LMC	1,240	12.80	3.60	7.10	30.00
9	Ecuador	LMC	4,510	13.60	6.50	8.10	5.10
10	South Africa	UMC	6,100	24.20	24.70	8.60	26.20
11	Malaysia	UMC	7,900	4.50	3.70	10.10	2.00
12	Brazil	UMC	9,390	18.90	8.30	7.50	3.80
13	Norway	OECD	85,380	4.30	3.60	12.30	N.A
14	Sweden	OECD	49,930	19.30	8.40	11.60	N.A
15	Finland	OECD	47,170	5.50	8.40	10.00	N.A

Source: World Bank. 2012. *World Development Report 2012 and 2013*. Washington, DC: World Bank.

*WHO (World Health Organization) and World Bank. 2011. World Report on Disability. Washington, DC: WHO and World Bank.

Sweden and Finland were selected. Based on this classification, we compare 4 LICs, 5 LMCs, 3 UMCs and 3 OECD countries. We have selected these 15 countries as their disability prevalence statistics are also available in the World Report on Disability, jointly published by WHO and WB in 2011.

Among the listed countries, poverty is highest in Nepal (55.10%) and disability prevalence is highest in Bangladesh (31.90%); average schooling years is the lowest in Nepal (4 years); and the unemployment rate is also lowest in Nepal (2.70%). The low unemployment rate in Nepal is due to the fact that about 47% of the population is underemployed, while about 1.4 million Nepali are working as migrant workers in foreign countries, including the Gulf States (Sapkota, 2009). Annually the amount being remitted into Nepal from overseas is approximately 200 billion Nepali rupees

(Sapkota, 2011), making up 23 percent of the country's GDP and is one of the top ten remittance recipient countries in the world (Samriddhi, 2011).

The general trend we see in this table is that countries with higher income have a lower prevalence of disability and vice versa. Similarly, from Table 1, we can see that poor countries with low levels of average schooling have higher prevalence of disabilities, as can be seen in the case of Nepal, Bangladesh, India and Ghana.

3. Research methodology

3.1 Dataset from Nepal

We use large-scale, and nationally representative data – Nepal Living Standard Survey (NLSS 2010/11) – published by the Central Bureau of Statistics (CBS), Government of Nepal (CBS, 2011). This data set is collected by CBS with technical assistance from WB. The data set contains a wide variety of information on sample households such as demographic characteristics of the household head and other members, housing, access to facilities, literacy and education, health services, maternity and family planning, migration and absentees, agriculture, consumption, income, employment status, farm and non-farm activities, remittances and transfer income, borrowing and loans, consumption adequacy, facilities provided by the government, and nutrition of children. Altogether, information from 5,988 households was collected in this survey. In this paper, we use an adjusted sample of 4,840 households with the household head between the economically active ages of 15 and 59 years. Among 4,840 households, 157 households are headed by persons with disabilities.

Prior to the survey design, in 2009 and 2010, the first author held meetings with CBS and requested to include disability-related information in the questionnaires. Nepal's disability-based organizations also consulted the CBS for the same purpose. As a result of this collective effort, for the first time in NLSS data collection history, two disability-specific questions were included: whether participants have any impairment(s) and (if any) what is the type of their impairment(s). The types of impairments included in the questionnaires are: physical impairments, visual impairments, hearing impairments, deaf, blindness, speech impairments, intellectual impairments and multiple impairments.

In this paper, we use the consumption-based national poverty line calculated by CBS, the Government of Nepal. According to CBS (2011), the national poverty line for Nepal is Nepalese Rupees (NRs) 19,261.18, which is based on the Cost of Basic Needs approach (CBN). In this approach, the poverty line can be defined as the expenditure value (in local currency) required by an individual to fulfill his/her basic needs in terms of both food and non-food items. While the poverty line in the previous round of the survey in 2003-04 (NLSS II) was an update of prices for the same basic needs basket estimated in 1995-96 (NLSS I), the poverty line for 2010-11 is based on a new basic needs basket of the poor to reflect changes in well-being over time.

3.2 Empirical strategy

3.2.1 Measures of poverty

For the analysis of poverty, we use Foster-Greer-Thorbecke (FGT) poverty measures, which are headcount ratio (P0), poverty gap (P1) and severity of poverty (P2). The FGT poverty measures are defined as:

(1) $$P_a = \int_0^z \left(\frac{z-y}{z}\right)^{\alpha} + f(y)dy \quad \& \quad \alpha \geq 0$$

Where y is the household per capita consumption expenditure, *f*(y) is its density (roughly the proportion of the population consuming y), *z* denotes the poverty line, and α is a nonnegative parameter. Since income data is missing in some observations and data on consumption is available, we use per capita household consumption to measure poverty.

For Nepal, the national poverty line based on per capita consumption is 19,261.18 NRs. Higher values of the parameter α indicate greater sensitivity of the poverty measure to inequality among the poor. We estimate poverty measures, $P\alpha$ for $\alpha = 0$, 1, and 2, which respectively defines the headcount index, the poverty gap index, and the squared poverty gap index.

3.2.2 Factors of poverty

In order to find the factors of poverty, we estimate a semi-log model as the form:

(2) $$\ln(Y) = X\beta + u$$

Where ln(Y) is the dependent variable denoting log of per capita household consumption expenditure and X denotes a set of explanatory variables representing household characteristics, social and demographic, regional and ethnic characteristics, etc. Since the dependent variable is in natural logarithmic form and explanatory variables are in level form, the explanation of each coefficient is the relative change in the dependent variable with respect to absolute change in the explanatory variable. u is an error term.

3.2.3 Variables

For household per capita consumption expenditure, we construct consumption aggregates by adding the various goods and services consumed by each household over a period of 12 months. Various components of consumption are grouped together into three main categories – consumption of food items, consumption of housing and consumption of other items. Household level consumption (in monetary terms) is divided by the size of household so as to obtain the household per capita consumption expenditure.

