NEPAL LIVING STANDARDS SURVEY I (1995/96)
SURVEY DESIGN AND IMPLEMENTATION

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CONTENTS

1. Introduction

One of the principal objectives of the Eighth Five Year Plan of Nepal is the alleviation of poverty in the country. However, the scarcity of reliable and timely data regarding the living standards of the people and the level of poverty in the country has hampered efforts to monitor achievements. This provided the impetus for an understanding between His Majesty's Government of Nepal and the World Bank to launch a Living Standards Survey in Nepal. The Nepal Living Standards Survey I (NLSS I) was designed as a multi-topic survey collecting a comprehensive set of data on different aspects of household welfare (consumption, income, housing, labor markets, education, health etc.). These data, together with those collected through future rounds of the survey, will ultimately allow the Government to monitor progress in improving national living standards and to evaluate the impact of various government policies and programs on the living conditions of the population.   The survey was conducted under the responsibility of the Household Survey Division of the Central Bureau of Statistics (CBS).[1]

2. Survey Methodology

The Nepal Living Standards Survey I followed the Living Standards Measurement Survey (LSMS) methodology developed by researchers at the World Bank over the last fifteen years and applied in surveys conducted in more than thirty countries. The key features of this methodology are:

> (a) an integrated household questionnaire covering consumption, incomes, assets, housing, education, health, fertility, migration, accompanied by a community questionnaire aimed at collecting information on service provision, prices, and the environment facing the households;

> (b) innovative data management techniques, including a pre-coded questionnaire, decentralized data entry, data verification in the field, and extensive training and supervision of field workers.

The sample design, survey questionnaires, and field work organization of the NLSS I are described below.

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[1] Mr Keshav R. Sharma oversaw the work as Director General of the Central Bureau of Statistics. The Household Survey Division was headed by Mr Keshav B. Karmacharya, and the core team comprised Messrs Prem P. Sangraula, Shyam B. Upadhyaya, Tunga S. Bastola (from the Agriculture Division), Radha Khrisna Ghatry Chhetry (from the Population Division). The core team was assisted by an Accounting Officer and four assistants. Messrs Salman Zaidi and Manik Lal Shrestha provided long-term technical assistance. The World Bank team was led by Ms. Giovanna Prennushi, and comprised Ms. Benu Bidani, Mr. Juan Munoz, and Mr Peter Lanjouw. Mr David Patterson assisted with the testing of the questionnaires and the preparation of the manuals. Funding was provided by the World Bank (under a Japanese PHRD grant and an Institutional Development Fund grant) and USAID.

Sample Design

Sample Frame. A complete list of all wards in the country, with a measure of size, was developed in order to select from it with Probability Proportional to Size (PPS) the sample of wards to be visited. The 1991 Population Census of Nepal was the starting point for building such a sample frame. A data set constructed by the Household Survey Division of the CBS with basic information from the Census at the ward level was used as a sample frame to develop the NLSS I sample.

Sample Design. The sample size for the NLSS I was set at 3,388 households. This sample was divided into four strata based on the geographic and ecological regions of the country: (i) Mountains, (ii) urban Hills, (iii) rural Hills, and (iv) Terai. The following table shows how the sample was allocated among the four strata:

NLSS I National Sample

Stratum	*Number of Households*
Mountains	424
Hills (Urban)	604
Hills (Rural)	1,136
Terai	1,224
Total	*3,388*

The sample size was designed to provide enough observations within each ecological stratum to ensure adequate statistical accuracy, as well as enough variation in key variables for policy analysis within each stratum, while respecting resource constraints and the need to balance sampling and non-sampling errors.[2]

Sample Selection. A two-stage stratified sampling procedure was used to select the sample for the NLSS I. The smallest administrative unit in the 1991 Population Census was the ward, and this was selected as the primary sampling unit (PSU) for the survey. In the first stage, 275 wards or sub-wards (see below under Cartography) (the PSUs) were selected with probability proportional to size (PPS) from each of the four ecological strata, using the number of households in the ward as the measure of size.[3] The sample frame considered all the 75 districts in the country, and indeed 73 of them were represented in the sample.[4]

In the second stage, a fixed number of households – twelve – was selected from each PSU. Subsequent to the selection of the wards, it was decided to interview 16 instead of

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[2] A separate sample of 1,200 households (100 wards) was drawn from the Arun Valley, as there was interest at the time in collecting baseline data on living standards there. More information on this sample is available from the CBS or Ms. Prennushi at the World Bank.

[3] Before the selection, the sample frame was sorted by ascending order of the district codes, that were numbered from East to West reflecting the division of the country into Development Regions, in order to give the sample an implicit stratification.

[4] The two districts not selected in the sample due to their low population were Rasuwa and Mustang.

12 households in each selected ward in the Far-Western Development Region to increase the number of observations for that region.

The two-stage procedure just described had several advantages. It simplified the analysis by providing a self-weighted sample within each stratum.[5] It also reduced the travel time and cost, as 12 or 16 households were interviewed in each ward. In addition, as the number of households to be interviewed in each ward was known in advance, the procedure made it possible to plan an even workload across different survey teams.

Cartography Operation. Since all urban and some rural wards were much larger than the average, it was necessary to segment them into blocks of roughly equal size. To this purpose, cartographic work was undertaken between August and November 1994. Maps of blocks comprising 100 to 200 dwellings were prepared based on aerial photographs acquired from the Department of Topography and existing physical and political maps, and field work was conducted to check the number of dwellings in each block, as well as refine and carefully describe the boundaries. Blocks that were found to consist of more than 200 units were reduced through boundary changes. A total of 454 urban wards and 126 rural wards were segmented into sub-wards. Nine volumes containing the maps and descriptions of the boundaries were compiled and are available for future survey work.[6] The 275 PSUs were selected after the completion of the cartography work.

Household Listing Operation. After the random selection of the 275 wards, a complete enumeration of households in the sampled wards was conducted in order to select and identify the households to be interviewed. The household listing operation was carried out in two phases between July 1994 and December 1994.[7] Forms were prepared for urban and rural wards. The cover page collected information on the mode of transport and travel time required to reach the selected wards, which facilitated the preparation of the data collection schedules for the field teams. The second page collected information on locality, name of the household head, nick-name of the household head (rural wards), block number of dwelling (urban wards) and household size.

Survey Questionnaire

The NLSS I questionnaire was different from other household survey questionnaires in several ways. First, information was collected on several aspects of household behavior – demographic composition, housing, education, health, consumption expenditures, income by source, and employment. The questionnaire was therefore longer than usual survey questionnaires. Second, information was collected from all household members,

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[5]   Sampling weights were constructed to correct for different selection probabilities across households. By applying these weights, unbiased estimates of population means can be obtained from the raw data. The weights are included in the data files.

[6]   A Nepali geographer, Mr. Shiv R. Pokhrel, was hired for a period of three months to carry out this work. The work required approximately 850 person-days.

[7]   The field work for both the cartography and the household listing operation was carried out by CBS staff from the central and district offices. The 60 staff selected to carry out the listing operation received a week of training. The operation required about 2,400 person-days. It was conducted simultaneously in the Arun Valley wards.

not just from the head of household. This was done to gain a full picture of living standards for women and children as well. Third, a community questionnaire was also administered in addition to the household questionnaires. Community questionnaires were administered in all wards – with different questionnaires for urban and rural wards – to collect information on characteristics of the community, prices, and facilities available. This information supplemented the information collected at the household level. The questions in the community questionnaire were answered by the ward or Village Development Committee chairman or other such knowledgeable people in the ward.

