JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

DEPARTMENT OF IRRIGATION
MINISTRY OF WATER RESOURCES
HIS MAJESTY'S GOVERNMENT OF NEPAL

THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL

FINAL REPORT APPENDIXES

January, 2003

SANYU CONSULTANTS INC.

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CONTENTS

APPENDIXES

ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
ADBN	Agriculture Development Bank of Nepal
ADO	Agriculture Development Officer
AIC	Agricultural Inputs Corporation
AO	Association Organizer (employed by SMIP)
APP	Agricultural Perspective Plan
AREP	Agricultural Research and Extension Project (WB funded)
ASC	Agriculture Service Center
CBS	Central Bureau of Statistics
CDO	Chief District Officer
CE	Collection Efficiency (of Irrigation Service Fee)
CMC	Chatra Main Canal
EDR	Eastern Development Region
ERID	Eastern Regional Irrigation Directorate
CGWISP	Community Groundwater Irrigation Sector Project (ADB funded)
DAC	District Agriculture Committee
DADO	District Agricultural Development Office
DDC	District Development Committee
DIO	District Irrigation Office
DOA	Department of Agriculture
DOI	Department of Irrigation
DSSTW	Deep Set Shallow Tubewell
DTW	Deep Tubewell
DWRC	District Water Resources Committee
EIRR	Economic Internal Rate of Return
FAO	Food and Agricultural Organization
FIRR	Financial Internal Rate of Return
FMIS	Farmer Managed Irrigation System
FO	Farmer Organizer
GFO	GWRDP Field Office
GTZ	German Society of Technical Co-operation
GUG	Groundwater User Group
GWRDP	Groundwater Resources Development Project
HMG(N)	His Majesty's Government (Nepal)
IBRD	International Bank for Reconstruction and Development
IDA	International Development Agency
IFAD	International Fund for Agriculture Development
IIMI	International Irrigation Management Institute (presently IWMI)
ILC	Irrigation Line of Credit (WB funded)
IMT	Irrigation Management Transfer
INGO	International Non-Government Organization
IP	Irrigation Policy
IPM	Integrated Pest Management
ISF	Irrigation Service Fee

IWMI	International Water Management Institutes (former IIMI)
JICA	Japan International Cooperation Agency
JT	Junior Technician
JTA	Junior Technical Assistant
LDO	Local Development Officer
LGP	Local Governance Program
LRMP	Land Resources Mapping Project
MLD	Ministry of Local Development
MOA	Ministry of Agriculture
MOWR	Ministry of Water Resources
NARC	National Agricultural Research Center
NEA	Nepal Electricity Authority
NGO	Non-Governmental Organization
NISP	Nepal Irrigation Sector Project (WB funded)
O & M	Operation and Maintenance
PRA	Participatory Rural Appraisal
PVC	Polyvinyl Chloride
PWL	Pumping Water Level
RADO	Regional Agriculture Development Office
RRA	Rapid Rural Appraisal
Rs	Nepalese Rupees
SCO	Savings and Credit Organizations
SDE	Senior Divisional Engineer
SISP	Second Irrigation Sector Project (ADB funded)
SMIP	Sunsari-Morang Irrigation Project
STW	Shallow Tubewell
SWL	Static Water Level
UNDP	United Nations Development Project
USAID	United States Agency for International Development
VDC	Village Development Committee
WB	World Bank
WC	Water Course
WRC	Water Resources Act
WRR	Water Resources Regulation
WUA	Water User's Association
WUCCC	Water Users Central Coordination Committee (in SMIP)
WUCC	Water Users Coordination Committee
WUC	Water Users Committee
WUSC	Water Users Sub-committee
WUG	Water Users Group

CURRENCY EQUIVALENTS (as of August, 2002)

1 Nepalese Rupee (Rs)	=	0.0128 US$
1 Nepalese Rupee (Rs)	=	1.53 Japanese Yen
Rs 78	=	1 US$
Rs 0.655	=	1 Japanese Yen

NEPALESE FISCAL YEAR, AND NEPALESE YEAR VS. GREGORIAN YEAR

Fiscal year starts at mid of July according to the Nepalese calendar.

Nepalese Year	Gregorian Year
2060	2003/04
2059	2002/03
2058	2001/02
2057	2000/01
2056	1999/00
2055	1998/99
2054	1997/98
2053	1996/97
2052	1995/96
2051	1994/95

UNIT CONVERSIONS

1 meter (m)	=	3.28 feet
1 kilometer (km)	=	0.62 miles
1 hectare (ha)	=	2.47 acres
	=	1.50 bighas
	=	30 khatas
1 bigha	=	0.67 ha
1 khata	=	0.03 ha
1 bigha	=	20 khatas
1 man	=	40 kilograms (local unit)
1 maund	=	37.324 kilograms
1 quintal	=	100 kilograms

1 cubic meter per second (m^3/s)	=	35.31 cubic feet per second
1 cubic foot per second (cusec)	=	28.3 liters per second (l/s)
1 cubic meter per hour (m^3/h)	=	0.28 liters per second (l/s)
1 kilowatt (kw)	=	1.34 horsepower (hp)
	=	1 kilovoltamp (kVA)

APPENDIX-1 SCOPE OF WORK, M/Ms AND CONCERNED OFFICERS

Table1.1 List of Counterpart Staff

No	Name	Designation	Office
1	Mr. Purnendo N. Shingh	Overall Coordinator	Department of Irrigation
2	Mr. Keshab Dhoj Adhikari	Overall Coordinator	Department of Irrigation
3	Mr. Prakash Kannel	Engineer	Department of Irrigation
4	Mr. Sanmukesh C. Amatya	Hydro-Geologist	Department of Irrigation
5	Mrs. Manju Sharma	Sociologist	Department of Irrigation
6	Mr. Lok Prasad Bhattarai	Sociologist	Department of Irrigation
7	Mr. Rakesh Kumar Mishra	Agri. Economist	ERID
8	Mr. Tanka Prasad Kafle	Engineer	ERID
9	Mr. Raghunath Shrestha	Engineer	DIO, Sunsari
10	Mr. Ramesh Prasad. Koirala	Engineer	DIO, Sunsari

Table1.2 List of the Team Members

No	Name	Expertise	Remarks
1	Mr. K. Hashiguchi	Team Leader/Regional Development	
2	Mr. E. Takemori	Irrigation and Drainage	
3	Mr. T. EHERA	Water Users Association/Irrigation Administration	
4	Mr. K. Ozakia	Hydrology/Groundwater	
5	Mr. M. Miki	Agronomy/Farm Management	
6	Mr. A. Hata	Regional Economy/Technology Transfer Coordination	
7	Mr. H. Shimazu	Environment-A/Planning Assessment	
8	Ms. R. Kitao	Environment-B	
9	Ms. I. Okata	Rural Sociology/Gender	
10	Mr. T. Ieizumi	Facilities Design	
11	Mr. S. Natsuda	Project Evaluation	
12	Mr. J. Yabe	Hydrological Analysis	

Table 1.3 List of Personnel Contacted 1/2

Name	Designation	Institution
Mr. Jeevan Lal Shrestha	Project Chief	CGISP, PMU
Dr. Dibya R. Kansakar	Project Director	CGISP, PMU
Mr. Chandreshwar P. Rauniyar	Irrigation Specialist	Consolidated Management Service (CMS)
Mr. Jaya Ram Sharma	Coordinator, IMTP	DOI, HMG, Nepal
Mr. Nirjara Nanda Vaidya	DDG, Surface Water Division	DOI, HMG, Nepal
Dr. Umesh N. Parajuli	Division Chief, Planning Division	DOI, HMG, Nepal
Mr. M. B. Pradhan	Engineer	DOI, HMG, Nepal
Mr. Thakur P Sharma	Engineer	DOI, HMG, Nepal
Mr. Yishihiro Suzuki	JICA Expert, Adviser	DOI, HMG, Nepal
Mr. Madhu Sudan Paudel	Senior Divisional Engineer	DOI, HMG, Nepal
Mr. Navin M Joshi	Senior Divisional Engineer	DOI, HMG, Nepal
Mr. Pramod Mani Dixit	Chief, Mechanical Department	Devlopment Engineering Consultants
Mr. N. Sharma	Consulting Engineer	Devlopment Engineering Consultants
Mr. Surendra Bhakta Shrestha	Chief	DIO, Jhapa
Mr. Naba Raj Shrestha	Engineer	DIO, Kailali
Mr. Narendra B. Lama	Chief	DIO, Morang
Mr. Adhi Kant Jha	Chief	DIO, Sunsari
Mr. Mitra Baral	Engineer	DIO, Sunsari
Mr. Raghu Nath Shrestha	Engineer	DIO, Sunsari
Mr. Ramesh Sharma	Overseer	DIO, Sunsari
Mr. Shanmukesh C. Amatya	Hydrogeologist	DOI, Groundwater Irrigation Development Project
Mr. Minesh P. Shrestha		DOI, Groundwater Irrigation Development Project
Mr. Komal P. Timilsena	Director	ERID
Mr. Tanka P. Kafle	Engineer	ERID
Mr. C. K. Jha	Senior Divisional Engineer	ERID
Mr. I. S. Thapa	Senior Divisional Engineer	ERID
Dr. Bishnu P. Dhakal	Program Manager	Embassy of Japan
Mr. Takayoshi Iemoto	Second Secretary	Embassy of Japan
Mr. Yoshiyuki Toyoguchi	Second Secretary	Embassy of Japan
Mr. Hiroshi Tottori	Third Secretary	Embassy of Japan
Dr. Ash Kumar Rai	Chief	FRD, NARC
Dr. Deep B. Swar	Program Manager	FRD, NARC
Mr. Ashou Narayan Mandal	Asst. Geologist	GRDPO
Mr. Sagar K. Rai	Hydrogeologist	GRDPO
Mr. Basanta Shrestha	Acting Div Head Menris	ICIMOD
Mr. Astuko Toda	Asst. Coordinator	ICIMOD