Other variables are grouped into different categories such as the gender of household head (male, female), age of household head (ranging from 15 to 59 years, in five groups), education of household head (ranging from 0 to 17 years, in three groups), employment activities of head (according to sectors of employment), region (rural-urban), land assets (ranging from landless to large land owners in five groups), access to facilities within 30 minutes' walk (road, school, market center, hospital, electricity, piped water) and ethnicity (prevailing ethnicity or caste, in five groups). The details of the definitions of the variables are shown in Table 2. We compare poverty between persons with and without disabilities. As the unit of analysis is the household, a household whose head is a person with disabilities is counted as a household with disabilities.

Table 2: Definition of variables

Variable	Definition
Per capita consumption	Household per capita consumption in Nepalese Rupees (NRs)
HH size	Size of household.
Married	1 if married, 0 otherwise
Sex of HH	
Male	1 if male, 0 otherwise
Female	1 if female, 0 otherwise
Age of HH	
(15-23) years	1 if in age group (15-23) years, 0 otherwise
(24-32) years	1 if in age group (24-32) years, 0 otherwise
(33-41) years	1 if in age group (33-41) years, 0 otherwise
(42-50) years	1 if in age group (42-50) years, 0 otherwise
(51-59) years	1 if in age group (51-59) years, 0 otherwise
Education of HH	
(0-5) years	1 if HH having education of (0-5) years, 0 otherwise
(6-10) years	1 if HH having education of (6-10) years, 0 otherwise
11 years and above	1 if HH having education of 11 years or more, 0 otherwise
Activity of HH	
Unemployed/inactive	1 if HH is unemployed or inactive, 0 otherwise
Agriculture	1 if HH is employed in Agriculture, 0 otherwise
Manufacturing	1 if HH is employed in Manufacturing, 0 otherwise
Trading	1 if HH is employed in Trading, 0 otherwise
Service	1 if HH is employed in Services, 0 otherwise
Other	1 if HH is employed in Other sector, 0 otherwise
Region	
Urban	1 if from urban region, 0 otherwise
Rural	1 if from rural region, 0 otherwise
Land Assets Group	
Landless (0.00 ha)	1 if having 0.00 hectare of land, 0 otherwise
Marginal (0.00ha – 0.15 ha)	1 if having 0.00 – 0.15 hectares of land, 0 otherwise
Small (0.15ha – 1.00 ha)	1 if having 0.15 – 1.00 hectares of land, 0 otherwise
Medium (1.00ha – 4.00 ha)	1 if having 1.00 – 4.00 hectares of land, 0 otherwise
Large (4.00ha and above)	1 if having 4.00 and above hectares of land, 0 otherwise
Access to facilities	(within 30 minutes' walk without load)
Road, vehicle	1 if household has access to vehicle road, 0 otherwise
School	1 if household has access to school, 0 otherwise
Market center	1 if household has access to market center, 0 otherwise
Hospital	1 if household has access to hospital, 0 otherwise

Electricity	1 if household has access to electricity, 0 otherwise
Piped water	1 if household has access to piped water, 0 otherwise
Ethnicity[a]	
High Caste	1 if caste is Brahmin and Chhetri, 0 otherwise
Mongoloid	1 if from Mongoloid Caste, 0 otherwise
Newar	1 if caste is Newar, 0 otherwise
Madheshi	1 if from Madheshi Caste, 0 otherwise
Low Caste	1 if from Low Caste, 0 otherwise

a There are 125 castes/ethnic groups reported in this report and these 125 castes are re-categorized into five major ethnic groups for our study. The first group is High Caste, which includes the Brahmin and Chhetri castes of both Hills and Terai areas; these people are scattered all over the country and are considered the historically privileged caste. The second group is made up of Mongoloids, which includes the Magar, Tamang, Rai, Gurung, Limbu, Sherpa, Thakali, Jirel, Dura, Lepcha and Sunuwar castes. People from this group reside mainly in the Hills and Mountainous areas. The third group is Newar – a caste of people who are settled mostly in cities, including Kathmandu Valley, and are engaged in trade and commerce. The fourth group is Madheshi, which includes the Yadav, Rajbanshi, Kalawar, Kanu, Tajpuria, Dhimal, Sudhi, Santhal/ Satar, and Gangai castes, excluding the Brahmins and Chhetris from Terai. The last group is the Low Caste, which includes 'low castes' of Hills such as Kami, Damai, Sarki, and low castes of Terai such as Chamar, Dusad, Paswan, Musahar, Lohar, and Tatma. The so-called low caste people are historically the most deprived and discriminated against in Nepal, and are often deprived of access to mainstream development.

4. Results and findings

4.1 Descriptive Statistics

Table 3 shows the summary statistics of the whole samples that include the households whose heads are both persons with and without disabilities. This table gives the mean, standard deviation, minimum and maximum values of most of the variables used in the analysis.

Table 3: Summary Statistics

Variable	Mean	Std. Dev.	Min	Max
Per capita Consumption	46,218.12	42,577.89	4,686.45	510,733.10
Household Size	4.39	1.97	1.00	21.00
Household Head Married	0.92	0.27	0.00	1.00
Gender of HH				
Male	0.90	0.30	0.00	1.00
Female	0.10	0.30	0.00	1.00
Age of Household Head				
(15-23) years	0.04	0.19	0.00	1.00
(24-32) years	0.20	0.39	0.00	1.00
(33-41) years	0.29	0.45	0.00	1.00