Field testing and finalization of the questionnaire. The NLSS I questionnaires were prepared on the basis of LSMS questionnaires used in other countries as well as questionnaires used for other surveys in Nepal. A first draft prepared by the CBS core team and the World Bank team was translated into Nepali and tested in five locations – Kathmandu, Biratnagar (Eastern Terai), Nepalganj (Western Terai), Palpa (Hills), and Rasuwa (Mountains). The draft was revised and the final version was tested once again in two locations – Kathmandu and Arun Valley (Eastern Hills). The final structure and contents of the household and community questionnaires are described in Boxes 1, 2 and 3.

BOX 1: HOUSEHOLD QUESTIONNAIRE

Section 1.   HOUSEHOLD INFORMATION
This section served two main purposes: (i) identify each person who is a member of the household, and (ii) provide basic demographic data such as age, sex, and marital status of everyone presently living in the household. Information on parents of household members was collected to look at inter-generational dynamics. Once all members of the household were identified, a list of all the economic activities undertaken over the year preceding the survey was made to assess activity status, labor force participation rates, underemployment and unemployment rates.

Section 2.   HOUSING
This section collected information on the type, size, and value of the dwelling occupied by the household, housing expenses, access to utilities and amenities (water, sewerage, electricity, telephone, cooking facilities), use of and time taken to fetch water and wood.

Section 3.   ACCESS TO FACILITIES
This section collected information on the distance and mode of travel between the household's residence and various public facilities and services (primary school, health post, transport facilities, markets, banks, and others).

Section 4.   MIGRATION
This section collected information from the household head on permanent migration for reasons of work or land availability – age at migration, place of origin and destination, main occupation.

Section 5.   FOOD EXPENSES AND HOME PRODUCTION
This section covered food expenditures, consumption of home-produced food, and food received as compensation for service or as a gift.

Section 6.   NON-FOOD EXPENDITURES AND INVENTORY OF DURABLE GOODS
This section covered expenditures on non-food items (clothing, fuels, items for the house, etc.), as well as on durable goods. It also captures the stock of durable goods owned by the household.

Section 7.   EDUCATION

This section collected information on literacy for all household members aged 5 years and above, the level of education for those members who have attended school in the past, level of education and expenditures on schooling for those currently attending an educational institution.

Section 8.   HEALTH
This section collected information on recent episodes of illness and chronic ailments, use of medical facilities, expenditure on health care, children's immunization, and incidence of diarrhea.

Section 9.   ANTHROPOMETRICS
This section collected weight and height measurements for all children 3 years or under.

Section 10.   MARRIAGE AND MATERNITY HISTORY
This section collected information on maternity history, pre/post-natal care, and knowledge/use of family planning methods.

Section 11.   WAGE EMPLOYMENT
This section collected information on wage employment in agriculture and outside agriculture, as well as on income earned in cash and kind through wage labor.

Section 12.   FARMING AND LIVESTOCK
This section collected information on all agricultural activities – land owned or operated, crops grown, use of crops, use and cost of inputs, income from the sale of crops, ownership of livestock, income from the sale of livestock, ownership of farming assets, use of extension and veterinary services.

Section 13.   NON-FARM ENTERPRISES/ACTIVITIES
This section collected information on all non-agricultural enterprises and self-employment activities – type of activity, revenue earned, expenditures, etc.

Section 14.   CREDIT AND SAVINGS
This section covered loans made by the household to others, or loans taken from others by household members – source of the loan, purpose, amount, cost, collateral. It also covered land, property, and other fixed assets owned by the household not already recorded.

Section 15.   REMITTANCES AND TRANSFERS
This section collected information on remittances sent by members of the household to others and on transfers received by members of the household – source, amount, occupation of the recipient or donor.

Section 16.   OTHER ASSETS AND INCOME
This section collected information on income from all other sources not covered elsewhere in the questionnaire.

Section 17.   ADEQUACY OF CONSUMPTION
This section collected information on whether the household perceived its level and quality of consumption of food, clothing, education, health, and its overall income to be adequate or not.

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BOX 2:  RURAL COMMUNITY QUESTIONNAIRE

Section 1.          POPULATION CHARACTERISTICS AND INFRASTRUCTURE
This section collected information on the characteristics of the community (ethnic/religious composition,
main economic activities), availability of electricity, water and sewerage.

Section 2.          ACCESS TO FACILITIES
Information on distance and mode of travel to services, transport facilities, markets; schools (type, size)
and health facilities (distance, availability of trained personnel, services, supplies).

Section 3.          AGRICULTURE AND FORESTRY
Information on land (availability, mode of operation, practices), irrigation systems, crop cycles, wages paid
to hired labor, rental rates for cattle and machinery, forest use.

Section 4.          MIGRATION
Information on seasonal migratory movements in and out of the ward (destination, activities).

Section 5.          DEVELOPMENT PROGRAMS, USER GROUPS, etc.
Information on development programs, existing user groups, and quality of life (employment opportunities,
natural or mad-made disasters, etc.).

Section 6.          RURAL PRIMARY SCHOOL
This section collected detailed information on one primary school in the ward (enrollment, infrastructure,
supplies, number of teachers).

Section 7.          RURAL HEALTH  FACILITY
This section collected detailed information on one health facility in the ward (equipment, services, and
supplies available, charges, staffing).

Section 8.          MARKETS AND PRICES
This section collected information on number of local shops, presence of weekly markets (Haat Bazaar),
availability and prices of goods, availability and price of agricultural inputs, sale prices of crops, and
conversion of local units into standard units.
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BOX 3:  URBAN COMMUNITY QUESTIONNAIRE

Section 1.          POPULATION CHARACTERISTICS AND INFRASTRUCTURE
Information on the characteristics of the community, availability of electricity, water systems.

Section 2.          ACCESS TO FACILITIES
Information on the distance to various community services, transport facilities, and markets.

Section 3.          MARKETS AND PRICES
This section collected information on the availability and prices of different goods.

Section 4.          QUALITY OF LIFE
Questions on whether infrastructure (roads, electricity, etc.), services (education, health), and economic
opportunities were better or worse than five years earlier.
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Manuals. After the questionnaires were completed, manuals for interviewers,
supervisors, and data entry operators were prepared.

Field Work Organization

Field Staff Selection. About half the field staff was recruited within CBS (from both the central and the field offices), while the other half was recruited outside the Bureau. An effort was made to recruit female staff in order to ensure that there would be at least one female interviewer, and possibly two, on each team.