DOI : Department of Irrigation
DIO : District Irrigation Office
ERID : Eastern Regional Irrigation Directorate
FRD : Fisheries Development Division
GRDPO : Ground Water Resources Development Project office
ICIMOD : International Centre for Integrated Mountain Development

Table 1.3 List of Personnel Contacted 2/2

Name	Designation	Institution
Mr. Ritsuko Hagiwara	Assistant Resident Representetive	JICA, Nepal
Mr. Shigeki Furuta	Assistant Resident Representetive	JICA, Nepal
Mr. Fumio Imai	Depoty Resident Representative	JICA, Nepal
Mr. Sourab Bickram Rana	Program Officer	JICA, Nepal
Mr. Eitero Mitoma	Resident Representative	JICA, Nepal
Dr. Kazuo Nakabayashi	Senior Advisor	JICA, Nepal
Mr. Narendra Kumar Gurung	Senior Program Officer	JICA, Nepal
Mr. Ajay Kumar Jaiswal	Project Manager	Kamala Irrigation Project
Mr. Umesh Devkota	General Manager	Kathmandu Laison Office
Mr. Ganesh Kumar KC	Joint Secretary	Ministry of Agriculture and Cooperative (MoAC)
Mr. Ganga Datta Awasthi	Joint Secretary	Ministry of Local Development (MoLD)
Mr. Mahesh Raj Sharma	Under Secretary	Ministry of Local Development (MoLD)
Mr. S. P. Sharma	Joint Secretary	Ministry of Water Resources (MoWR)
Mr. Pratap Singh Tater	President	Nepal Geological Society (NGS)
Mr. Krishna M. Gautam	Sociologist	Nepal Irrigation Sector Project (NISP)
Mr. Nabin K. Rajbhandari	Agricultural Expert	NEDECO
Mr. Gerald Pichel	Civil Engineer	NEDECO
Mr. Bashudev P. Banskota	Inst Dev. Expert	NEDECO
Mr. Bob Davey	Team Leader	NEDECO
Mr. Prem Prasad Timalsina	District Program Coordinator	PLAN International
Mr. M. P. Joshi	Training Officer	Second Irrigation Sector Project (SISP)
Mr. Deepak B. Singh	Director	Silt Consults(P) Ltd.
Mr. Baman P. Neupane	Chief District Officer	Sunsari District
Mr. Dharmendra R. Shakya	District Dev. Adviser	Sunsari District
Mr. Chandra Kumar Ghimire	Local Development Officer	Sunsari District
Mr. Kunjan Bhakta Shrestha	Engineer	Sunsari Morang Irrigation Project (SMIP)
Mr. Mohan P. Sangraula	Engineer	Sunsari Morang Irrigation Project (SMIP)
Mr. Anil Kumar Pokharel	Project Manager	Sunsari Morang Irrigation Project (SMIP)
Mr. K. R. Timalsina	Senior Divisional Engineer	Sunsari Morang Irrigation Project (SMIP)
Mr. Khom Raj Dahal	Senior Divisional Engineer	Sunsari Morang Irrigation Project (SMIP)
Mr. Sugandha Shrestha	Agricultural Economist	The World Bank (WB)
Mr. Kenichi Ohashi	Country Director	The World Bank (WB)
Dr. Shyam S. Ranjitkar	Irrigation Specialist	The World Bank (WB)
Mr. Dilip Kumar Aryal	Regional Chief	Trade Oromotion Center
Dr. Raghu Shrestha	Program Associate	UNDP, Local Governance Program (LGP)
Mr. Prashant Malla	Director	Welink Consultants
Mr. Kazuhiro Watanabe	Field Officer, IMTP	

NEDECO : Netherland Development Consultant

SCOPE OF WORK
FOR
THE FEASIBILITY STUDY
ON
THE SUNSARI RIVER IRRIGATION PROJECT
IN THE KINGDOM OF NEPAL
AGREED UPON BETWEEN
THE DEPARTMENT OF IRRIGATION, THE MINISTRY OF WATER RESOURCES
AND
THE JAPAN INTERNATIONAL COOPERATION AGENCY

KATHMANDU, 29 NOVEMBER, 2000

Mr. Ratneshwar Lal KAYASTHA
Director General
Department of Irrigation
Ministry of Water Resources
His Majesty's Government of Nepal

Mr. Yoshihiro OZAWA
Leader of Preparatory Study Team
Japan International Cooperation
Agency

I INTRODUCTION

In response to a request from the His Majesty's Government of Nepal (hereinafter referred to as "HMGN"), the Government of Japan (hereinafter referred to as "GOJ") has decided to conduct the Feasibility Study on the Sunsari River Irrigation Project (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the GOJ, will undertake the Study in close cooperation with the authorities concerned of HMGN.

The Department of Irrigation, the Ministry of Water Resources (hereinafter referred to as "DOI") shall act as the counterpart agency to the Japanese study team and also as the coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

This document sets forth the Scope of Work with regard to the Study.

II OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. To conduct a feasibility study on the Sunsari River Irrigation System. The basic concept is to formulate an efficient water use plan aiming at developed agriculture, and
2. To carry out technology transfer to Nepalese counterpart through on-the-job training in the course of the Study.

III STUDY AREA

The proposed study area covers lower reaches of the Shankarpur Branch Canal and the Suksena Branch Canal, in Sunsari District, Koshi Zone, Eastern Region (See location map attached as ANNEX I)

IV SCOPE OF THE STUDY

In order to achieve the above objectives, the Study will consist of two (2) phases and will cover the following items:

1 Phase I

1.1 Review of the "SUNSARI MORANG IRRIGATION PROJECT".

1.2 Review of other development projects /plans related to the study area.

1.3 Collection and analysis of relevant data through field surveys

-Observation of the flows of rivers, irrigation canals, rainfall and ground water condition in and around the study area.

1.4 Formulation of preliminary irrigation and drainage development plan.

1.5 to conduct an Initial Environmental Examination. (IEE)

2

2. Phase Ⅱ

To conduct the Feasibility Study consisting of the following items:

2.1 Field survey to collect supplementary data and information

-Geological survey of main infrastructure and the field area.

-Observation of the flows of rivers, irrigation canals, rainfall and ground water condition in and around the study area.

2.2 Formulation of effective irrigation and drainage development plan

2.3 Formulation of agriculture development plan

2.4 Design of irrigation and drainage facilities

2.5 Formulation of operation and maintenance plans

2.6 Environmental Study, if required

2.7 Preparation of Implementation schedule

2.8 Estimation of project costs and benefits

2.9 Evaluation of project and Preparation of recommendations

V STUDY SCHEDULE

The Study will be carried out in accordance with the attached tentative schedule.

(See ANNEX Ⅱ)

VI REPORTS

JICA shall prepare and submit the following reports to HMGN:

1 Inception Report

Twenty (20) copies in English at the commencement of the fieldwork of Phase I.

2 Progress Report (I)

Twenty (20) copies in English at the end of the fieldwork of Phase I.

3 Interim Report

Twenty (20) copies in English at the commencement of the fieldwork of Phase II.

4 Progress Report (Ⅱ)

Twenty(20) copies in English at the end of the fieldwork of Phase II.

5 Draft Final Report

Twenty(20) copies in English after the office work in Japan. HMGM will provide JICA with its comments on the Draft Final Report within one (1) month of receipt of the Draft Final Report.

6 Final Report

Thirty (30) copies in English within two (2) months of receipt of HMGN comments on the Draft Final Report.

VII UNDERTAKINGS OF HMGN

1 To facilitate smooth conduct of the Study, HMGN shall take necessary measures :

1.1 to secure the safety of the Japanese study team,

1.2 to permit the members of the Japanese study team to enter, leave and sojourn in the Kingdom of Nepal for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees,

1.3 to exempt the members of the Japanese study team from taxes, duties, fees and any other charges on equipment, machinery and other materials brought into and out of the Kingdom of Nepal for the conduct of the Study,

1.4 to exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study,

1.5 to provide necessary facilities to the Japanese study team for the remittance as well as utilization of the funds introduced into the Kingdom of Nepal from Japan in connection with the implementation of the Study,

1.6 to secure permission for entry into private property or restricted areas for the implementation of the Study,

1.7 to secure permission for the Japanese study team to take all data and documents (including photographs and maps) related to the Study out of the Kingdom of Nepal to Japan;

and

1.8 to provide medical services as needed. Expense will be chargeable to the members of the Japanese study team.