(42-50) years	0.26	0.44	0.00	1.00
(51-59) years	0.21	0.41	0.00	1.00
Education of Head				
(0-5) Years	0.81	0.38	0.00	1.00
(6-10) Years	0.10	0.30	0.00	1.00
11 Years and above	0.09	0.28	0.00	1.00
Activity of Head				
Unemployed/inactive	0.30	0.48	0.00	1.00
Student	0.09	0.16	0.00	1.00
Agriculture	0.18	0.38	0.00	1.00
Manufacturing	0.07	0.26	0.00	1.00
Trading	0.02	0.14	0.00	1.00
Service	0.29	0.45	0.00	1.00
Other	0.03	0.18	0.00	1.00
Region				
Urban	0.35	0.47	0.00	1.00
Rural	0.65	0.48	0.00	1.00
Land Assets Group				
Landless (0.00 ha)	0.12	0.31	0.00	1.00
Marginal (0.00ha – 0.15 ha)	0.14	0.35	0.00	1.00
Small (0.15ha – 1.00 ha)	0.44	0.49	0.00	1.00
Medium (1.00ha – 4.00 ha)	0.10	0.29	0.00	1.00
Large (4.00ha and above)	0.20	0.40	0.00	1.00
Access to facility				
Road, vehicle	0.09	0.27	0.00	1.00
School	0.07	0.26	0.00	1.00
Market center	0.06	0.22	0.00	1.00
Hospital	0.04	0.20	0.00	1.00
Electricity	0.74	0.43	0.00	1.00
Piped water	0.28	0.45	0.00	1.00
Ethnicity				
High Caste	0.35	0.48	0.00	1.00
Mongoloids	0.29	0.45	0.00	1.00
Newar	0.09	0.28	0.00	1.00
Madheshi	0.15	0.35	0.00	1.00
Low Caste	0.1	0.32	0.00	1.00
Total number of samples	**4,840 (Persons with disabilities – 167, without disabilities – 4,673)**			

Average household per capita consumption is NRs 46,218.12, with a minimum of NRs 4,686.45 and a maximum of NRs 510,733.10. With the average household size of 4.39 people, 90 percent of households are headed by males, while 10 percent are headed by females. Four percent of household heads are in the (15-23) age group, 20 percent are in the (24-32) age group, 29 percent are in the (33-41) age group, 26 percent are in the (42-50) age group and 21 percent are in the (51-59) age group. The majority of household heads (81 percent) have a low/basic level of schooling of (0-5) years, 10 percent have a medium level of (6-10) years and 9 percent have completed schooling at a higher level (11 years and beyond).

Data also shows that 39 percent of sample household heads are either unemployed or inactive in the job market. Students, who make up 9 percent of the sample, are also included in this category. Another 18 percent are engaged in the agricultural sector, followed by 7 percent in the manufacturing sector, 2 percent in the trading sector, 29 percent in the service sector and the remaining 3 percent are involved in other sectors. Furthermore, nearly two-thirds (or 65 percent) of the households are from rural areas, and the remaining 35 percent are from urban areas. Despite land assets being one of the important indicators of poverty, data shows that 12 percent of households are landless and 14 percent have only marginal land assets less than 0.15 hectares (ha). Similarly, a majority (44 percent) have small land assets (0.15ha-1.00ha). Another 10 percent have medium (1.00ha-4.00ha) and 20 percent have large land assets (above 4.00 ha).

For access to facilities within 30 minutes' walk, figures are not too encouraging except for the access to electricity. For example, only 9 percent have access to roads (for vehicles), followed by 7 percent having access to at least a primary school. Access to market centers is also low, at 6 percent. When it comes to hospitals, the percentage of people having access is even lower, at only 4 percent. However, more than two-thirds (or 74 percent) have access to electricity and 28 percent have access to piped water in their houses. Although access to electricity is relatively high, the entire nation still experiences heavy load shedding (power cuts) in the winter. With regard to diversity of population, 35 percent belong to the so-called high caste, followed by 29 percent being Mongoloids; another 9 percent are Newar and 15 percent are Madheshi, followed by 12 percent being in the so-called low caste groups.

We also calculated the means of the two sub-samples: one is the group of

households whose heads have disabilities and the other is the group of households whose heads do not have disabilities. The results are shown in Table 4 and Table 5 below.

As a baseline, 167 of the sample population are persons with disabilities and the remaining 4,673 are without disabilities. As shown in row 1 of both Table 4 and 5, the poverty headcount ratio (P0) for persons with disabilities is 28.6 percent, whereas it is 26.6 percent for their non-disabled counterparts. Likewise, the poverty gap index (P1) and the squared poverty gap index (P2) also follow the same trend. Overall, the poverty gap (P1) is 7.4 percent for persons with disabilities whereas it is 6.3 percent for people without disabilities. Moreover, severity of poverty (P2) is 2.7 percent for persons with disabilities and 2.2 percent for those without disabilities. This result shows that people with disabilities have a higher value in poverty headcount, gap and severity.

Row 2 of Table 4 discusses poverty based on gender. In households without persons with disabilities, we find that male-headed households are poorer than female-headed households (P0, 27.3 versus 24.1). This joins other authors in disproving that female-headed households are the poorest of the poor (Buvinić and Gupta, 1997; Chant, 2003). A possible reason is that the involvement of women in the management of households or community projects has positive effects in the efficient use of resources for the betterment of household life and community processes (Kennedy and Peters, 1992; Dolisca, et al, 2006), although there is also the possibility that the direction of causality is the opposite: resourcefulness of a household helps female heads to sustain the household.

However, although female-headed households in Nepal generally face lesser poverty, it is not the case for women with disabilities. In households with persons with disabilities, the poverty rate is 26.4 and 37.6 percent for males and females, respectively, demonstrating that households headed by females with disabilities are more vulnerable to poverty compared to their male counterparts. When discrimination exists, it is likely that women with disabilities suffer from dual discrimination – first as a woman and then as a woman with disabilities and is thus at risk of being more vulnerable than their male counterparts.

Based on age groups in row 3 of Table 4, for persons with disabilities, P0 is higher in the age groups of 15-23 to 33-41 years than in the groups