Field Staff Training. All field staff received extensive training: six weeks for supervisors and four weeks for other staff, with separate sessions for data entry operators and anthropometrists. The training covered survey methodology, interviewing techniques, a detailed discussion of the contents and purpose of the questionnaire, and practice sessions in the field. The manuals were revised where necessary on the basis of experience gained during the training, and the revised versions were distributed to all staff at the start of field work.[8]

Field Teams. The data were collected by 12 field teams, each responsible for a particular area of the country and based in the appropriate district office of the CBS.[9] The assignment of wards to the various teams was done to balance work load and travel time across teams; on average, each team covered 23 wards.[10]

Team	Total no. of wards assigned
01. Biratnagar	33
02. Janakpur	32
03. Kapilbastu	28
04. Dhankuta	18
05. Udayapur	13
06. Dhukikhel	24
07. Kathmandu	36
08. Bharatpur	20
09. Pokhara	21
10. Tansen[11]	13
11. Birendranagar	18
12. Mahendranagar	19
Total Teams = 12	275

Each team consisted of one supervisor, three interviewers, and a data entry operator. Each team included at least one female interviewer, who was also trained as an anthropometrist and was responsible for weighing and measuring children in all interviewed households.

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[8]   The Interviewer Manual was translated into Nepali; the Supervisor Manual was not, as all supervisors understood English.

[9]   Three additional teams were formed to collect data in the Arun Valley, for a total of 15 field teams.

[10] The three teams working in the Terai region and the team working in the Kathmandu Valley were provided with a vehicle and were assigned a higher number of wards to visit than the other teams in view of greater ease of access (33-36 each).

[11] During the fourth phase of data collection (see below), the Udayapur and Tansen teams were assigned wards in the Arun Valley, so their assignments for the NLSS I are comparatively lower than those of other teams.

Structure of the Interviews. Each ward was visited once. Within each ward, however, households to be interviewed were often visited several times, depending on how long it took to complete the questionnaire. In the first visit, the interviewer completed the listing of all the household members and made appointments to talk to each of them; in later visits, he/she interviewed the different members of the household. The amount of time taken to complete the questionnaire varied greatly from household to household, depending on the number of household members, how much land they owned, how many different kinds of economic activities they were undertaking, how many modern consumer goods they owned, and other such factors. In general, the larger the household, the more people had to be interviewed, and hence the longer the interview was. Usually it took at least two visits to complete the interview.

Replacement of Households. If a household was not found, or refused to respond, it was replaced by another household in the ward. The replacement household was selected from the listing of all households in the ward on the basis of a pre-determined random procedure.

Data Entry and Management. A distinctive feature of the NLSS I is the use of personal computers for data entry in the field. Instead of sending the completed questionnaires back to the central office for data entry, the data collected were entered while the team was still in the field. For this purpose, each team was provided with a computer, a printer, and a solar power system for data entry. A data entry program developed specifically for the survey was installed on each computer. The data entry program let the data operator and the supervisor know if there were mistakes or missing data in the interview, and checked whether information from one part of the interview was consistent with information from other parts. When problems or errors were found, the interviewers returned to the households to correct the information. This process of entering, checking, and correcting the data in the field helped to ensure that the information collected was accurate. It also reduced the time lag between data collection and data analysis; diskettes containing the complete data for each ward were sent back to the central office as soon as work in the ward was completed, and the data were available for analysis shortly after the completion of the collection phase.

Data Collection. Data collection was planned over a full year to cover a complete cycle of agricultural activities and capture seasonal variation in other variables, for example water availability. Field work took place in four subsequent phases. During the first phase, which began on June 23 and ended on July 20, 1995, interviews were carried out in 28 wards. Then, the supervisors and data entry operators returned to the CBS central office for a two-week review of the data collected. Instructions were issued where errors and inconsistencies were found. The second phase began on August 11 and continued until October 21, 1995, and covered 66 wards. The third phase began on November 1, after the Dasain holidays, and continued until mid-January 1996. The fourth phase started immediately, and was completed by the end of May 1996, as planned.[12] Visits to

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[12] According to the Nepali calendar, the first phase began on Ashad 15, 2052 and lasted till mid-Shrawan. The second phase began in Bhadra and ended after the first week of Kartik. The third phase began in Kartik (after

wards were planned so that the data for each phase would be fairly randomly distributed across the country.

Field Work Phase	Duration	Total Wards	
		No.	%
Phase I	June 23 - July 20, 1995	28	10.18
Phase II	Aug. 11 - Oct. 21, 1995	66	24.00
Phase III	Nov. 01, 1995 - Jan 14, 1996	93	33.82
Phase IV	Jan. 15 - May 14, 1996	88	32.00
All four phases	June 23, 1995 (Ashad 15, 2051)- May 14, 1996	275	100.0

Supervision. Team supervisors were responsible for quality control in the field. They managed relations with local authorities and households, oversaw the work of the interviewers, checked the printouts produced by the data entry operators after the data for a household were entered, and revisited households where necessary. The Supervisor Manual describes the procedures that were followed.   Team supervisors were in turn supervised by members of the core team from the central office, who kept in regular contact with the team supervisors and visited each team several times during the year of field work.

3. The NLSS I Data

Actual sample size, data sets, and data access

Actual Sample Size. The actual sample numbers 3373 households, 15 less than planned – one ward (12 households) could not be reached, and one ward had only 9 households.[13] In all other cases, missing or non-respondent households were replaced using a pre-determined random procedure. The table below gives the distribution of the actual sample (individuals, households, wards) by Development Region, ecological belt, and urban-rural location (note that, under "Rural", "Eastern" denotes the Eastern and Central Development Regions while "Western" includes the Western, Midwest, and Farwest Development Regions. For example, "Eastern Terai" covers the Terai parts of the Eastern and Central Development Regions.)

Data Sets. The data collected were organized in 75 data sets for the household questionnaire and 53 data sets for the community questionnaires, corresponding to the various sections and sub-sections.

Use of the data. The data are being used by the Central Bureau of Statistics in the preparation of two volumes of findings. The first volume was published in December 1996 and the second in April 1997. The World Bank used the data for the 1999 Poverty

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Dasain), and went till the end of Poush. The fourth phase began in Magh and ended in mid-Jesth 2053. See Appendix F for additional information on the Nepali calendar.

[13] Ward 111 could not be reached because of flooding in the area.

Assessment. However, this by no means exhausted the potential for research based on these data.

Data Access Policy. The Central Bureau of Statistics makes the NLSS I data sets available to all users at a charge. Users are requested to acknowledge they received the data from CBS, provide the CBS with a copy of any publication in which the data are used, and refrain from passing on copies of the data set without the written permission of the CBS. The rates vary according to the user. The CBS can be contacted by email at "Central Bureau of Statistics" <hhss@mail.com.np>. The data are also available through the LSMS Office at the World Bank; see http://www.worldbank.org/lsms/lsmshome.html. See Appendix A for more information on how to access the data.

Distribution of the actual NLSS I Sample

	Number of Males	Number of Females	Total Individuals	Number of Households	Number of Wards
DEVELOPMENT REGION					
Eastern	1960	1959	3919	717	60
Central	3544	3585	7129	1320	110
Western	1596	1813	3409	624	52
Midwest	1064	1120	2184	360	30
Farwest	1099	1115	2214	352	22
ECOLOGICAL BELT					
Mountain	1083	1156	2239	409	32
Hill	4443	4734	9177	1740	142
Terai	3737	3702	7439	1224	100
URBAN	1892	1868	3760	716	59
Kathmandu	1013	974	1987	396	33
Other urban	879	894	1773	320	26
RURAL	7371	7724	15095	2657	215
Eastern Hill/Mountain	1858	1984	3842	717	60
Western Hill/Mountain	2125	2373	4498	828	64
Eastern Terai	2139	2107	4246	744	62
Western Terai	1249	1260	2509	368	29
NEPAL	9263	9592	18855	3373	274

Household Data: Issues

Occupation Codes. Note that code 93, Porters, was added after the survey was fielded, so it is not listed in the Table of Codes but it is present in the data.