2 HMGN shall bear claims, if any arises, against the members of the Japanese study team resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese study team.

3 HMGN shall, at it's own expense, provide the Japanese study team with the following, in cooperation with other organizations concerned:

3.1 available data and information related to the Study

3.2 counterpart personnel

3.3 suitable office space with necessary equipment and furniture in Katmandu.

3.4 credentials or identification cards

VIII UNDERTAKINGS OF JICA

For the implementation of the Study, JICA shall take the following measures:

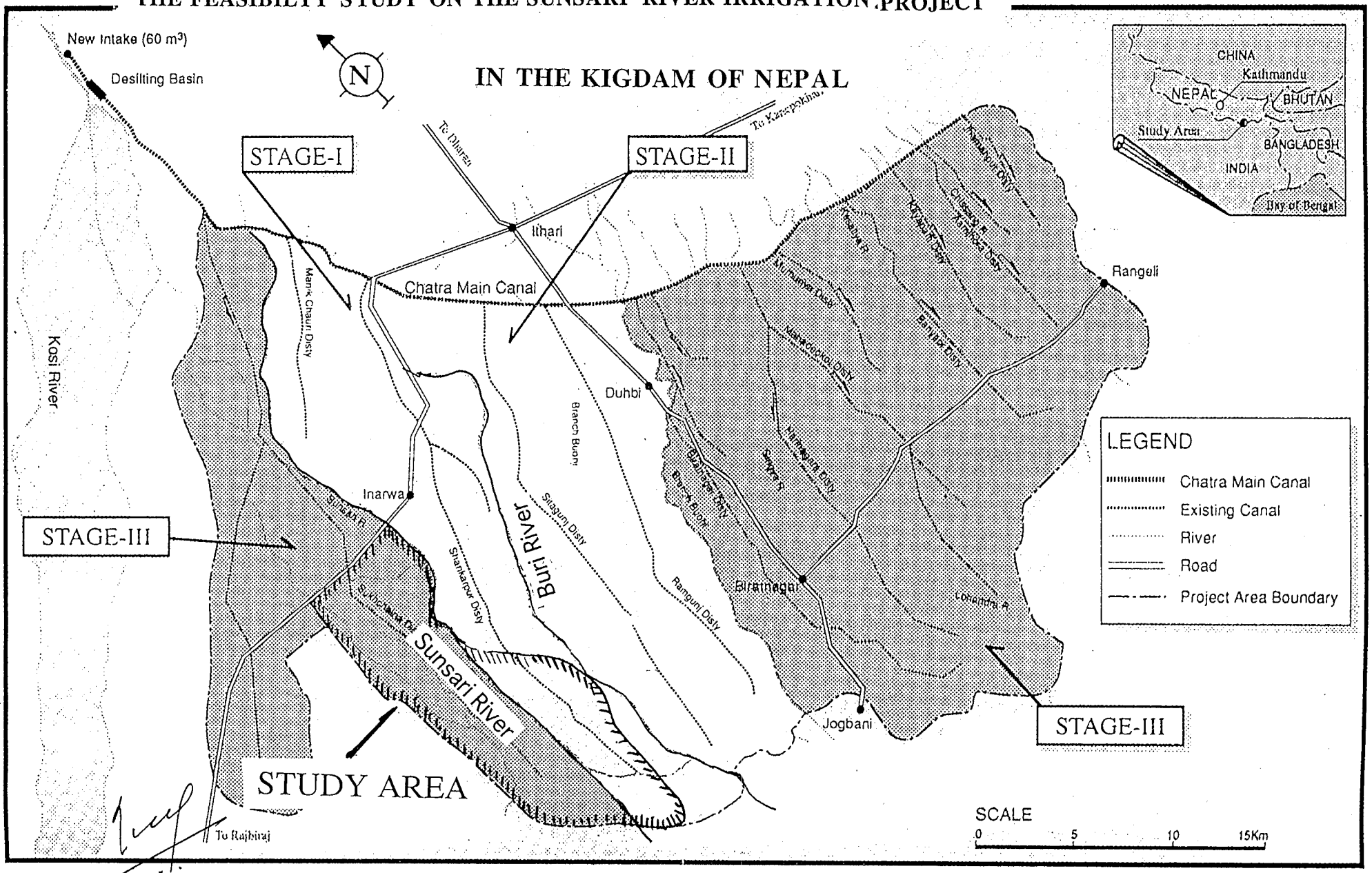
1 to dispatch, at its own expense, the Study team to the Kingdom of Nepal.

2 to pursue technology transfer to Nepalese counterpart personnel in the course of the Study.

IX CONSULTATION

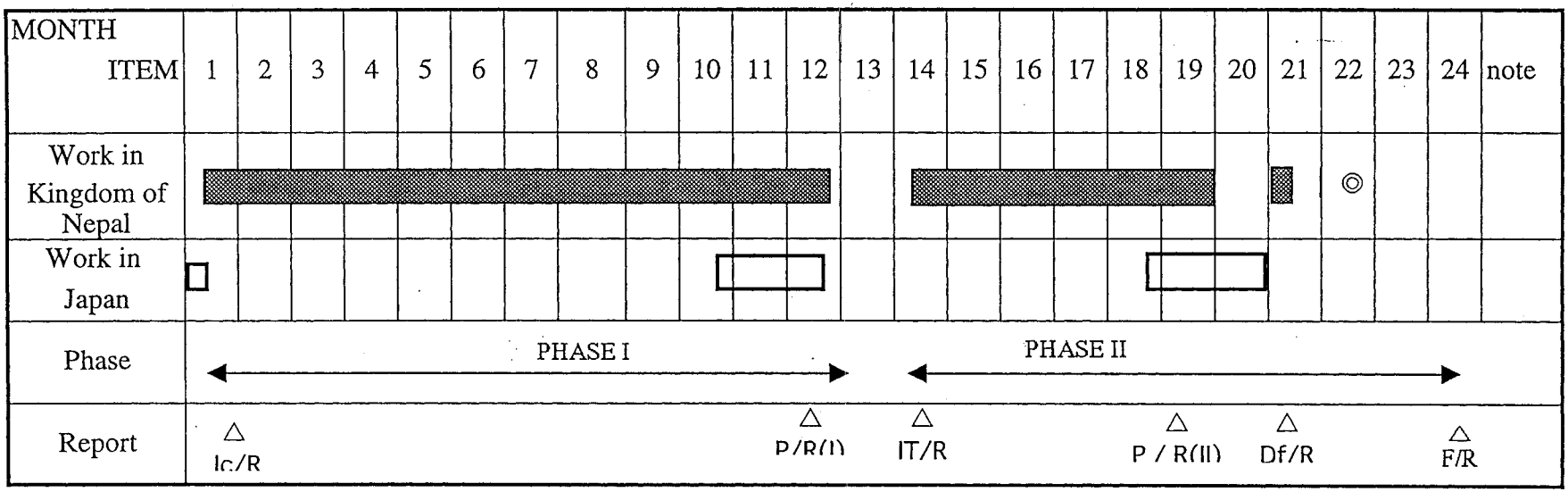
JICA and HMGN shall consult with each other in respect of any matter that may arise from, or in connection with, the Study.

THE FEASIBILTY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT



ANNEX II

TENTATIVE WORK SCHEDULE



(Remarks)

Ic / R	:	Inception Report
P / R(I)	:	Progress Report (1)
It / R	:	Interim Report
P / R(II)	:	Progress Report (2)
Df / R	:	Draft Final Report
◎	:	Comments on Df /R by Nepalse side
F / R	:	Final Report

MINUTES OF THE MEETINGS
ON
THE SCOPE OF WORK
FOR
THE FEASIBILTY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT
IN
THE KINGDOM OF NEPAL

AGREED UPON BETWEEN
BY
THE DEPARTMENT OF IRRIGATION,
THE MINISTRY OF WATER RESOURCES
AND
THE JAPAN INTERNATIONAL COOPERATION AGENCY

KATHMANDU, 29 NOVEMBER, 2000

Mr. Ratneshwar Lal KAYASTHA
Director General
Department of Irrigation
Ministry of Water Resources
His Majesty's Government of Nepal

Mr. Yoshihiro OZAWA
Leader of Preparatory Study Team
Japan International Cooperation
Agency

I. INTRODUCTION

In response to a request from the His Majesty's Government of Nepal (hereinafter referred to as "**HMGN**"), the Preparatory Study Team headed by Mr. Yoshihiro OZAWA, was sent to HMGN by the Government of Japan (hereinafter referred to as "**GOJ**") through the Japan International Cooperation Agency (hereinafter referred to as "JICA"), from 21 November to 8 December 2000, for the purpose of discussing and confirming the Scope of Work for the Feasibility Study on the Sunsari River Irrigation Project (hereinafter referred to as "**the Study**").

The Preparatory Study Team held a series of discussions with the Nepalese side, which was made up of representatives from the Department of Irrigation (hereinafter referred to as "**DOI**") , the Ministry of Water Resources (hereinafter referred to as "**MWR**").
As a result of the discussions, the Nepalese side and the Team agreed on the Scope of Work for the Study.