Table 4: Gender, age, ethnicity, education, employment and poverty

	Persons with disabilities (Household heads)													Persons without disabilities (Household heads)											
		Based on poverty head count index (P0)				Based on poverty gap index (P1)				Based on severity of poverty index (P2)					Based on poverty head count index (P0)				Based on poverty gap index (P1)				Based on severity of poverty index (P2)			
	Obs.	Estimate	Std. Err	95% Conf.	Interval	Estimate	Std. Err	95% Conf.	Interval	Estimate	Std. Err	95% Conf.	Interval	Obs.	Estimate	Std. Err	95% Conf.	Interval	Estimate	Std. Err	95% Conf.	Interval	Estimate	Std. Err	95% Conf.	Interval
1.All sample	167	28.6	3.9	20.8	36.3	7.4	1.3	4.9	9.9	2.7	0.6	1.5	4.0	4673	26.6	0.8	25.1	28.0	6.3	0.2	5.8	6.8	2.2	0.1	2.0	2.5
2.Gender																										
Male	144	26.4	4.4	17.6	35.1	6.6	1.4	3.8	9.4	2.4	0.7	1.0	3.8	4228	27.3	0.9	25.6	29.1	6.5	0.3	5.9	7.1	2.3	0.1	2.0	2.6
Female	23	37.6	8.2	21.4	53.8	10.7	2.8	5.2	16.3	4.0	1.4	1.2	6.9	445	24.1	1.3	21.5	26.8	5.7	0.4	4.9	6.5	2.0	0.2	1.6	2.4
3.Age																										
15–23 years	7	43.8	22.0	0.3	87.2	12.1	6.1	0.1	24.1	3.4	1.7	0.0	6.7	168	22.5	3.8	15.1	29.9	5.7	1.5	2.8	8.6	2.5	0.8	0.9	4.0
24–32 years	22	40.9	11.2	18.8	62.9	9.6	3.7	2.2	16.9	4.0	2.2	-0.3	8.3	921	26.8	1.6	23.6	30.0	6.5	0.5	5.5	7.5	2.3	0.2	1.8	2.8
33–41 years	40	38.5	8.3	22.0	54.9	9.9	2.5	5.0	14.9	3.2	1.0	1.3	5.1	1354	28.5	1.4	25.8	31.2	7.0	0.4	6.1	7.9	2.5	0.2	2.1	2.9
42–50 years	48	21.4	6.5	8.5	34.3	5.5	1.9	1.7	9.3	1.9	0.8	0.3	3.5	1230	24.9	1.5	22.0	27.8	5.9	0.5	5.0	6.9	2.2	0.3	1.7	2.7
51–59 years	50	21.3	6.9	7.7	34.9	6.0	2.6	0.9	11.2	2.6	1.6	-0.5	5.7	985	26.3	1.7	23.0	29.6	5.8	0.5	4.9	6.7	1.9	0.2	1.4	2.3
4.Ethnicity																										
High Caste	55	24.0	6.8	10.5	37.5	3.9	1.3	1.2	6.5	0.9	0.4	0.2	1.7	1654	18.2	1.1	16.0	20.4	4.5	0.3	3.8	5.1	1.5	0.2	1.2	1.8
Mongoloids	53	22.9	6.2	10.6	35.1	7.6	2.4	2.8	12.3	3.3	1.2	0.8	5.7	1353	30.0	1.5	27.2	32.9	7.0	0.5	6.1	7.9	2.5	0.2	2.0	2.9
Newar	12	17.9	11.7	-5.2	40.9	4.3	3.8	-3.2	11.8	1.5	1.4	-1.3	4.4	412	4.2	1.2	1.8	6.5	0.9	0.3	0.3	1.5	0.3	0.1	0.0	0.5
Madheshi	28	40.0	10.3	19.6	60.4	9.5	3.0	3.5	15.4	3.0	1.2	0.6	5.5	707	32.5	2.0	28.6	36.5	7.2	0.6	6.1	8.4	2.3	0.3	1.8	2.9
Low Caste	19	45.8	12.6	21.0	70.7	15.3	5.3	4.9	25.8	6.4	3.2	0.1	12.8	547	46.7	2.3	42.1	51.3	11.9	0.9	10.2	13.6	4.5	0.5	3.5	5.4
5.Education																										
0–5 Years	140	33.1	4.4	24.4	41.9	8.6	1.4	5.8	11.4	3.2	0.7	1.7	4.6	3807	30.3	0.9	28.6	32.0	7.3	0.3	6.7	7.8	2.6	0.1	2.3	2.8
6–10 Years	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	466	11.2	1.8	7.7	14.7	2.3	0.5	1.4	3.2	0.7	0.2	0.3	1.0
11 Years and above	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	400	4.3	1.3	1.8	6.8	0.7	0.3	0.2	1.2	0.2	0.1	0.0	0.4
6.Employment																										
Sector of employment																										
Unemployed/ inactive	64	17.8	5.5	6.8	28.7	5.8	2.3	1.3	10.2	2.6	1.3	0.0	5.3	1609	20.3	1.2	17.9	22.7	5.1	0.4	4.3	5.8	1.8	0.2	1.4	2.2
Student	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	229	12.4	2.9	6.7	18.2	2.9	0.8	1.2	4.5	0.8	0.3	0.3	1.4
Agriculture	40	50.6	8.6	33.6	67.5	12.4	2.9	6.7	18.1	4.4	1.4	1.6	7.2	833	47.8	1.9	44.1	51.6	12.0	0.7	10.6	13.4	4.5	0.4	3.7	5.2
Manufacturing	10	34.4	14.8	5.1	63.7	10.3	5.6	-0.8	21.4	4.3	2.6	-0.9	9.5	359	20.2	2.4	15.4	24.9	3.9	0.6	2.7	5.0	1.1	0.3	0.6	1.6
Trading	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99	12.5	3.8	5.1	19.9	2.6	1.0	0.7	4.6	0.9	0.4	0.0	1.7
Service	42	27.9	7.9	12.2	43.5	5.6	1.7	2.3	8.9	1.4	0.5	0.5	2.4	1383	25.2	1.4	22.5	27.8	5.7	0.4	4.9	6.4	1.9	0.2	1.6	2.3
Other	4	24.0	21.4	-18.3	66.3	9.1	8.1	-6.9	25.1	3.4	3.1	-2.6	9.5	161	21.1	3.7	13.9	28.4	4.5	1.0	2.5	6.4	1.3	0.4	0.6	2.1
Basis of salary																										
Unemployed/ inactive	64	17.8	5.5	6.8	28.7	5.8	2.3	1.3	10.2	2.6	1.3	0.0	5.3	1608	20.3	1.2	17.9	22.7	5.1	0.4	4.3	5.8	1.8	0.2	1.4	2.2
Student	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	229	12.4	2.9	6.7	18.2	2.9	0.8	1.2	4.5	0.8	0.3	0.3	1.4
Day-to-day basis	64	47.7	6.8	34.2	61.1	10.5	2.0	6.7	14.4	3.4	0.9	1.6	5.2	1466	45.6	1.4	42.8	48.4	11.1	0.5	10.2	12.1	4.0	0.3	3.5	4.5
Long-term basis	31	7.0	4.8	-2.5	16.5	1.4	1.0	-0.5	3.3	0.3	0.2	-0.1	0.7	1114	11.2	1.2	8.8	13.5	2.0	0.3	1.4	2.5	0.6	0.1	0.4	0.8
Consumption-rate basis	5	58.1	23.3	12.0	104.2	25.2	10.2	5.0	45.5	11.1	4.6	2.0	20.1	256	23.8	3.1	17.6	29.9	5.3	0.9	3.6	7.1	1.7	0.4	1.0	2.4