Access figures. There is a problem with the access figures from Section 3 of the Household Questionnaire. The code "Not Applicable", which was meant to be used for dirt roads when a household lived on a paved road, was used both for this case and for

cases in which roads and other facilities were so far as to not be relevant. Therefore, it would be erroneous to interpret all "not applicable" answers as meaning "very close". The "not applicable" code was also used in the case of haat bazaars in areas which do not have haat bazaars (i.e., weekly markets); in general, the distances to haat bazaars are relevant only for those areas where these exist. Contact G. Prennushi at gprennushi@worldbank.org for more information.

Birth History. Birth month and year are in Nepali calendar year. The months are listed in the codes at the end of the questionnaire; Baisakh is the first month of the year, and runs approximately from April 15 to May 14. As for the years, 2052 began on April 15, 1995. The length of the year is approximately the same as in the Gregorian calendar. See also Appendix F.

Anthropometrics. We do not recommend using the NLSS I data on weight and height of children to estimate malnutrition because the information collected on year and month of birth is not sufficiently precise.

Converting Local Area Units into Hectares. Area data are collected in four units: ropani, bigha, bijan (rice), and bijan (maize). Each unit is also subdivided into three sub-units (S12A103A, S12A103B, S12A103C). The formulas to convert from local units into hectares are the following:

Ropani:
$$ha=(S12A103A*64+S12A103B*4+S12A103C)*0.000794875$$

Bigha:
$$ha=(S12A103A*400+S12A103B*20+S12A103C)*0.001693114$$

Bijan (rice):
$$ha=(S12A103A*160+S12A103B*8+S12A103C)*cv\_w*0.05087$$

Bijan (maize):
$$ha=(S12A103A*160+S12A103B*8+S12A103C)*cv\_d*0.05087$$

cv_w and cv_d are district-specific conversion factors, reported in the table below and in file "bijan.dta".

District code	District Name	cv_w	cv_d
1	TAPLEJUNG	0.082	0.343
2	PANCHTHAR	0.082	0.343
3	ILAM	0.089	0.39
4	JHAPA	0.089	0.39
5	MORANG	0.057	0.39
6	SUNSARI	0.057	0.39
7	DHANKUTA	0.057	0.385
8	TEHRATHUM	0.081	0.32
9	SANKHUWASABA	0.081	0.32
10	BHOJPUR	0.062	0.39
11	SOLUKHUMBU	0.0625	0.5695
12	OKHALDHUNGA	0.0625	0.328
13	KHOTANG	0.062	0.39
14	UDAYAPUR	0.063	0.385
15	SAPTARI	0.063	0.385
16	SIRAHA	0.063	0.385
17	DHANUSHA	0.061	0.363
18	MAHOTTARI	0.061	0.363
19	SARLAHI	0.061	0.363
20	SINDHULI	0.061	0.363
21	RAMECHHAP	0.047	0.344
22	DOLAKHA	0.0625	0.5695
23	SINDHUPALCHOK	0.0547	0.3281
24	KAVREPALANCHOK	0.07	0.36
25	LALITPUR	0.08	0.33
26	BHAKTAPUR	0.07	0.36

27	KATHMANDU	0.078	0.305
28	NUWAKOT	0.078	0.305
29	DHADING	0.0625	0.281
30	MAKWANPUR	0.08	0.33
31	RAUTAHAT	0.08	0.33
32	BARA	0.08	0.33
33	PARSA	0.08	0.33
34	CHITWAN	0.08	0.33
35	GORKHA	0.09	0.345
36	LAMJUNG	0.09	0.277
37	TANAHU	0.107	0.232
38	SYANGJA	0.09	0.27
39	KASKI	0.107	0.188
40	MANANG	0.09	0.277
41	MYAGDI	0.075	0.295
42	PARBAT	0.09	0.27
43	BAGLUNG	0.075	0.295
44	GULMI	0.078	0.348
45	PALPA	0.077	0.321
46	NAWALPARASI	0.077	0.321
47	RUPANDEHI	0.077	0.321
48	KAPILBASTU	0.078	0.078
49	ARGHAKHANCHI	0.078	0.348
50	PYUTHAN	0.069	0.344
51	ROLPA	0.077	0.27
52	RUKUM	0.077	0.27
53	SALYAN	0.077	0.27
54	DANG	0.107	0.232
55	BANKE	0.107	0.232
56	BARDIYA	0.107	0.232
57	SURKHET	0.107	0.232
58	DAILEKHA	0.107	0.232
59	JAJARKOT	0.077	0.27
60	JUMLA	0.06	0.25
61	KALIKOT	0.06	0.25
62	MUGU	0.06	0.25
63	HUMLA	0.06	0.25
64	BAJURA	0.06	0.25
65	BAJHANG	0.06	0.25
66	ACHHAM	0.06	0.25
67	DOTI	0.06	0.25
68	KAILALI	0.06	0.25
69	KANCHANPUR	0.081	0.26
70	DADHELDHURA	0.081	0.26
71	BAITADI	0.06	0.23
72	DARCHULA	0.06	0.23

Community Data: Issues

The NLSS I covered 274 wards (Ward 111 could not be reached during the field work; a bridge on the trail leading to it was washed away by a flood).

The community data present some problems. Data for some wards are missing altogether. In addition, in two wards classified as 'rural' urban questionnaires were filled out, because the wards had been reclassified as urban between the time of the 1991 Census (on which the urban-rural definition was based) and the time of the NLSS I. The following table summarizes the situation:

	Total number of wards	Wards for which some data are available	Rural wards misclassified as urban	Wards for which data are entirely missing
Urban	59	56		3
Rural	215	207	2	6
Total	*274*	*263*	*2*	*9*

The id codes of the misclassified and missing wards are reported below:

Misclassified rural wards:

Ward Number	VDC Name	Ward No.	District	Region	Belt
77	Taulihawa	6	KAPILBASTU	WESTERN	TERAI
155	Gaur	5	RAUTAHAT	CENTRAL	TERAI

Missing urban wards:

Ward Number	City Name	Ward No.	District	Region	Belt
7	Pokhara	2	KASKI	WESTERN	HILLS
21	Pokhara	6	KASKI	WESTERN	HILLS
95	Kathmandu	21	KATHMANDU	CENTRAL	HILLS

Missing rural wards:

Ward Number	VDC Name	Ward No.	District	Region	Belt
6	Ganeshpur	2	SYANGJA	WESTERN	HILLS
13	Bahakot	9	SYANGJA	WESTERN	HILLS
60	Pipale	6	CHITWAN	CENTRAL	TERAI
115	Korak	8	CHITWAN	CENTRAL	TERAI
188	Rasanalu	4	RAMECHHAP	CENTRAL	HILLS
205	Bitijor Bagaincha	1	SINDHULI	CENTRAL	HILLS

In addition, not all information is available for all wards. For example, prices (Section 8 of the community questionnaire) are available for 192 out of 215 rural wards.