The following is the main issues discussed and agreed upon by both sides in relation to the Scope of Work for the Study. A list of participants in the meetings is attached as the ANNEX.

II. RESULTS OF DISCUSSIONS

1.Study area
Both sides agreed that the study shall cover lower reaches of the Shankarpur Branch Canal and the Suksena Branch Canal. HMGN explained the actual condition of the irrigation at lower reaches branch canals, and water is not enough for irrigation even in the rainy season. The Preparatory Study team recognized that farmers haven't received any water from canals and HMGN explained that HMGN has not any plan to solve those problems in this area at present.

2. Hydrological observation
The Japanese Study Team shall provide necessary hydrological observation equipment. DOI shall manage to conduct hydrological observation through the District Irrigation Office SUNSARI.

3. Water Resources
In case, river flows is not sufficient for demand of proposed plan from the hydrological data, the Japanese Study Team will consider other available water sources (i.e. ground water) for irrigation plan.

4. Development Plan
Outline of the development plan shall be formulated base on the result of review of " SUNSARI MORANG IRRIGATION PROJECT " and other projects/plans, and analysis of collected data.

5. The Environmental Examination
DOI and the Japanese Study Team conduct an Initial Environmental Examination (hereinafter referred to as "**IEE**") in Phase I.
The minimum discharge of river flows from environmental viewpoint should be decided by Nepalese side.
In case, Environment Impact Assessment (EIA) is required, it should be carried out by the Nepalese side. Environmental study required for EIA would be carried out in Phase II jointly by Nepalese and Japanese side.

6. Topographical map of Intake facilities
DOI requested that the scale of map for intake structure design should be 1/1,000 or 1/2,000.

7. Counterpart Agency for the Study
DOI shall act as counterpart agency to the Japanese Study Team and also as the coordinating body in relation with other governmental organizations.

1) National Level
For smooth and effective implementation of the Study in terms of technical and administrative

aspects, it was mutually agreed that a committee, which shall be comprised of various organizations concerned with the Study, shall be established. The coordinating body of the committee shall be DOI, and the chairman of the committee shall be the Deputy Director General, Planning, Design, Monitoring and Evaluation Division of DOI. In principal the committee meeting will be held when the Japanese Study Team explains the Reports and/or as necessary.

The committee would be comprised of representatives of the following organizations:

- Ministry of Water Resources
- Ministry of Agriculture
- Ministry of Local Development
- Ministry of Population and Environment
- JICA Nepal Office
- The Japanese Study Team

2) Regional Level

The Preparatory Study team requested and both sides agreed to establish a regional level committee, which shall be comprised of representatives of various organizations in the Study area. The chairman of the regional level committee would be the Director of Eastern Regional Irrigation Directorate. In principal, the regional level committee meeting will be held as necessary.

The committee shall be comprised of the following organizations:

- Eastern Regional Irrigation Directorate
- Eastern Regional Agricultural Directorate
- Sunsari District Development Committee
- The Japanese Study Team

3) Counterpart Personnel

Both sides agreed that DOI will place the names/counterparts personnel before the Inception Report meeting.

8. Equipment and Facilities for the Study

DOI promised to provide the Japanese Study Team the suitable office space for the number of Japanese Study Team at Kathmandu.

DOI requested that the following resultant operating costs for the Study be provided by JICA:

- Photocopy machine two(2)
- Telephone/Facsimile equipment with installation

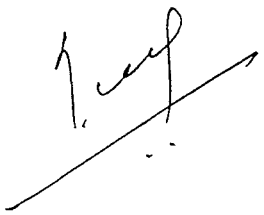
The Preparatory Study Team promised to convey this request to JICA headquarters.

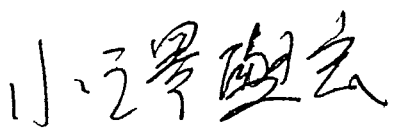
9. Training of Counterpart Personnel

HMGN requested that counterpart personnel is allowed to take advantage of training in Japan in order to promote effective technology transfer in the Study period. The Team promised to convey this request to JICA headquarters.

10. Final Report

Both sides agreed that the Final Report would be made available to any institutions or individuals that may have an interest in the Study.





ANNEX

LIST OF PARTICIPANTS

Kingdom of Nepal Side:

Department of Irrigation, Ministry of Water Resources:

Mr. Ratneshwar Lal KAYASTHA	Director General
Mr. Binod Kumar ARYAL	Deputy Director General
Mr. Naveen M.JOSHI	Senior Div. Engineer

Japanese Side:

Preparatory Study Team:

Mr. OZAWA Yoshihiro	Team Leader
Mr. KAWABE Shinji	Irrigation
Mr. TOMARI Shinya	Agriculture
Mr. HASHIDA Yukio	Project Planning
Mr. KATO Yasuhiko	Hydrology/ Water Resources
Mr. OGAWA Hiroshi	Social Economy/Rural Community

Embassy of JAPAN

Mr. IEMOTO Takayoshi	Second Secretary
Mr. Bishnu P. DHAKAL	Program officer

JICA Nepal Office:

Ms. HAGIHARA Rituko	Officer
Mr. N. K. GURUNGI	Senior Program Officer

JICA EXPERT:

Mr. SHIMBO Yoshitake	expert

MINUTES OF THE MEETINGS
ON
INCEPTION REPORT
FOR
THE FEASIBILITY STUDY
ON
THE SUNSARI RIVER IRRIGATION PROJECT
IN
THE KINGDOM OF NEPAL

Kathmandu, Nepal
April 20, 2001

Mr. Nirjara Nanda VAIDYA
Deputy Director General,
Department of Irrigation (DOI)
Ministry of Water Resources (MOWR)

Mr. Kosei HASHIGUCHI
Leader of Study Team,
Japan International Cooperation Agency (JICA)

Witnessed by:

Mr. Takao SHIBUSAWA
Deputy Director,
Agricultural Development Study Division,
JICA Headquarters

Following the Scope of Work agreed upon between the Preparatory Study Team of the Japan International Cooperation Agency (JICA) and the Ministry of Water Resources (MOWR) on November 29, 2000, JICA fielded a Study Team to Nepal on April 16, 2001 for the implementation of the Feasibility Study on the Sunsari River Irrigation Project in the Kingdom of Nepal (the Study). The Study Team consists of 13 members headed by Mr. Kosei HASHIGUCHI of Sanyu Consultants Inc., of which four members arrived at Kathmandu on April 17.

The Study Team submitted 20 copies of the Inception Report to the Department of Irrigation (DOI), the counterpart agency, following which the Team conducted its introductory meetings with DOI on April 18 and with the steering committee on April 19. The Team had explained the contents of the Inception Report, and also discussed on the plan of approach, plan of operation and procedures for the implementation of the Study, as well as on the implementation arrangement and undertakings by DOI. The list of the participants in the meetings is shown in the attachment.

The Study Team emphasized, as the basic strategy of the Study, that:

1. To pursue public interest, given the condition of limited water resources available,
2. To manage irrigation system by both top-down and bottom-up, so called Hybrid Irrigation Management,
3. To recommend institutional development and/or reform, inputting to similar national irrigation projects, and
4. To enhance agriculture development by irrigation, which leads to regional development.

With the above understanding and through the meetings, the Nepalese side accepted, with the following comments, the study methods, procedures and schedules presented in the Inception Report, although they stated that an EIA should be undertaken by the Study Team while the Team expressed its point of view that the Team carry out environmental survey together with the counterpart(s) to be required for EIA with reference to the Nepalese law concerned.

1. 73,000 ha, the area of the Sunsari-Morang Irrigation Project, should read as 68,000 ha.
2. Year 2000, the commencement of Stage III Sunsari-Morang Irrigation Project, should read as year 1998.
3. A renovation was carried out in 1995 on the intake of the Sunsari Morang Irrigation Project. The intake capacity was designed at 60 m^3/s, not according to the irrigable area but to the limited capacity of the Chatara main canal.
4. The design capacity of 60 m^3/s does not irrigate the Study area, so that Sunsari River should be utilized, in combination with groundwater if feasible, in order to

realize irrigation development in the Study area.

5. Paddy promotion should not be further promoted in the Study area, since the soil texture is very sandy, requiring much water.
6. Diversifying crops should be taken into account in formulating agricultural development program(s).
7. Hydrological study of the Sunsari River should be continued in Phase II study also.
8. During the Study period, the beneficiaries will be made aware of the irrigation policy by the Study Team together with the counterparts.