Table 5: Regions, land ownership, access to facility, and poverty

	Persons with disabilities (Household heads)													Persons without disabilities (Household heads)											
		Based on poverty head count index (P0)				Based on poverty gap index (P1)				Based on severity of poverty index (P2)					Based on poverty head count index (P0)				Based on poverty gap index (P1)				Based on severity of poverty index (P2)			
	Obs.	Estimate	Std. Err	95% Conf. interval		Estimate	Std. Err	95% Conf. interval		Estimate	Std. Err	95% Conf. interval		Obs.	Estimate	Std. Err	95% Conf. interval		Estimate	Std. Err	95% Conf. interval		Estimate	Std. Err	95% Conf. interval	
1.All sample	167	28.6	3.9	20.8	36.3	7.4	1.3	4.9	9.9	2.7	0.6	1.5	4.0	4673	26.6	0.8	25.1	28.0	6.3	0.2	5.8	6.8	2.2	0.1	2.0	2.5
2.Regions																										
Urban	52	16.9	5.9	5.2	28.6	2.7	1.2	0.3	5.0	0.8	0.5	−0.2	1.7	1646	8.0	0.8	6.4	9.5	1.5	0.2	1.2	1.9	0.5	0.1	0.3	0.6
Rural	115	33.6	5.0	23.8	43.4	9.5	1.7	6.1	12.8	3.6	0.9	1.9	5.3	3027	35.2	1.0	33.3	37.2	8.5	0.3	7.9	9.2	3.0	0.2	2.7	3.4
Mountains	12	30.7	14.9	1.2	60.1	6.4	3.2	0.0	12.8	1.7	1.1	−0.4	3.7	303	34.4	3.1	28.3	40.5	8.7	1.0	6.7	10.8	3.1	0.5	2.1	4.0
Urban-Kathmandu	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	704	0.6	0.3	0.0	1.3	0.1	0.1	0.0	0.3	0.0	0.0	0.0	0.1
Urban-hills	16	8.1	7.8	−7.2	23.4	2.0	1.9	−1.7	5.6	0.5	0.5	−0.4	1.4	394	8.7	1.7	5.5	12.0	1.8	0.4	1.0	2.7	0.6	0.2	0.2	0.9
Urban-Terai	18	33.7	11.8	10.3	57.0	4.8	2.4	0.1	9.6	1.4	1.1	−0.7	3.6	548	15.5	1.8	12.0	19.0	2.9	0.4	2.0	3.7	0.8	0.2	0.5	1.2
Rural-Hills-eastern	13	39.6	15.4	9.2	70.1	10.6	6.2	−1.7	22.8	4.7	3.0	−1.1	10.6	281	25.5	2.9	19.7	31.2	5.8	0.9	4.1	7.4	1.8	0.4	1.1	2.5
Rural hills-central	14	26.2	12.3	2.0	50.5	7.1	4.5	−1.9	16.0	3.5	2.9	−2.2	9.2	364	32.5	2.8	27.0	38.1	10.2	1.2	7.9	12.4	4.5	0.7	3.2	5.8
Rural hills-western	14	17.6	10.4	−2.9	38.2	4.3	2.5	−0.5	9.2	1.2	0.8	−0.3	2.7	352	29.4	2.8	23.9	34.9	6.1	0.8	4.6	7.6	2.0	0.4	1.2	2.8
[illegible]	16	54.3	13.2	28.2	80.4	15.4	4.5	6.6	24.2	5.2	1.9	1.4	9.0	399	54.7	2.7	49.5	59.9	14.8	1.1	12.8	16.9	5.7	0.6	4.5	6.8
Rural Terai-eastern	12	46.3	15.9	14.9	77.7	12.8	5.0	3.0	22.5	4.0	1.7	0.5	7.4	378	30.1	2.7	24.8	35.4	5.7	0.6	4.4	6.9	1.5	0.2	1.1	1.9
Rural Terai-central	17	27.5	12.2	3.4	51.6	8.3	4.0	0.3	16.3	3.1	1.8	−0.5	6.6	359	29.7	2.8	24.3	35.1	6.0	0.7	4.6	7.4	1.8	0.3	1.2	2.3
Rural Terai-western	6	25.6	18.5	−11.0	62.2	6.5	4.8	−2.9	16.0	1.7	1.2	−0.7	4.1	267	35.8	3.4	29.2	42.5	8.8	1.2	6.5	11.1	3.2	0.6	2.0	4.4
[illegible]	11	31.1	15.3	0.9	61.3	14.1	9.3	−4.3	32.5	8.0	6.3	−4.4	20.4	324	39.8	3.0	33.9	45.8	9.4	1.0	7.4	11.3	3.3	0.5	2.4	4.3
3.Land distribution																										
Landless (0.00 ha)	17	57.0	13.1	31.2	82.7	13.7	4.2	5.5	21.9	4.7	1.8	1.2	8.2	538	29.4	2.2	25.1	33.7	6.8	0.7	5.5	8.1	2.3	0.3	1.7	2.9
Marginal (0.03-0.35 ha)	20	33.7	12.3	9.4	58.0	12.3	6.0	0.4	24.3	6.3	3.8	−1.2	13.7	676	32.9	2.0	29.0	36.9	8.0	0.7	6.7	9.4	3.0	0.4	2.3	3.7
Small (0.35-1.00 ha)	81	31.7	5.8	20.3	43.1	8.1	1.7	4.7	11.4	2.7	0.8	1.2	4.3	2056	33.6	1.2	31.3	35.9	8.3	0.4	7.5	9.0	2.9	0.2	2.5	3.3
Medium (1.00-4.00 ha)	16	21.0	10.5	0.3	41.6	4.4	2.6	−0.7	9.4	1.4	1.1	−0.7	3.5	461	20.6	2.3	16.0	25.1	4.1	0.7	2.7	5.4	1.3	0.3	0.7	2.0
Large (4.00 ha & above)	33	4.7	3.5	−2.2	11.6	0.9	0.7	−0.5	2.3	0.3	0.3	−0.2	0.8	942	4.7	0.9	3.0	6.5	0.9	0.2	0.5	1.4	0.3	0.1	0.1	0.5
4.Access to facilities																										
Road, vehicle, Yes	12	36.7	15.1	6.8	66.6	11.8	5.7	0.5	23.2	5.2	3.5	−1.7	12.0	399	23.3	2.5	18.4	18.4	5.2	0.7	3.7	6.6	1.8	0.3	1.1	2.4
No	155	28.0	4.1	20.0	36.0	7.1	1.3	4.6	9.6	2.6	0.6	1.3	3.8	4274	26.9	0.8	25.3	25.3	6.4	0.3	5.9	6.9	2.3	0.1	2.0	2.5
School, Yes	9	26.7	14.5	−2.0	55.3	4.3	2.8	−1.2	9.8	1.2	0.9	−0.5	2.9	347	18.3	2.4	13.5	23.0	4.7	0.8	3.2	6.2	1.6	0.3	0.9	2.2
No	158	28.7	4.1	20.6	36.8	7.6	1.3	5.0	10.2	2.8	0.7	1.5	4.1	4326	27.2	0.8	25.7	28.7	6.4	0.2	5.9	6.9	2.3	0.1	2.0	2.5
Market Centre, Yes	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	268	18.3	2.4	13.5	23.0	5.1	1.1	3.0	7.2	1.9	0.6	0.8	3.0
No	164	29.1	4.0	21.2	37.0	7.5	1.3	5.0	10.1	2.8	0.6	1.5	4.0	4405	27.2	0.8	25.7	28.7	6.4	0.2	5.9	6.9	2.2	0.1	2.0	2.5
Hospital, Yes	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	194	17.1	3.1	11.0	23.2	3.9	1.0	2.0	5.8	1.4	0.5	0.4	2.5
No	161	29.6	4.1	21.6	37.6	7.7	1.3	5.1	10.2	2.8	0.7	1.5	4.1	4479	26.9	0.8	25.4	28.5	6.4	0.2	5.9	6.9	2.3	0.1	2.0	2.5
Electricity, Yes	111	18.3	4.1	10.1	26.4	4.7	1.4	2.0	7.3	1.8	0.8	0.3	3.3	3489	16.4	0.8	14.9	17.9	3.3	0.2	2.9	3.6	1.0	0.1	0.8	1.1
No	55	49.2	7.4	34.6	63.8	12.9	2.4	8.1	17.7	4.5	1.1	2.4	6.7	1184	52.8	1.6	49.7	55.8	14.2	0.6	13.0	15.4	5.5	0.3	4.8	6.1
Piped water, Yes	39	17.1	8.0	1.2	32.9	2.7	1.2	0.3	5.1	0.5	0.2	0.0	0.9	1345	9.0	1.0	7.1	10.9	1.9	0.3	1.4	2.5	0.6	0.1	0.4	0.9
No	128	31.7	4.5	22.8	40.7	8.7	1.6	5.6	11.8	3.3	0.8	1.8	4.9	3328	32.6	0.9	30.8	34.5	7.8	0.3	7.2	8.4	2.8	0.1	2.5	3.1