Appendix A. How to obtain copies of the documentation and data

Copies of the documentation for the 1995/96 Nepal Living Standards Survey I can be downloaded from the LSMS Web Site:

http://www.worldbank.org/lsms/lsmshome.html

or obtained by mail through the LSMS Office (see address below). It is recommended that individuals who are interested in using the data for analyses read the documentation prior to requesting copies of the data to ensure that the data will be useful for their analyses.

LSMS Database Manager
Development Research Group
The World Bank
1818 H Street, NW
MSN MC3-306
Washington, DC 20433
Tel: (202) 473-9041
Fax: (202) 522-1153
e-mail: lsms@worldbank.org

Government permission is required prior to the World Bank being allowed to distribute the data from the 1995/96 Nepal Living Standards Survey I. Users who are interested in using the data should contact:

Mr Tunga S. Bastola
Head, Household Survey Division
Central Bureau of Statistics
"Central Bureau of Statistics" <hhss@mail.com.np>

Users should explain that they would like to use the data and give a brief description of their research proposal. Please copy this e-mail to LSMS office (lsms@worldbank.org) and Giovanna Prennushi at the World Bank (gprennushi@worldbank.org). The Central Bureau of Statistics will authorize the data release and provide instructions on how to provide the Central Bureau of Statistics with a processing fee.

In addition to the fee for the Central Bureau of Statistics, the World Bank charges a processing fee to distribute the data. Please check the LSMS Web Site or contact the LSMS Office for the most current information.

Once permission to use the data has been received from the Central Bureau of Statistics, users should send:

* a check, made out to the World Bank, for the World Bank processing fee;

* a brief description of the research proposal;
* a copy of the permission from the Central Bureau of Statistics; and
* an indication of the preferred format to receive the data (ASCII, SAS Portable, STATA).

Individuals who receive copies of the data agree to:

* give recognition to the Central Bureau of Statistics as the source of the data in all publications, conference papers and manuscripts;
* make copies of all reports and documents resulting from the research on the data available to the Central Bureau of Statistics and to the Poverty and Human Resources Division of the World Bank; and
* not pass the data to any third parties for any reasons.

Researchers found to be in violation of these agreements will not be able to receive copies of other data sets from the LSMS Office in the future.

Appendix B. Data files available for the Nepal Living Standards Survey I

Household Level Data

Z00	Survey Information
Z01A	Household Information, Household Roster
Z01B	Household Information, Information on Parents of Household Members
Z01C	Household Information, Activities
Z01D	Household Information, Unemployment
Z02A	Housing, Type of Dwelling
Z02B	Housing, Housing Expenses
Z02C1	Housing, Utilities and Amenities
Z02C2	Housing, Utilities and Amenities
Z02D1	Housing, Water and Firewood
Z02D2	Housing, Water and Firewood
Z03	Access to Facilities
Z04	Migration
Z05A	Food Expenses and Home Production
Z05B	Food Expenses and Home Production
Z06A	Non-food Expenditures and Inventory of Durable Goods, Frequent Non-food Expenditures
Z06B	Non-food Expenditures and Inventory of Durable Goods, Infrequent Non-food Expenditures
Z06C	Non-food Expenditures and Inventory of Durable Goods, Inventory of Durable Goods
Z07A	Education, Literacy
Z07B	Education, Past Enrollment
Z07C1	Education, Current Enrollment
Z07C2	Education, Current Enrollment
Z08A	Health, Chronic Illnesses
Z08B1	Health, Illnesses or Injuries
Z08B2	Health, Illnesses or Injuries
Z08C	Health, Immunizations
Z09	Anthropometrics
Z10A1	Marriage and Maternity History, Maternity History
Z10A2	Marriage and Maternity History, Maternity History
Z10B	Marriage and Maternity History, Pre and Post-Natal Care
Z10C	Marriage and Maternity History, Family Planning
Z11A1	Wage Employment, Agriculture
Z11A2	Wage Employment, Agriculture
Z11B1	Wage Employment, Outside Agriculture
Z11B2	Wage Employment, Outside Agriculture
Z12A1A	Farming and Livestock, Landholding - Land Owned
Z12A1B	Farming and Livestock, Landholding - Land Owned
Z12A1C	Farming and Livestock, Landholding - Land Owned
Z12A1D	Farming and Livestock, Landholding - Land Owned
Z12A2A	Farming and Livestock, Landholding - Land Sharecropped/Rented/Mortgaged
Z12A2B	Farming and Livestock, Landholding - Land Sharecropped/Rented/Mortgaged
Z12A2C	Farming and Livestock, Landholding - Land Sharecropped/Rented/Mortgaged
Z12A3	Farming and Livestock, Landholding - Increase-Decrease in Holdings
Z12B1	Farming and Livestock, Production and Uses
Z12B2	Farming and Livestock, Production and Uses
Z12C1A	Farming and Livestock, Expenditures on Seeds and Young Plants

Z12C1B	Farming and Livestock, Expenditures on Seeds and Young Plants
Z12C2A	Farming and Livestock, Expenditures on Fertilizers and Insecticides
Z12C2B	Farming and Livestock, Expenditures on Fertilizers and Insecticides
Z12C2C	Farming and Livestock, Expenditures on Fertilizers and Insecticides
Z12C3A	Farming and Livestock, Expenditures on Hiring Labor
Z12C3B	Farming and Livestock, Expenditures on Hiring Labor
Z12C3C	Farming and Livestock, Expenditures on Hiring Labor
Z12D	Farming and Livestock, Earnings from Agriculture
Z12E1A	Farming and Livestock, Livestock Ownership
Z12E1B	Farming and Livestock, Livestock Ownership
Z12E2	Farming and Livestock, Earning from Livestock
Z12F	Farming and Livestock, Ownership of Farming Assets
Z12G	Farming and Livestock, Extension Services
Z13A1	Non-Farm Enterprises/Activities, General Characteristics
Z13A2	Non-Farm Enterprises/Activities, General Characteristics
Z13A3	Non-Farm Enterprises/Activities, General Characteristics
Z13B	Non-Farm Enterprises/Activities, Income from Enterprises
Z14A1	Credit and Savings, Borrowing and Outstanding Loans
Z14A2	Credit and Savings, Borrowing and Outstanding Loans
Z14A3	Credit and Savings, Borrowing and Outstanding Loans
Z14B1	Credit and Savings, Lending and Outstanding Loans
Z14B2	Credit and Savings, Lending and Outstanding Loans
Z14B3	Credit and Savings, Lending and Outstanding Loans
Z14C	Credit and Savings, Other Assets
Z15A1	Remittances and Transfers, Remittances and Transfer Income Sent
Z15A2	Remittances and Transfers, Remittances and Transfer Income Sent
Z15B1	Remittances and Transfers, Remittances and Transfer Income Received
Z15B2	Remittances and Transfers, Remittances and Transfer Income Received
Z16	Other Income
Z17	Adequacy of Consumption