ATTACHMENT

LIST OF ATTENDANTS

1. Nepalese side

1) Ministry of Water Resources

Mr. Madhav Prasad Baral	Engineer, Planning and Policy Division

2) Department of Irrigation, Ministry of Water Resources

Mr. Nirjara Nanda Vaidya	Deputy Director General
Mr. Sushil Dev Manandhar	Senior Divisional Engineer
Dr. Umesh Nath Parajuli	Senior Divisional Engineer
Mr. Purnendu N. Singh	Senior Divisional Engineer
Mr. Naveen Mangal Joshi	Senior Divisional Engineer

3) Eastern Regional Irrigation Directorate, Department of Irrigation

Mr. Komal Prasad Timilsena	Director

2. Japanese side

1) JICA Study Team

Mr. Kosei Hashiguchi	Team Leader/Regional Development
Mr. Eiji Takemori	Irrigation and Drainage
Mr. Komei Ozaki	Hydrology/Groundwater
Mr. Hideaki Hiruta	Coordinator

2) JICA Headquarters

Mr. Takao Shibusawa	Deputy Director, Agricultural Development Study Division, JICA

3) JICA Nepal Office

Ms. Ritsuko Hagiwara	Assistant Resident Representative
Mr. Narendra Kr. Gurung	Senior Program officer

MINUTES OF THE MEETINGS
ON
PROGRESS REPORT (1)
FOR
THE FEASIBILITY STUDY
ON
THE SUNSARI RIVER IRRIGATION PROJECT
IN
THE KINGDOM OF NEPAL

Kathmandu, Nepal
February 26, 2002

Dr. Umesh Nath Parajuli
Chief, Planning Division,
Department of Irrigation (DOI)
Ministry of Water Resources (MOWR)

Mr. Kosei HASHIGUCHI
Leader of the Study Team,
Japan International Cooperation Agency (JICA)

Following the Scope of Work agreed upon between the Preparatory Study Team of the Japan International Cooperation Agency (JICA) and the Department of Irrigation (DOI) on November 29, 2000, JICA fielded a Study Team to Nepal on April 16, 2001 for the implementation of the Feasibility Study on the Sunsari River Irrigation Project in the Kingdom of Nepal (the Study).

The Study Team has conducted the Phase I field study from the mid of April 2001 to the end of February 2002 based on the study approach, procedure and schedule as agreed in a meeting relative to the Inception Report held on April 19, 2001. The Study Team submitted 20 copies of the Progress Report (1), as the output of the study, to the DOI, the counterpart agency.

A meeting to present and discuss the contents of the Progress report (1) was held on February 25, 2002 at the DOI central office. The Team explained the findings including the lessons from past and on-going projects in Nepal, development constraints and potentials in the Study area, the development strategies and the preliminary development plan formulated. Following are the comments raised by the participants and further comments if any will be delivered to the Study Team before the next field survey. The participants in the meeting are in the attachment.

1. A participant inquired if there was a technology to reduce high percolation and the Study Team briefly introduced examples in Japan, where there was also high percolation, such as putting straws or husks into the field to cope with the high percolation.
2. A participant asked how the Study considered (or will consider) the competition with Indian farmers who receive subsidy for their inputs ensuring the low market price of rice. The Study Team answered that although Indian suppliers have affected the price of the rice and therefore it should be taken into account, the price of vegetables in Indian market is higher than that of Nepal. The vegetable marketing by the Nepal side is still competitive.
3. A participant inquired how to bring about the benefit of irrigation development to the landless people. The Study Team answered that though it may be difficult to directly intervening the landless people in any case of irrigation development, the Team will explore the poverty alleviation taking into account of creating employment opportunities in line with vegetable promotion.
4. Water duty is so high that the project needs 2.4 times of water than that of other areas. The water requirement should therefore be carefully examined.
5. It will be worth considering spring crop promotion such as sugarcane, which may make economic justification more prospective. The Team will take it into account together with shallow tubewell development.

6. A participant questioned about the Operation and Maintenance setup of the project. The Study Team explained that the Study is going to propose a joint management, which suggests that the HMGN be in charge of operating the headworks down to Shankarpur and Suksena canals while the branch canals and below thereof be managed by the farmers.

7. A participant raised an idea that since the Sunsari river cannot support full paddy area, the river water should feed one of the Shankarpur and Suksena canals while the other be provided water from SMIP. Also there was a question about if it is possible or necessary to expand the Study area up to CMC. The Team answered that the issues are beyond the S/W but what the Study is going to do is to examine how much water could be expected coming into the Study area from SMIP.

8. Conjunctive use of STW year-round should be considered. The Study will take an economic analysis to reach to a conclusion.

9. Given the soil condition of the Study area, diversified crops should be promoted. Suggestion of the Study Team is, therefore, acceptable. Surface water should be delivered over the whole command area. Development of STW, as a supplemental irrigation, will be spread throughout the area. It is not necessary to make a line for giving surface water; namely, the gravity irrigable area by Sunsari river should not be reduced.

10. Area wise water requirement is needed. There is no detailed soil map in the Progress Report (1). It should be clarified how the high percolation connects with the soil characteristics. The Study Team answered that though the TOR of the Study limits the detailed soil characteristics survey, the Study Team will convey the comment to the JICA HQ.

ATTACHMENT

LIST OF ATTENDANTS

1. Nepalese side

1) Ministry of Water Resources / WECS

Mr. Babu Ram Adhikari	Senior Divisional Engineer

2) Department of Irrigation, Ministry of Water Resources

Mr. Sharada Prashad Sharma	Director General
Dr. Umesh Nath Parajuli	Chief, Planning Division
Mr. Jeevan Lal Shrestha	Senior Divisional Hydro-geologist
Mr. Durga Shankar Sharma	Senior Divisional Engineer
Mr. Gauri Shankar Basi	Senior Divisional Engineer
Mr. K.D. Adhikari	Senior Divisional Engineer
Mr. Naveen Mangal Joshi	Senior Divisional Engineer
Ms. Manju Sharma	Sociologist
Mr. Shanmukhesh Amatya	Hydrogeologist
Mr. A. K. Pokharel	Project coordinator, SISP
Mr. D. P. Jaishy	Engineer
Mr. Mekh Nath Sharma	Engineer
Mr. Govinda Paudel	Engineer
Mr. Binod Adhikari	Engineer
Mr. Surya Pd. Rijal	Engineer
Mr. Basishtha R.Adhikari	Engineer
Mr. Deo Raj Pokharel	Engineer
Mr. B.N. Shreshtha	Engineer
Mr. Ram Krishna Regmi	Statistical officer
Mr. Yoshihiro Suzuki	Advisor, JICA Expert

3) Eastern Regional Irrigation Directorate, Department of Irrigation

Mr. Komal Prasad Timilsena	Director
Mr. Rakesh Kumar Mishra	Agricultural Economist

4) Sunsari District Irrigation Office, Department of Irrigation

Mr. Ramesh P. Koirala	Engineer

5) Department of Agriculture

Mr. Keshav lal Shreshtha	Agronomist

6) Other Departments

Mr. S.B.Regmi	Director, WRID
Mr. Awadh Kishor Prasad	Engineer, Rajapur IP
Mr. Hari Narayan Yadav	Engineer, Babai IP
Mr. Indu Bhushan Jha	Engineer, NISP
Mr. Bel Bahadur Pachhai	Engineer, NISP

2. Japanese side

1) JICA Study Team

Mr. Kosei Hashiguchi	Team Leader/Regional Development
Mr. Eiji Takemori	Irrigation and Drainage
Mr. Akihiko Hata	Regional Economy
Ms. Rie Kitao	Environment
Mr. Tatsuya Ieizumi	Facilities Design
Mr. Jiro Yabe	Hydrological Analysis

2) JICA Nepal Office

Ms. Ritsuko Hagiwara	Assistant Resident Representative
Mr. Narendra Kr. Gurung	Senior Program officer

MINUTES OF THE MEETING
ON
INTERIM REPORT
FOR
THE FEASIBILITY STUDY
ON
THE SUNSARI RIVER IRRIGATION PROJECT
IN
THE KINGDOM OF NEPAL

Kathmandu, Nepal
June 25, 2002

Dr. Umesh Nath Parajuli
Chief, Planning Division,
Department of Irrigation (DOI)
Ministry of Water Resources (MOWR)

Mr. Kosei HASHIGUCHI
Leader of the Study Team,
Japan International Cooperation
Agency (JICA)

Witnessed by:

Mr. Osamu ADACHI
Chairman,
Advisory Committee, JICA

Following the Scope of Work agreed upon between the Preparatory Study Team of the Japan International Cooperation Agency (JICA) and the Department of Irrigation (DOI) on November 29, 2000, JICA fielded a Study Team to Nepal on April 16, 2001 for the implementation of the Feasibility Study on the Sunsari River Irrigation Project in the Kingdom of Nepal (the Study).

The Study Team has conducted the Phase I study from the mid of April 2001 to the end of March 2002 based on the study approach, procedure and schedule as agreed in a meeting relative to the Inception Report held on April 19, 2001. The Study Team has now returned to Nepal for the implementation of Phase II field survey with 20 copies of the Interim Report as the output of the Phase I study. A meeting to present and discuss the contents of the Interim Report was held on June 20, 2002 at the DOI central office, and following are the main issues raised by the participants and replies from the Team. Further comments, if any, will be delivered to the Study Team at an earliest time of the Phase II field survey.

1. The Interim Report contains the findings, development constraints and potentials in the Study area, the development strategies, and the provisional development plan formulated. The Team Leader firstly made brief explanation of the schedule and the workflow of the Phase II, which were agreed upon.