beyond 42 years. However, poverty indicators are generally similar for all age groups in the case of persons without disabilities. This is possibly because people with disabilities within these age groups are generally still in schooling or are just fresh out of universities and searching for jobs; it is thus likely that they tend to have lower levels of income and consumption.

Row 4 indicates a vast difference in poverty between people with and without disabilities according to ethnicity. In both groups, households of Newar ethnicity are least poor (17.9 and 4.2 percent for persons with and without disabilities, respectively), and households belonging to low castes are the poorest (45.8 and 46.7 percent for persons with and without disabilities, respectively).

One interesting note is that, compared to households from the high or privileged castes, households of Newar ethnicity are richer. This observation might be due to the fact that there is an employment quota for Newar people in the civil service, set by the amended civil act that came into effect after Nepal became a federal republic and the Maoists entered parliament in 2007, so as to increase the access to participation of marginalized people and to keep a balance in a civil service that used to be dominated by high caste hills ethnicities (*Chhetri and Brahmin*). The main target of this amended employment policy is originally to include people such as the lower castes, ethnic minorities and those with disabilities who are economically and socially disadvantaged as well as those who face discrimination. However, Newar people have been also included in this law as beneficiaries despite the fact that they are mostly sound economically, enjoy better schooling, participate in the labor market and engage in trade and commerce.

Moreover, estimated results in row 5 of Table 4 show poverty measures based on the educational status of household heads divided into three groups: with primary education (0-5 years); middle and secondary school education (6-10 years); and higher education (11 years and above). For people with disabilities, results show that those with less than five years of schooling for the household head are the poorest; for this group, poverty incidence is 33.1 percent; poverty gap is 8.6 percent; and severity of poverty is 3.2 percent. Results also showed that household heads receiving middle and secondary or higher education are non-poor, indicating the importance of education beyond primary school for

families to directly increase their income. This, however, does not exclude the possibility that the resourcefulness of a household may facilitate the access to higher education.

For persons without disabilities, there is a 30.3 percent poverty incidence for household heads with primary education, an 11.2 percent of poverty incidence for those with middle and secondary education and a 4.3 percent of poverty incidence for household heads with higher levels of education. These results indicate clearly that education and consumption level are correlated, irrespective of disability status.

Poverty status based on sectors of employment and basis of salary is presented in row 6 of Table 4 for both groups. The results for both groups show that household heads working in the agricultural sector are the poorest. In the agricultural sector, households headed by persons with disabilities have a poverty incidence of 50.6 percent while for people without disabilities, it is slightly lower (47.8 percent). This finding, showing the greater vulnerability of people engaging in the agricultural sector, is consistent with some literature that has elaborated on how most of the world's poor are dependent on the agricultural sector (Schultz, 1980; DFID, 2004).