Community Level Data

Rural Community Data	
RCOM1A	Population Characteristics and Infrastructure
RCOM1A1	Population Characteristics and Infrastructure
RCOM1A2	Population Characteristics and Infrastructure
RCOM1A3	Population Characteristics and Infrastructure
RCOM1B	Population Characteristics and Infrastructure
RCOM1C	Population Characteristics and Infrastructure
RCOM2A	Access to Facilities
RCOM2B1	Access to Facilities
RCOM2B2	Access to Facilities
RCOM2C1	Access to Facilities
RCOM2C2	Access to Facilities
RCOM3A1	Agriculture and Forestry
RCOM3A2	Agriculture and Forestry
RCOM3B	Agriculture and Forestry
RCOM3C1	Agriculture and Forestry
RCOM3C2	Agriculture and Forestry
RCOM3D	Agriculture and Forestry
RCOM3E	Agriculture and Forestry
RCOM4A1	Migration
RCOM4A2	Migration
RCOM4B1	Migration
RCOM4B2	Migration
RCOM5A	Development Programs
RCOM5B1	Development Programs
RCOM5B2	Development Programs
RCOM5C1	Development Programs
RCOM5C2	Development Programs
RCOM5D	Development Programs
RCOM6A	Rural Primary School
RCOM6B	Rural Primary School
RCOM6C	Rural Primary School
RCOM7A	Rural Health Facility
RCOM7B	Rural Health Facility
RCOM7C1	Rural Health Facility
RCOM7C2	Rural Health Facility
RCOM7D	Rural Health Facility
RCOM8A	Markets and Prices
RCOM8B	Markets and Prices
RCOM8C1	Markets and Prices
RCOM8C2	Markets and Prices
RCOM8C3	Markets and Prices
RCOM8D	Markets and Prices
Urban Community Data	
UCOM1A1	Population Characteristics and Infrastructure
UCOM1A2	Population Characteristics and Infrastructure
UCOM1A3	Population Characteristics and Infrastructure
UCOM1A4	Population Characteristics and Infrastructure
UCOM1B	Population Characteristics and Infrastructure

UCOM1C1	Population Characteristics and Infrastructure
UCOM1C2	Population Characteristics and Infrastructure
UCOM2	Access to Facilities
UCOM3A	Markets and Prices
UCOM3B	Markets and Prices
UCOM4	Quality of Life

Appendix C. Documents available for the Nepal Living Standards Survey I (1995/96) from the LSMS Office and from the Central Bureau of Statistics

Documents available from the LSMS Office

The following documentation is available for the Nepal Living Standards Survey I (1995/96). Potential users are strongly recommended to read through the documentation in order to determine if the information available will fill the needs of their analyses. The questionnaires and basic information document can be downloaded from the LSMS Web Site:

http://www.worldbank.org/lsms/lsmshome.html

All of the documents can be obtained by mail through the LSMS Office (see address in Appendix A.).

1.   Basic Information Document
2.   Household Questionnaire
3.   Rural Community Questionnaire
4.   Urban Community Questionnaire
5.   Interviewer Manual
6.   Supervisor Manual
7.   Household File Codebook
8.   Community File Codebook
9.   Main Findings, Vol 1 and 2

Documents available from the Central Bureau of Statistics in Kathmandu

In addition to the documents listed above, the following documents are available from the Household Survey Division of the CBS in Kathmandu:

10.   Household Questionnaires (Nepali)
11.   Interviewer Manual (Nepali)
12.   NLSS I Form 1: List of Selected Households (Nepali)
13.   NLSS I Form 2: Interviewer Evaluation (English)
14.   NLSS I Form 3: Questionnaire Verification (English)
15.   NLSS I Form 4: Interviewer Verification (English)
16.   Data Entry Operator Manual (English)
17.   NLSS I Enumeration Block Maps for 33 Towns and 14 rural wards (available only for reference).
18.   NLSS I Sample Design (English)
19.   NLSS I Household Listing for the 275 PSUs (Nepali; available only for reference)

Appendix D. Aggregate variables

The files aggr*.zip contain five data files with ready-made variables -- consumption, income, price indices for six regional areas, and land areas. The file **aggr-a.zip** contains five ASCII comma-separated files; dictionary files are not provided. The file **aggr-s.zip** contains five Stata data files.   The variable names used below are not in the ASCII files, but are included for ease of reference and are in the STATA files.

Consumption

A consumption aggregate was constructed from the NLSS data to be used as an indicator of household welfare. A detailed description of the methodology used is in Section 1.3 of Volume 1 of the NLSS Statistical Report. File **cons.dat** contains the following variables:

WWWHH	household identifier
hhsize	household size
totcons	total household consumption
foodcons	total household food consumption
nonfood	total household non-food consumption (including all items but food and housing)
houscons	total household consumption of housing
edcons	total household education consumption
durcons	total household consumption of services from durable goods

Please note the following:
- all variables are on an annual basis, and normally refer to the twelve months prior to the interview date (see the questionnaire for more details);
- all variables are in Nepali Rupees;
- all variables are in nominal terms, i.e. as reported by the household without any adjustment for temporal or spatial price variations;
- *nonfood* contains ALL non-food expenditures, INCLUDING education and durables (*edcons* and *durcons*); education expenditures and services from durables are reported separately for the convenience of users.

Note that cons.dat replaces the file RT099.dat which is mentioned in the codebook.

Income

An income aggregate was constructed from the NLSS data to be used as an indicator of a household's control over resources. A detailed description of the methodology used is in Section 1.2 of Volume 2 of the NLSS Statistical Report. File **inc.dat** contains the following variables:

WWWHH	household identifier

income	total household income

farm	total household farm income
nonfarm	total household income from non-farm activities
other	total household income from other sources (income from renting out non-agricultural property, remittances, the imputed value of owner-occupied housing, and income from financial assets, pensions, etc.).

wage	total household income from wage labor
nonwage	total household income from other work
other2	total household income from other sources (other sources here include the sources listed above, plus income from renting out agricultural land.).

Please note the following:
- all variables are on an annual basis; they refer to the twelve months prior to the interview date or to the last completed agricultural year (if the interview occurs in the middle of a cropping cycle, the last completed agricultural year may extend more than twelve months into the past; see the questionnaire for more details);
- all variables are in Nepali Rupees;
- all variables are in nominal terms, i.e. as reported by the household without any adjustment for temporal or spatial price variations;
- *other* and *other2* are different; *other2* contains income from renting out agricultural land, which is included in farm income in the breakdown by source.

Prices

Spatial variations on prices are significant in Nepal. Spatial cost-of-living adjustments were constructed using survey data on the prices of food items and housing in various parts of the country. Households were divided into six geographical groups on the basis of location:
1. Urban Kathmandu Valley: Urban areas in the Kathmandu valley (Kathmandu, Latlipur and Bhaktapur districts)
2. Other Urban Areas: All other urban areas in the hills and Terai
3. Rural Western Hills: Rural areas in the hills and mountains of the Western, Mid West and Far West Development Regions.
4. Rural Eastern Hills: Rural areas in the hills and mountains of the Central and Eastern Development Regions.
5. Rural Western Terai: Rural areas in the Terai of the Western, Mid West and Far West Development Regions.
6. Rural Eastern Terai: Rural areas in the Terai of the Central and Eastern Development Regions.

Price indices were calculated for each group. The methodology is described in Annex I to this document. File **prices.dat** contains the following variables:

WWW	ward identifier
group	geographical group (the groups are coded as in the list above)
region	Development Region (see codebook for codes, record 90)
belt	Ecological belt (see codebook for codes, record 90)
urbrural	Urban or rural (see codebook for codes, record 90)
district	District (see codebook for codes, record 90)
pindex	overall price index for each group
fpindex	food price index for each group
hpindex	housing price index for each group

Please note that the price indices are the same for all households in a ward; the file is provided at the ward level with the ward identifier to facilitate use. Please note also that this represents only one of several ways in which price adjustments can be calculated, and only one of a number of possible regional breakdowns.