2. As per water requirement estimated in the provisional irrigation development plan, there are deficits such as about 4 cum/s during winter season and about 7 cum/s during monsoon season under 100% paddy and about 2 cum/s under 60% paddy during same monsoon season. Given this estimation, DOI raised a possibility of supplementing these water deficits from SMIP should there be some extra water.

3. DOI raised that the extra water may be available since the original SMIP has been and may be reduced because of urbanization around Biratnagar, some areas being covered by drainage re-use and future plan of developing other rivers like Lahandra. If this will be realized, DOI is of opinion that SMIP should support the JICA Sunsari river command area by discharging the extra water through Vortex tube. The extra water, if realized, will also contribute to the environmental conservation of Sunsari river especially during winter season.

4. DOI, in line with above, requested the Study Team for examining the possibility, and the Team will undertake this based on existing data and information that will be gathered in collaboration with SMIP. In case that the Team's estimation reveals some extra water, DOI will make the decision how much water should supplement the proposed Sunsari river irrigation area. Taking into account the Study schedule, the Team will present the examination results by mid of July 2002 if the data and information are made available to the Team in time.

ATTACHMENT

LIST OF ATTENDANTS

1. Nepalese side

1) Department of Irrigation, Ministry of Water Resources

Mr. Sharada Prashad Sharma	Director General
Dr. Umesh Nath Parajuli	Chief, Planning Division
Mr. Madhu Sudan Paudel	Division Chief, Surface Irrigation Division
Mr. Durga Shankar Sharma	Senior Divisional Engineer
Mr. Naveen Mangal Joshi	Senior Divisional Engineer
Mr. K.D. Adhikari	Counterpart, Irrigation Engineer
Mr. Yoshihiro Suzuki	Advisor, JICA Expert

2. Japanese side

1) JICA Study Team

Mr. Kosei Hashiguchi	Team Leader/Regional Development
Ms. Izumi Okata	Rural Sociology / Gender
Mr. Tatsuya Ieizumi	Facilities Design

2) Advisory Committee

Mr. Osamu Adachi	Chairman, Advisory Committee, JICA

3) JICA Tokyo Office

Mr. Shinji Kawabe	Officer in Charge

4) JICA Nepal Office

Mr. Narendra Kr. Gurung	Senior Program officer

MINUTES OF THE MEETINGS
ON
PROGRESS REPORT (2)
FOR
THE FEASIBILITY STUDY
ON
THE SUNSARI RIVER IRRIGATION PROJECT
IN
THE KINGDOM OF NEPAL

Kathmandu, Nepal
October 11, 2002

Dr. Umesh Nath Parajuli
Chief, Planning Division,
Department of Irrigation (DOI)
Ministry of Water Resources (MOWR)

Mr. Kosei HASHIGUCHI
Leader of the Study Team,
Japan International Cooperation
Agency (JICA)

Background

Following the Scope of Work agreed upon between the Preparatory Study Team of the Japan International Cooperation Agency (JICA) and the Department of Irrigation (DOI) on November 29, 2000, JICA fielded a Study Team to Nepal on April 16, 2001 for the implementation of the Feasibility Study on the Sunsari River Irrigation Project in the Kingdom of Nepal (the Study).

The Study Team has conducted the Phase II field study from the mid of June 2002 to 14th of October 2002 based on the study approach, procedure and schedule as agreed at the meetings to discuss the Inception Report held on April 19, 2001 and Interim Report held on June 20, 2002. The Study Team submitted 20 copies of the Progress Report (2), as the output of the study, to the DOI, the counterpart agency.

The Meeting

A meeting to present and discuss the contents of the Progress report (2) was held on October 10, 2002 at DOI office from 10:00 a.m. with a number of participants shown in the attached paper. The Team explained the findings including the lessons learned from past and on-going projects in Nepal, development constraints and potentials in the Study area, the development strategies and the development plan including project justification and environmental assessment. Accordingly, following comments were made by the participants for considerations. Further comments, if any, will be delivered to the Study Team prior to finalizing the draft final report within a few weeks onward.

Comments and Discussion

1. Dr. U.N. Parajuri of DOI questioned about the relevance of proposed ISF rates from crop incremental prospectus. The Team answered that the proposed ISF rates in both monsoon and winter are not more than 8% of the net incremental income with the project, indicating the relevance of the proposed rates even compared to the world trend.

2. Mr. G.R. Joshi of DOI remarked that, under the sandy soil condition, drainage canals running parallel to the irrigation canals may draw some of water from the latter and the Study Team should pay special attention to it. The Team agreed to take the comment into consideration.

3. Mr. Joshi also suggested that for the compensation for fishermen, provision of retarding basins or water in flood should be utilized to fill the fishpond. The Team replied that southern part of the Study area is inundation prone area so the area may have a possibility of developing fishpond aside from old Sunsari River course (Mariya Dhar).

4. Mr. G.R. Joshi asked if the water in old Sunsari River course was enough for constructing fishpond. A Counterpart of the Study Team responded that the lands

for fishponds, about 35ha, would be sought within the Study area and VDC could also avail some land to construct community fishponds as well as utilizing the old Sunsari River course.

5. Mr. Suzuki requested for a list of data and lessons that were gathered from SMIP and incorporated in the Study. The Study Team cited some of the examples of using SMIP data and information during the presentation.

6. Mr. R. Davey, SMIP consultant, raised an issue that farmers would still use STWs, although it is relatively expensive and the surface water could provide cheaper water service, if the irrigation system did not give good services. The Team is of the same opinion, and recommends for quality service.

7. Mr. R. Davey further suggested considering a way of increasing crop production and cropping intensity using STWs. The Team replied that at present about 80% farmers are using STWs, and these STWs would still continue to be operated especially during winter season since the Project can not irrigate the whole area due to water shortage.

8. Mr. R. Davey made a comment that it would be a good opportunity to emphasize the high value of irrigation water and charge the water fee according to its value. He further suggested that it would also be an opportunity to get a breakthrough towards cost recovery.

9. Mr. R. Davey also suggested an alternative of pumping groundwater onto canals to supplement scarce surface irrigation water during winter season.

10. Mr. K. P. Timilsena, Director of ERID, suggested that drip irrigation should be introduced in the southern part of the Study area to cope with the constraints of the sandy soils and scarce water. The Team explained that it had already utilized the idea in the southern most area (about 400ha). Beyond this area of 400ha, using drips and gravity irrigation during different seasons would cause the difficulty of charging ISF.

11. Mr. Suzuki, JICA expert at DOI, suggested that since the feasibility study of SRIP was at its final stage, the study should be able to specify the components of the Project apart from just preparing development plans.

Closing

The meeting was closed at 12:00 by Mr. Adhikali of DOI. He thanked the Study Team for their devoted work and asked the participants to submit comments if any.

List of Attendants

1. Nepalese side

1) Department of Irrigation, Ministry of Water Resources

Mr. Madhu S. Paudel	Division Chief
Dr. Umesh Parajuli	Division Chief
Mr. Y. Suzuki	Irrigation Policy Advisor
Mr. D.S. Shama	Senior Divisional Engineer
Mr. Naveen Mangal Joshi	Senior Divisional Engineer
Mr. Govinda Raj Joshi	Senior Divisional Engineer
Mr. Mahendra B. Gurung	Senior Divisional Engineer
Mr. Ram Sundar Shah	Senior Divisional Engineer
Mr. Basanta Rayamajhi	Senior Divisional Engineer
Mr. Narayan Hari Gajurel	Senior Statistician
Mr. Dibya R. Kansakar	SDHG
Mr. Jeevan Lal Shrestha	SDHG
Mr. R.B. Joshi	Engineer
Mr. K.K. Karki	Engineer
Mr. Basistha R. Adhikari	Engineer
Mr. A.K. Prasad	Engineer
Mr. Ramesh P. Koirala	Engineer
Mr. Purushottam Timilsina	Engineer
Mr. K.D. Adhikari	Engineer
Mr. M.B. Pradhan	Engineer
Mr. Pramod Kumar Jha	Engineer
Mr. A.K. Gajurel	Engineer
Mr. Niranjan Dev Pandey	Engineer
Mr. Krishna Belbase	Engineer
Mr. N.P. Jaishy	Engineer
Mr. Purushottam Shrestha	Engineer
Mr. Lok Bahadur KC	Engineer
Mr. S.K. Basnet	Engineer
Mr. Shree Kamal Dwivedi	Engineer, Geologist
Mr. Shanmukesh Amatya	Hydrologist

Mr. Lok Prasad Bhattarai	Sociologist
Mr. Ram Krishna Shrestha	Stat Officer

2) Eastern Regional Irrigation Directorate

Mr. Komal Prasad Timilsena	Director
Mr. Tanka Kafle	Engineer

3) NEDECO, SMIP Consultant

Mr. R. Davey	Team Leader
Mr. B.P. Banskota	IDE/Sociologist

4) Others

Mr. Janak Timilsena	Engineer
Mr. Dindaya Rijal	Reporter

2.Japanese side

1) JICA Study Team

Mr. Kosei Hashiguchi	Team Leader
Mr. Natsuda Shohei	Economist
Ms. Rie Kitao	Environmentalist
Mr. Tatsuya Ieizumi	Facilities Engineer
Mr. Akihiko Hata	Regional Economy

MINUTES OF THE MEETING
ON
DRAFT FINAL REPORT
FOR
THE FEASIBILITY STUDY
ON
THE SUNSARI RIVER IRRIGATION PROJECT
IN
THE KINGDOM OF NEPAL

Kathmandu, Nepal
November 21, 2002

Dr. Umesh Nath Parajuli
Chief, Planning, Design, M&E Division,
Department of Irrigation (DOI)
Ministry of Water Resources (MOWR)

Mr. Kosei HASHIGUCHI
Leader of the Study Team,
Japan International Cooperation Agency (JICA)

Witnessed by:

川部 伸治

Mr. Shinji KAWABE
Agricultural Development Study Division,
JICA Headquarters

Background

Following the Scope of Work agreed upon between the Preparatory Study Team of the Japan International Cooperation Agency (JICA) and the Department of Irrigation (DOI) on November 29, 2000, JICA fielded a Study Team to Nepal on April 16, 2001 for conducting the Feasibility Study on the Sunsari River Irrigation Project in the Kingdom of Nepal (the Study).