In all industries (manufacturing, service, etc.), the poverty incidence of households headed by persons without disabilities is lower than households headed by persons with disabilities. The exceptions occur when the household head is unemployed/inactive, a student, or in the trading industry; in these industries, household heads with disabilities have a lower poverty incidence. In particular, when the head of the household is either a student or working in the trading sector, households of persons with disabilities are found to be not poor at all, while the poverty incidence is 12.4 and 12.5 percent for non-disabled counterparts, respectively. The possible explanation is that students with disabilities are generally supported by their families, while those in the trading industry gain higher marginal profit through their business. In the case of the unemployed, they may be doing so voluntarily or receiving other forms of income, as we will discuss in the next paragraph.

In terms of salary received, persons with disabilities who work on the contract/piece-rate basis have the highest poverty incidence (58.1

percent) followed by those working on a day-to-day basis (47.7 percent). Those with household heads who are unemployed or inactive have a relatively lower level of poverty incidence (17.8 percent), suggesting that they may be doing so voluntarily or due to other income sources, such that their unemployment does not pose a significant problem to their daily living. For example, the Disabled Persons Protection and Welfare Act (1982) stipulates that it is within the power of the state to pay a lump sum fund between 10,000 rupees and 100,000 rupees according to the assessed level of disability, and a further 500 rupees of social monthly assistance (MEND, 2010; SSA Website).

Among persons without disabilities, household heads working on a day-to-day basis are the poorest (poverty incidence of 45.6 percent), with those working on a contract/piece-rate basis are the next poorest at 23.8 percent. Regardless of disability status, those working on a long-term basis appear to be least poor, consistent with the fact that long-term jobs have greater income stability than contract or day-to-day jobs and thus these people experience less poverty. This finding can be further linked with Nepal's local situation: there are no social security benefits for persons who work on a contract/piece rate basis or day-to-day basis, whereas those working on a long-term basis in the public sector are entitled to get most of their social security benefits in the form of pensions or provision funds.

Another interesting observation is that among the households with disabilities, the poverty incidence is higher only for those receiving salaries on a day-to-day and contract/piece-rate basis, demonstrating that, in addition to lesser income stability, they face further limitations to opportunities. In contrast, when the household heads with disabilities are unemployed persons, students and those receiving salaries on a longer term, a lower poverty incidence is observed. One possible reason is that, as Lamichhane & Sawada (2013) argue, there are higher returns to education for persons with disabilities, such that those who are educated receive higher earnings in a stable job. For unemployed persons and students, as discussed earlier, a lower poverty incidence could be attributed to factors such as greater support from the state or relatives, but warrants further research for greater clarification.

Row 2 of Table 5 shows the poverty indicators based on different regions. Irrespective of disability status, poverty in rural areas is

generally significantly higher than that in urban areas though figures differ slightly between those with and without disabilities. For persons without disabilities, urban poverty is significantly lower than rural poverty as it is 8 percent in urban and 35.2 percent in rural areas. For persons with disabilities, although the difference is less drastic, rural poverty is still double that of urban poverty, with 16.9 percent in urban areas and 33.6 percent in rural areas.

Poverty incidence, poverty gap and severity are highest in the rural mid-hills and the far western region for both groups (with and without disabilities). P0 is around 54 percent for both groups. Generally, persons without disabilities are found to be poorer in rural areas; the tendency is even more pronounced in the western part of Nepal. However, for persons with disabilities, poverty is lowest in the urban-Terai region (33.7 percent), followed by the rural eastern hills (39.6 percent), the rural eastern Terai (46.29 percent), while it is highest in the rural mid-hills and the far west (54.3 percent). Among the respondents in this study, none of the people with disabilities are found to be poor in the capital of Kathmandu, in contrast to around one percent of their non-disabled counterparts being poor.

Comparing the situation between people with and without disabilities, higher urban poverty was observed among persons with disabilities. Urban poverty for persons with disabilities (P0=16.9) is more than two times higher than their non-disabled counterparts (P0=8.0). The higher cost of living in the city, meaning inadequate or lack of housing and other essential social services, coupled by the limited access that people with disabilities have to employment opportunities and income, as compared to their non-disabled counterparts, might account for higher urban poverty among persons with disabilities (Engbersen, et al., 2006; Baker, 2008).

Row 3 of Table 5 shows the poverty status of household heads according to land ownership. For persons with disabilities, those households who own no land are the poorest and there is a direct relationship between the area of land being owned and the wealth of a household. However, when it comes to those without disabilities, the poorest are not the landless households but those households with small areas of land (0.15 hectares – 1.00 hectares). Having no land or just marginal areas of land may push those groups into finding work as wage earners in other sectors; however, when they have some land (albeit a small area), the

tendency is that the farmers will want to work hard to cultivate their land and they limit themselves solely to working on their own farms. However, due to the use of inefficient traditional technologies, their production processes might suffer from low productivity and decreasing returns to scale. Household heads having medium or large lands are found less poor regardless of the disability status. Since land can be used as collateral for agricultural credit or insurance, households with relatively larger land are likely to be less vulnerable to poverty.

Row 4 of Table 5 shows the poverty status of households based on access to facilities. For both groups, households having access to these facilities are found to be less poor compared to those without access. The findings show that for people with disabilities, households located within 30 minutes' walk to the market center or hospital are found in the non-poor group, while households having access to school are less poor compared to their counterparts having no access to such facilities. In both groups, the poorest households are those with no access to electricity in their houses. Though more than two-thirds of all households have access to electricity, those with no access to electricity in their houses generally reside in remote areas and are found to be among the poorest.

4.2 Factors associated with poverty

Table 6 shows the Ordinary Least Square (OLS) estimates of the factors of poverty. Estimation result shows that for persons with disabilities, per capita consumption is positively correlated with variables such as education (6-10 years and 11 years and above), medium and large land ownership, and access to electricity.