Land Area

Land area was recorded in measures of unit used in Nepal -- ropani, bigha, bijan. To facilitate use of the data on agricultural activities, two files with land areas in *hectares* are provided. The two files have areas for plots owned, from section 12.A1 of the questionnaire (haown.dat), and for plots rented in, from section 12.A2 (harent.dat). File **haown.dat** contains the following variables:

WWWHH	household identifier
SA2A1PNO	plot identifier
aownh	area owned

File **harent.dat** contains the following variables:

WWWHH	household identifier
SA2A2PNO	plot identifier
aownh	area owned

Note that the plot identifiers are not unique; there may be a plot numbered 01 among the plots owned as well as a plot numbered 01 again among the plots rented in (this is why it was necessary to create two files with areas).

Appendix E. Adjusting for cost of living differences[14]

Before the measure of per-capita consumption described in the first volume of the Nepal Living Standards Survey Report (CBS, 1997a) could be used to compare standards of living of individuals residing in different parts of the country, it was also necessary to take into account differences in cost of living. Prices of goods and services vary considerably across different areas -- especially in a country as diverse as Nepal in terms of geography and topology -- and this spatial variation in prices should be taken into account when comparing welfare levels across different parts of the country.

In countries where information on regional price variations is available in the form of a consumer price index (CPI) or other such measure of differences in prices across the country, the adjustment for cost of living differences is relatively straightforward; nominal consumption measures across different parts of the country can be deflated by the appropriate price index to arrive at a "price-adjusted" or "real" measure of consumption that is comparable across different parts of the country. Unfortunately, the CPI in Nepal covers urban municipalities only, and is therefore of limited use in adjusting for cost of living differences given that less than 10 percent of the country's population resides in urban areas. Instead, we use data collected by the NLSS on prices of goods and services in different parts of the country to construct our price indices.

In deriving these price indices, it was necessary to first group together households in different parts of the country, and then construct a price index for each of these groups. The six groups we used were as follows:[15]

1.   Kathmandu
2.   Other urban areas
3.   Rural Western (i.e. western, mid-west, and far-west regions) Hills and Mountains
4.   Rural Eastern and Central Hills and Mountains
5.   Rural Western (i.e. western, mid-west, and far-west region) Terai
6.   Rural Eastern and Central Terai

The criteria we used in deciding to split the country into the above groups for the purposes of comparing price differences were that (i) prices be relatively homogeneous within each group, so that the cost of living for households in each group be more or less the same, and that (ii) prices be as heterogeneous as possible across groups so as to best capture spatial cost of living differences across the country. In principle, therefore, a very fine level of disaggregation in defining these groups would be desirable. In practice, however, we were constrained in that each group had to have enough observations to allow accurate and meaningful estimates of prices within the group. Thus, while it might have been interesting to divide Group 2: "Other urban areas" into smaller groups based

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[14]   Drawn from P. Lanjouw, G. Prennushi, and S. Zaidi, "Poverty in Nepal Today", *Central Bureau of Statistics Quarterly Bulletin*, Year 19, Second Trimester, Vol. 61, 2054-55, Kathmandu, 1998. The paper is also available in G. Prennushi, *Nepal: Poverty at the Turn of the Twenty-first Century*, World Bank, Washington D.C., May 1999.

[15]   The precise definition of the groups is in Table 3.

on whether, for example, these localities were in the hills or the Terai, or in the eastern or western part of the country, this was not practical given the limited number of observations in these sub-groups.

Having decided on the above grouping, the next step was to select the price level in one group as the numeraire, and to express the price level in other groups in relation to this group. We took Group 6: "Rural Eastern and Central Terai" - the most populous of our six groups - to be the base group, as for the poverty line, and constructed price indices in other regions taking the price index in this group to be 1.00. A price index of 1.5 for a group would mean that the price level prevailing in this group is 50 percent higher on average than that prevailing in Group 6.

In principle, if information on prices were available for all the items that comprise consumption, it would be possible to use this information to derive an overall price index for each of the six groups based on the relative cost of purchasing the goods in the reference bundle. However, for reasons that are discussed further below, this was not possible using data from the NLSS. An alternative way of deriving the price indices is to first derive three price sub-indices for food, housing, and non-foods, and then use these to construct the overall price index. An intuitively appealing way to combine together these sub-indices is to take a weighted average of the three sub-indices, the respective weights being the population share of consumption of the respective component in total consumption. This was the method we used.

The shares of the three components of expenditure in total per-capita nominal consumption are given in Table 1 below. The column marked "Rs." gives the nominal value of the per-capita consumption of that item in rupees, while the column marked "w" expresses this amount as a share of total per-capita consumption. Shares for the population as a whole are reported in the last row.

Table 1: Annual Nominal Per-Capita Consumption Shares

| | ANNUAL NOMINAL PER-CAPITA CONSUMPTION | | | | | | | |
| | FOOD | | HOUSING | | NON-FOOD ITEMS | | TOTAL | |
	Rs.	w	Rs.	w	Rs.	w	Rs.	w
1. Kathmandu	5,630	.29	7,856	.29	10,509	.42	23,995	1.00
2. Other urban	4,107	.47	2,048	.16	4,586	.37	10,741	1.00
3. R. West Hills	3,009	.58	554	.09	2,110	.33	5,673	1.00
4. R East Hills	4,012	.55	762	.09	3,194	.37	7,968	1.00
5. R. West Terai	2,910	.63	329	.06	1,553	.31	4,792	1.00
6. R. East Terai	3,133	.58	516	.08	1,270	.34	5,919	1.00
OVERALL NEPAL	3,368	.56	804	.09	2,629	.34	6,802	1.00

Constructing Laspeyres food price indices for the six groups was a straightforward exercise. Of the 67 line items covered in the NLSS food consumption section, information on prices of specific food items was available for 38 food items. Altogether, these 38 items comprised 85 percent of total food spending for the reference population. The reference food bundle was defined by taking the average quantities of these 38 food items consumed in the country as a whole. The next step was then to determine the cost of purchasing this reference bundle in each of the six groups. Finally, the ratio of the cost of this reference bundle in each group to its cost in Group 6: "Rural Eastern and Central Terai" (our numeraire) gave us the food price index for the group.

Constructing Laspeyres housing price indices was a slightly more complicated undertaking. In principle, analogous to the case of the food price indices, we need to identify a reference "housing bundle" as such, and then determine the average price of this reference bundle in each of the six groups. However, in practice, defining a reference bundle for housing is much more difficult than in the case of food. While it is straightforward to calculate the price of a bundle comprising "6 kg. of wheat, 20 kg. of fine rice, 3 kg. of cooking oil, etc." in different parts of the country, the task of doing the same for housing is complicated by the fact that housing is in fact a heterogeneous bundle of goods and services comprising a number of different attributes (number of rooms, quality of construction material, accessibility of services, location, etc.). In order to derive a price index for housing using the same methodology as for food, we would need to identify housing units in each of the groups that were exactly alike in terms of all conceivable attributes, and then compare average rental values across groups to derive the housing price index. This would clearly be impossible to implement in practice.