Following all the surveys in collaboration with DOI, the counterpart agency, from mid April 2001 to mid October 2002, the Study Team has worked out for preparing the Draft Final Report of the Study in Japan from October 16 2002 to November 14 2002. The contents of the report has thoroughly reflected the comments raised from the meeting on the Progress Report (2) held at DOI on October 10, 2002 as well as from the personnel concerned with the Study. The Study Team arrived in Nepal on November 17, 2002 and submitted 20 copies of the Draft Final Report, as the output of the study, to the DOI.

The Meeting

A meeting to present and discuss the contents of the Draft Final Report was held on November 19, 2002 at DOI conference room from 12:30 p.m. with a number of participants shown in the attached paper. After the opening remark by Dr. Parajuli, Chief of the Planning Division, the Team explained the contents of the report including the development plan, the project components and the implementation arrangement, and the conclusion and recommendations. Actions to be taken after the completion of the Study as well as advocacy on the conclusion and recommendations made by the Study Team were also discussed among the participants during the meeting. Accordingly, the following comments were provided by the participants for considerations. Further comments, if any, will be delivered to the Study Team within a month onward and the Final Report will be finalized and submitted to DOI by the end of January, 2003.

Comments and Discussion

1. Dr. Parajuli asked if the road component was considered in calculating IRR. The Team answered that the road component had not been included in the IRR calculation, but would consider the impact of such improvement in the final calculation of the IRR.

2. A participant commented that the projected 4.2t/ha yield of paddy on an average under the with-project condition might be difficult to achieve in the entire project area. The Team clarified that the entire area of 10,000 ha was not proposed for the paddy, because some parts of the command area such as inundation area have been considered for jute crop. For the proposed paddy area, the potential of achieving the 4.2t/ha target is possible.

3. A participant questioned about the marketability of vegetables, and the Team answered that the 10% of demand for vegetables in the eastern Terai would be

covered by the products in the Study area. The Team considers that this is achievable since the potato in the Study area has already occupied 10% of the demand in the eastern Terai.

4. A participant asked if the Study conducted a sensitivity analysis. The Team answered that the lower yield would affect IRR most. What is needed is to monitor the yield and to put emphasis on the extension program that is incorporated with the Sunsari River Irrigation Project (SRIP).

5. A participant asked if the project would generate jobs for the landless. The Team answered that the SRIP would create jobs in desilting and grass cutting works and also as farm labor. The former will create 14,290 man-days work which is equivalent to 0.7% of the total landless households in the Study area and the latter will create 166,170 man-days work equivalent to about 8.6% of the total landless households.

Advocacy of Conclusion and Recommendations

6. The Team Leaders' presentation of SRIP's development plan, the project's components and its implementation arrangements was concluded with the recommendatory notes: (1) that the project's EIRR was between 15.6% for the base case and 18.9% for the second case which is higher than the opportunity cost of 12.0%, (2) that job creation will benefit about 10% of the total landless households, and (3) that the project will improve accessibility to the western part of the project area which is the most poverty stricken area, thereby contributing to poverty reduction of the area, and (4) that, therefore, SRIP should come into being. On this recommendation, the key personnel of DOI responded that it is mandatory on the part of DOI to favorably act on the proposed project. If the project is found feasible, there will be no doubt on pushing through the project on DOI's part.

7. On the positive action of DOI to push through with the project, the following recommendations have been suggested and discussed.

7.1 Operation of SRIP during Winter Season: SRIP should not divert any water during winter season unless otherwise the two paper factories, located immediately downstream of the proposed headwork site, establish effluent treatment plant (ETP) since the river's present condition is already beyond the permissible level. On this, one participant suggested that as far as the preparation of feasibility report is concerned, the Team can present both the cases: one on assumption that the paper factories abide by the law and the other that there would be no improvement in the existing situation.

7.2 Process of Establishing Organization. One of the reasons, which causes water users' organization to become non-functional, must be rooted in the process of establishing the organization itself. In this case, the Team recommended that, despite influence of external, the active participation of farmer beneficiaries of the

Project from its initial period should be given due consideration and enough time should be provided for establishing the organization. The external agency should also be in the stance of not pushing but stressing "ownership of farmers" for sustainability of the function of the organization.

One participant said that, in the process of establishing Agency Managed Irrigation System (AMIS), farmers' participation is guided by the Irrigation Policy. As IMP started in 1984, there has been an institutional effort being done within DOI through learning by doing. Another participant stressed that there is no harm or trouble by externals, and if we give farmers the task, farmers will develop their capacity. To link the task (delineation) whoever gives (whether externals give or not) in organization is the issue. First define the task and responsibility. Designing the tasks will be the effecting point. Still, another participant noted that, in the process of establishing AMIS, the farmers are told to develop their program but what is really happening is that the government (external) is giving the program to the farmers from the very beginning. However, it has been understood that the recommendation of the Team is to give longer time for the process of establishing the farmers' organizations. This can be done if DOI will involve the local people from the beginning and going to the field to find local people who can be leaders.

7.3 Establishing Clear Information Dissemination and Transparency. The Team recommended that, for keeping transparency, information should be disseminated well to all the concerned people. The Government should continue this transparency from upper to lower class farmers all the way as there have been various misunderstandings among users.

Next Actions

8. Dr. Parajuli mentioned that HMGN would prefer grant assistance for the implementation of the SRIP. He further mentioned that projects studied under JICA's assistance would preferably be implemented either under Japanese grant assistance or under HMGN's own resources.

9. Dr. Parajuli mentioned that the fund, which HMGN has to raise for SRIP implementation such as land acquisition and administration, would be managed without serious problem.

10. Mr. Adhikari said that time for EIA clearance would depend on how high priority DOI considers for the project.

11. Mr. Adhikari explained that JICA has so far conducted several studies, but no implementation. DOI therefore requests GOJ/JICA to pay due consideration towards the project implementation with an assistance from the GOJ.

Acknowledgement

Mr. Hashiguchi, the Team Leader, acknowledged all the assistances and cooperation given by all those people and organizations concerned throughout the study period. He expressed deep gratitude to the DOI for the close cooperation and assistances extended through all the field investigations in Nepal.

Closing

The meeting was closed at 15:30 by Mr. Adhikari of DOI. He thanked the Study Team for their devoted work and asked the participants to submit comments at an early date if any.

LIST OF ATTENDANTS

1) Ministry of Water Resources

Mr. Amod Kumar Thapa	Engineer	TA, NISP, MWRID

2) Department Of Irrigation

Dr. Umesh Nath Parajuli	DDG	Planning Division, DOI
Dr. K.R. Sharma	SDE	DOI
Mr. Naveen M. Joshi	SDE	DOI
Mr. Manik Lal Shrestha	SDE	Planning Division, DOI
Mr. Durga Shankar Sharma	SDE	DOI
Mr. Anil Kumar Pokarel	Project Manager	SMIP
Mr. K.R. Timilsina	SDE	Planning Division, DOI
Mr. K. Belbase	Engineer	DOI
Mr. A. K. Gajurel	Engineer	GWD, DOI
Mr. M.B. Pradhan	Engineer	Planning Division, DOI
Mr. Sashi B. Bisht	Engineer	DOI
Mr. Lok Darshan Shrestha	Engineer	DWIDP
Mr. Ram Prasad Bhandari	Engineer	DOI
Dr. Kishor Panta	Engineer	IMD DOI
Mr. Niranjan Tamrakar	Engineer	DOI
Mr. S. K.Upadhyaya	Agr. Engineer	CBDOI, SISP
Mr. J. M. Shrestha	Engineer	Planning Division, DOI
Mr. Netra Bdr Karki	Engineer	DOI Sikta I.P.
Mr. R. B. Aryal	Engineer	DOI Sikta I.P.
Mr. D.P. Jaishy	Engineer	Planning Division, DOI
Mr. Mahendra Prasad Badu	Engineer	Planning Division, DOI
Mr. P.R. Maskey	Engineer	Surface Irrigation Division DOI
Mr. Pradeep Thapa	Engineer	GFO, Mahattari
Mr. Chanchal Singh Bisht	Engineer	SDOffice, Dadeldhura
Mr. M. N. KC	Engineer	NISP
Mr. Kulendra Subedi	Engineer	NISP
Mr. S.A. Palteing	Team Leader	SISP-TA consultant
Mr. S.P. Rijal	Engineer	SISP-TA consultant