For both groups, per capita consumption is negatively correlated with household size and household heads' engagement in agricultural activities. Household size is negatively correlated with per capita household consumption possibly because the dependency ratio[2] is high in Nepal as the overall dependency ratio of the country is 84.4 percent (CBS, 2011). Some members earn and others share the benefits in living together. We find that for every increase in household member-size, per

2. The conventional dependency ratio is defined as the ratio of population in the 0-14 years age group (young population) and those 60 years and above (old population) to the population in the productive or economically active age group of 15-59 years.

Table 6: Correlations with Poverty

Dependent variable: log (per capita household consumption)						
Variables	Persons with disabilities (Household heads)			Persons without disabilities (Household heads)		
	Coefficient		S.E.	Coefficient		S.E
Household characteristics						
Household size	-0.12	***	0.023	-0.08	***	0.01
Head female	-0.19		0.14	0.08	***	0.02
Rural household	-0.11		0.13	-0.25	***	0.02
Age of head	0.01		0.01	0.01	***	0.001
Head employed in agriculture	-0.3	***	0.1	-0.18	***	0.02
Education						
0-5 years (referent)	-		-	-		-
6-10 years	0.46	***	0.15	0.08	***	0.02
11 years and above	0.29	*	0.14	0.28	***	0.03
Land distribution						
Landless (0.00 ha) (base outcome)	-		-	-		-
Marginal (0.00ha – 0.15 ha)	0.07		0.19	-0.05	*	0.02
Small (0.15ha – 1.00 ha)	-0.02		0.16	-0.04	*	0.02
Medium (1.00ha – 4.00 ha)	0.46	**	0.2	0.17	***	0.03
Large (4.00ha and above)	0.42	**	0.17	0.18	***	0.03
Access						
Electricity	0.44	***	0.1	0.38	***	0.02
Piped water	0.17		0.11	0.29	***	0.02
Market center	0.22		0.34	0.04		0.03
Hospital	-0.05		0.24	0.03		0.04
Road	-0.19		0.17	0.04		0.03
School	-0.11		0.21	0.07	**	0.03
Ethnicity						
High Caste	-		-	-		-
Mongoloids	-0.12		0.11	-0.09	***	0.02
Newar	-0.05		0.18	0.13	***	0.03
Madheshi	-0.22		0.14	-0.15	***	0.23
Low Caste	-0.23		0.15	-0.2	***	0.25
Constant	10.57		0.3	10.47		0.04

capita consumption decreases by 12 percent and 8 percent, respectively, for people with and without disabilities. This suggests that the impact of having a larger family is more significant for the consumption patterns of families consisting of people with disabilities.

As we saw in Table 4, the majority of the poor are engaged in the agricultural sector. If the household head is employed in the agricultural sector, there is 30 percent less per capita consumption in the households of persons with disabilities and 18 percent less per capita consumption in households of persons without disabilities, indicating that agricultural households headed by persons with disabilities are more vulnerable to poverty due to less income and less consumption.

On the other hand, the gender of household head, rural residence, and the age of the household head are significantly correlated with per capita consumption only for persons without disabilities. As for persons with disabilities, rural residence does not have a significant impact while, for those without disabilities, per capita household consumption will decrease by 25 percent if it is a rural household. Results also show that the age of the household head without disabilities is positively correlated to household consumption, suggesting that they have higher disposable income in their later years.

With our eyes turned to education, the positive correlations between education and per capita consumption are high especially for persons with disabilities. Persons having an education of 6-10 years have 46 percent more per capita consumption than persons in other educational groups. The corresponding figure for persons without disabilities is only 8 percent. These figures indicate the possibility that education beyond the primary level is important as a means of reducing poverty among people with disabilities where high returns to education have been discovered by many scholars including Lamichhane and Sawada (2013).

Land ownership is also found to be correlated with household per capita consumption. In both groups, persons having medium and large areas of land have larger per capita consumption than smaller or landless households. The households (with heads without disabilities) having marginal and small tracts of land have less per capita consumption. As we have already discussed above, those who are not land owners can easily seek wage-earning jobs while marginal and small landowners

spend time and effort in cultivating their land and consequently tend to be more susceptible to fluctuations in land output and income.

Many studies (Lawrence, et al. 2002; Pachauri & Spreng, 2004; Kanagawa & Nakata, 2008) show that, regardless of disability status, the access to various facilities is highly associated with income poverty because the lack of access to facilities deprives individuals of opportunities. Our study shows that the access to electricity, piped water and school indeed plays significant roles for persons without disabilities. But for persons with disabilities, only the access to electricity is significant, which seems to indicate the crucial role that information technology plays in increasing various opportunities for the improvement of their lives.

For persons without disabilities, households of Mongoloids or Madheshi ethnicity and lower castes have lower per capita consumption than households from higher castes, while households of Newar ethnicity have higher per capita consumption than households from higher castes. This is probably because, in addition to having higher education, living in urban areas and being mostly engaged in business, they benefit from the quota reservation system for public sector jobs. Low caste households are the most deprived households, having fewer resources and lower levels of both income and consumption.

5. Conclusion

Using the nationally representative NLSS dataset, in this paper, we compare the poverty profile between people with and without disabilities in Nepal and identify correlations between poverty and various aspects of Nepalese households. Regardless of disability status, results indicate that persons living in rural areas, having a lower level of education, having less land and deprived of access to various facilities are poorer. With regard to ethnicity, people in the low castes are the poorest.

With regard to the households headed by persons with disabilities, factors that have been found to be significant in increasing per capita household consumption include education, land assets, the access to electricity and employment in non-agricultural sectors. These findings underscore the importance of human capital formation by education and employment policies as well as the physical assets and infrastructure that broaden opportunities for persons with disabilities.

Finally, it must also be acknowledged that the process of defining disability is a complex one, with data from most developing countries reflecting a lower level of disability prevalence. The lack of involvement of experts in disability studies also implies biases in survey designs, which might skew results. There is thus a need to keep pushing for robust data collection and make governments and agencies identify important disability issues. Any determined attempt to reduce poverty and achieve sustainable development requires a strong political will for development to be made more inclusive, by giving equal footing to the issues of those with disabilities, and mainstreaming disability issues into the post-2015 agenda of inclusive development for all.

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