The methodology we used to derive a housing price index is very similar in spirit to the one outlined in Volume 1, Section 1.3 to obtain a measure of housing consumption. As mentioned in the first volume of this report, a hedonic housing regression model was used to predict rental values for those households in the sample that had reported zero rents. The dependent variable in this model was the rental value reported by households in the sample (those that reported non-zero rents), and the set of explanatory variables included a wide range of housing characteristics, measures of quality of housing, regional dummy variables and other factors that helped determine the rental value of dwellings.

To derive the housing price index, we used the parameter estimates of this model to get a measure of the "price" of housing in each of the six groups. The model was used to estimate the cost of renting a three-room house on 500 sq. yards (approx. the median in the population for these two measures) in each of the six groups, setting all variables other than the regional dummies to zero. The desired housing price index was then obtained by taking the ratio of the cost of renting a house in the group to the cost of renting the same house in Group 6.

The Laspeyres price indices for food and housing constructed from the NLSS data are presented in Table 2. The NLSS did not collect price data for non-food items, so we could not use the data to construct price indices. Instead, we had to rely on some kind of proxy that best reflects spatial variation in cost of purchasing non-food items. One could use either the price indices for food items, or those for housing, or a weighted average of

these two indices. After experimenting with a number of such combinations, in the end we decided to use the weighted average of the two price indices for this purpose. Experimentation showed that regional rankings were robust to either of the two other alternatives.

Using the price indices so obtained (see Table 2), nominal per capita consumption could be adjusted for cost-of-living differences across areas by dividing for the appropriate price index. Thus, we obtained a "real" (in the sense of 'corrected for spatial (rather than temporal) price differences') measure of per capita consumption, which could be used to compare standards of living of people in different parts of the country.

Table 2: Regional price indices

	FOOD Price Index	HOUSING Price Index	NON-FOOD ITEMS Price Index	Overall Price Index	TOTAL Real per-capita consumption[1]
1. Kathmandu	1.33	1.76	1.39	1.39	17,262
2. Other urban	1.18	1.20	1.18	1.18	9,102
3. R. West Hills	1.20	0.85	1.15	1.15	4,933
4. R East Hills	1.24	0.90	1.19	1.19	6,695
5. R. West Terai	0.95	0.57	0.90	0.90	5,325
6. R. East Terai	1.00	1.00	1.00	1.00	5,919
Budget Share for Total Population	56%	9%	35%		6,178

[1]   In Group 6: "Rural Eastern and Central Terai" prices.

Table 3: Definition of groups on the basis of survey variables

Note: The variables listed in the first row are in file RT090.dat; for codes, see the questionnaire or the codebook, record 090. A dash means the variable is not used in the definition of the group.

	region	belt	urbrural	district
1. Kathmandu	-	-	1	25, 26, 27
2. Other urban	-	-	1	all but the three above
3. R. West Hills	3, 4, 5	1, 2	2	-
4. R East Hills	1, 2	1, 2	2	-
5. R. West Terai	3, 4, 5	3	2	-
6. R. East Terai	1, 2	3	2	-

Appendix F. Nepali calendar

Nepal follows a different calendar system than in the West. According to this system, 2000-2001 is Bikram Sambat 2057. The New Year begins in mid-April. Like the Gregorian system, there are 12 months, each month beginning around the middle of a Gregorian month.

The first month in the Bikram calendar is Baisakh which corresponds to April-May in the Gregorian calendar.

Bikram Month	Gregorian Month
Baisakh	April – May
Jestha	May – June
Asadh	June – July
Shrawan	July – August
Bhadra	August – September
Aswin	September – October
Kartik	October – November
Mangsir/Marg	November - December
Paush	December – January
Magh	January – February
Falgun	February – March
Chaitra	March – April

Bikram Year	Gregorian Year	Bikram Year	Gregorian Year	Bikram Year	Gregorian Year
1937	1880-1881	1947	1890-1891	1957	1900-1901
1938	1881-1882	1948	1891-1892	1958	1901-1902
1939	1882-1883	1949	1892-1893	1959	1902-1903
1940	1883-1884	1950	1893-1894	1960	1903-1904
1941	1884-1885	1951	1894-1895	1961	1904-1905
1942	1885-1886	1952	1895-1896	1962	1905-1906
1943	1886-1887	1953	1896-1897	1963	1906-1907
1944	1887-1888	1954	1897-1898	1964	1907-1908
1945	1888-1889	1955	1898-1899	1965	1908-1909
1946	1889-1890	1956	1899-1900	1966	1909-1910

Bikram Year	Gregorian Year	Bikram Year	Gregorian Year	Bikram Year	Gregorian Year
1967	1910-1911	1977	1920-1921	1987	1930-1931
1968	1911-1912	1978	1921-1922	1988	1931-1932
1969	1912-1913	1979	1922-1923	1989	1932-1933
1970	1913-1914	1980	1923-1924	1990	1933-1934
1971	1914-1915	1981	1924-1925	1991	1934-1935
1972	1915-1916	1982	1925-1926	1992	1935-1936
1973	1916-1917	1983	1926-1927	1993	1936-1937
1974	1917-1918	1984	1927-1928	1994	1937-1938
1975	1918-1919	1985	1928-1929	1995	1938-1939
1976	1919-1920	1986	1929-1930	1996	1939-1940

Bikram Year	Gregorian Year	Bikram Year	Gregorian Year	Bikram Year	Gregorian Year
1997	1940-1941	2007	1950-1951	2017	1960-1961
1998	1941-1942	2008	1951-1952	2018	1961-1962
1999	1942-1943	2009	1952-1953	2019	1962-1963
2000	1943-1944	2010	1953-1954	2020	1963-1964
2001	1944-1945	2011	1954-1955	2021	1964-1965
2002	1945-1946	2012	1955-1956	2022	1965-1966
2003	1946-1947	2013	1956-1957	2023	1966-1967
2004	1947-1948	2014	1957-1958	2024	1967-1968
2005	1948-1949	2015	1958-1959	2025	1968-1969
2006	1949-1950	2016	1959-1930	2026	1969-1970

Bikram Year	Gregorian Year	Bikram Year	Gregorian Year	Bikram Year	Gregorian Year
2027	1970-1971	2037	1980-1981	2047	1990-1991
2028	1971-1972	2038	1981-1982	2048	1991-1992
2029	1972-1973	2039	1982-1983	2049	1992-1993
2030	1973-1974	2040	1983-1984	2050	1993-1994
2031	1974-1975	2041	1984-1985	2051	1994-1995
2032	1975-1976	2042	1985-1986	2052	1995-1996
2033	1976-1977	2043	1986-1987	2053	1996-1997
2034	1977-1978	2044	1987-1988	2054	1997-1998
2035	1978-1979	2045	1988-1989	2055	1998-1999
2036	1979-1980	2046	1989-1990	2056	1999-2000

Appendix G. Revised Data

During the creation of the data files for the 2003/04, the 1995/96 data were revised. The files and variables were renamed using the rules applied in the 2004/04 data in order to be consistent and to make comparisons between the two surveys easier. In addition, because of the methodological changes in the calculation of the price indexes and poverty lines from the time when the 1995/96 survey data were first released, a file was created "c1_nlss_public" that contains variables fully comparable with the file created for the 2003/04 survey. See the Basic Information Document for the 2003/04 survey for more complete details.