3) Counterpart of the Study Team

Mr. K. D. Adhikari	Engineer	DOI, Chief Counterpart
Mr. Shanmukesh Amatya	Hydrogeologist	DOI
Mr. Lok Prasad Bhattarai	Sociologist	DOI
Mr. R.P. Koirala	Engineer	DIO, Sunsari
Mr. R.K. Mishra	Agri. Economist	ERID, Biratnagar

4) JICA Headquarters

Mr. Shinji Kawabe	Adviser

5) Study Team

Mr. Kosei Hashiguchi	Team Leader
Mr. Teodolo Ehera	Institutional Development
Mr. Akihiko Hata	Regional Economy

APPENDIX-2 REGIONAL ECONOMY

CHAPTER 1 INTRODUCTION

After three days walk of steep mountain path with 50kg load of gingers on his/her back, a concrete structure of Chatra intake comes into their sight at the pivot of Koshi River spreading toward the Terai plain. The sight gives them a relief of safe arrival in the plain and at the same time anxiety for their might-be-successful-trade with the people in the plain region. They, who are hill inhabitants, start walking again along the Chatra main canal to reach a market to sell their products. Under their feet, the canal conveys irrigation water quietly to be the source of productive agriculture in the Terai plain and wishes some return to the hills through the trade.

The Ninth Plan (1997-2002) of HMGN has adopted poverty alleviation as its main objective and the utilization of food productive capability in the Terai plain was considered to be the key of economic growth in the region. The economic growth in the Terai plain also implies a strategy of repercussion effect; namely, rising incomes in the Terai plain will generate required income to purchase high valued agriculture products of the hills and raise the economic viability of these products contributing to achieving overall economic growth and maintaining stability of the nation. Development investments in the Terai region, in this sense, imply the challenges and opportunities for overall country.

Assignment of Regional Economy in this Study aims at identifying the socio-economic position of the Study area in views of regional and national contexts, formulating a development plan subject to an irrigation development and assessing impacts of the irrigation development into regional economy in order to insure the sustainable realization of the development benefit. As indicated above, there always exists the issue of where to allocate the limited resource for effective investment. A public investment has to seek balanced development, meaning not to enlarge the economic disparity among people as well as its effectiveness, efficiency, validity and sustainability. The regional economy, therefore, tries to propose measures in consideration of these aspects with the irrigation development, the main target of the Study.

This Appendix consists of, aside from this chapter, four chapters, which are positioning of the area and present situation analyses, namely, CHAPTER 2 CHALLNGES AND OPPORTUNITIES TODAY IN TERAI, CHAPTER 3 DECENTRALIZATION POLICY AND RURAL DEVELOPMENT, CHAPTER 4 THE STUDY AREA and CHAPTER 5 DEVELOPMENT CONSTRAINTS AND OPPORTUNITIES, and a chapter to formulate development plan, that is CHAPTER 6 PRELIMINARY DEVELOPMENT PLAN and finally CHPTER 7 ECONOMIC IMPACT ANALYSIS IN REGIONAL ECONOMY.

CHAPTER 2 CHALLENGES AND OPPORTUNITIES TODAY IN TERAI

2.1 National Economy and Development Plan

Nepal has achieved the annual GDP growth rates of 5.7% and 5.9% in recent two years of 1999 and 2000 against the depressed world economy. However, the GDP per capita remains 250US$ and it is said that 42% of the total population live below the poverty line. Subsistence agriculture is the mainstay of the majority of the nation and the sector remains the

leading contributor to GDP with 36% share in 2000 though the share has been decreasing. The country has been, however, deficit in cereal supply to the nation, relying on import through and from India. The core of the agriculture was, due to its nature, destined in the Terai plain, fronting on India in the south border (Refer to Attachment 1).

HMGN initiated the national development plan in 1956, and considerable amount of development activities have been executed with the support of external donors as 56% of the governmental development expenditure was covered by foreign grant and loan in 1990's. This year 2002 is the final year of the Ninth Plan and with the review of the last five years, the Tenth Plan has been drafted in preparation for shortly coming official announcement (Refer to Attachment 1).

The Ninth Plan, in accordance with the long term development plan of Agriculture Perspective Plan (APP), has set the major long-term development objectives as to create a society that is cultured, modern development-oriented and endowed with skills through alleviating the prevailing wide spread poverty in the country. Relatively to agriculture sector, the Plan targets to expand investment in the extensive utilization of water resources and also the target was set to reduce population living below poverty line to 10% within 20 years. The Plan upholds the APP's premise that one percent growth in agriculture sector will result in 1.5 percent growth in non-agricultural sector, which will contribute to achieving the development target.

The Ninth Plan is quite aware of balanced development of the nation and the measure against migratory pressure. As described above, the Chatra intake as a point of contact and transaction between hill and Terai products embodies the strategy of HMGN, stating that increasing economic growth in the Terai region through the optimum utilization of food-grain production potential will generate the demand for high-value agricultural commodities produced in the hills resulting, in turn, in the increased economic potential of such commodities. It is expected that the effective implementation of this strategy will bring about a balance in the development of both the hills and Terai and will have a positive impact on curbing the present tendency of rapid migration from the hills to the Terai plain.

2.2 Regional Economy of Terai

Agricultural Perspective Plan (APP) sees the potential of Terai referring to outside Nepal wherein the people enjoyed the effects of green revolution. APP picked up an example of Punjab, in which the green revolution has brought prosperity to millions of farmers who twenty years ago had lived little different from those in Nepal. As compared to the achievement from 1950's to late 1980's in Punjab, which brought doubling irrigated area, cut of rural population in poverty by half, 27 times of per capita consumption of electricity, the APP evaluates the growth of the Terai region in Nepal in these aspects is conservative, though the region in Nepal has similar potential.

APP also gives a fact that is existence of strong political commitment in Punjab for the rapid urbanization of the area. Having seen the future vision outside the country, then how would the political commitment in the Terai plain be justified in the context of Nepal's national economy? Aspects in APP are now examined with supporting statistical evidence of the

regional economy.

The country of Nepal is geologically demarcated with five categories, which are High Himalaya, High Mountain, Middle Mountain, Siwarik and Terai. The Terai plain is the most residential area in the country. The total population in Nepal in 2001 is estimated at 23.2 million out of which 9.8 million people (42% of the total population) reside in the districts whose major lands are located in the Teari plain. While the total area of the districts, whose major areas are located in the Terai plain is 26,700km^2, 18% of the total Nepal area of 147,200km^2. Accordingly the population density of 366 people per km^2 is the highest among the five regions, which reaches 2.3 times of the national rate of 158 people per km^2. Figures 2.2.1 and 2.2.2 show the location map of the defined regions and the shares of area and population by the regions.

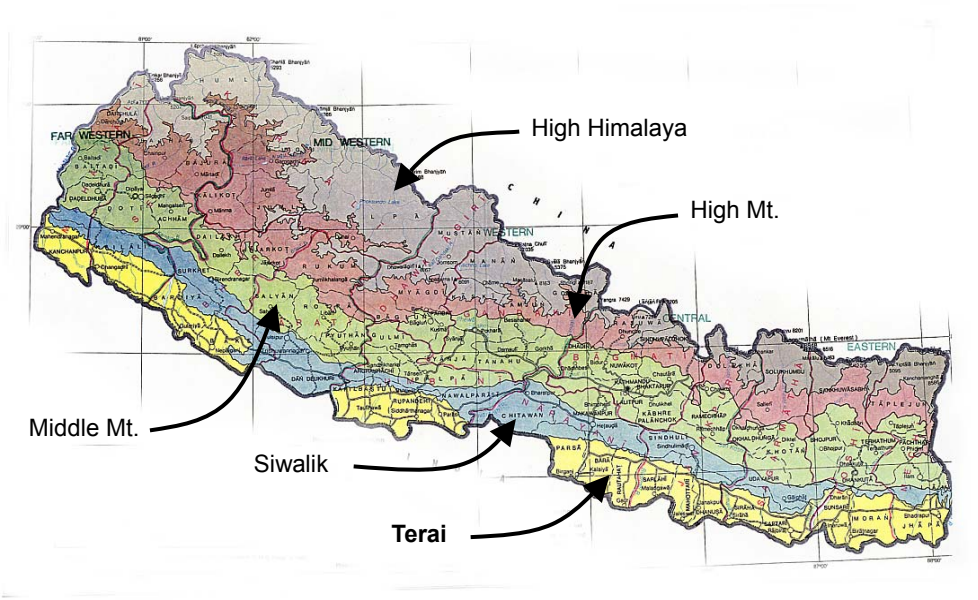


Figure 2.2.1 Regional Demarcation of Nepal

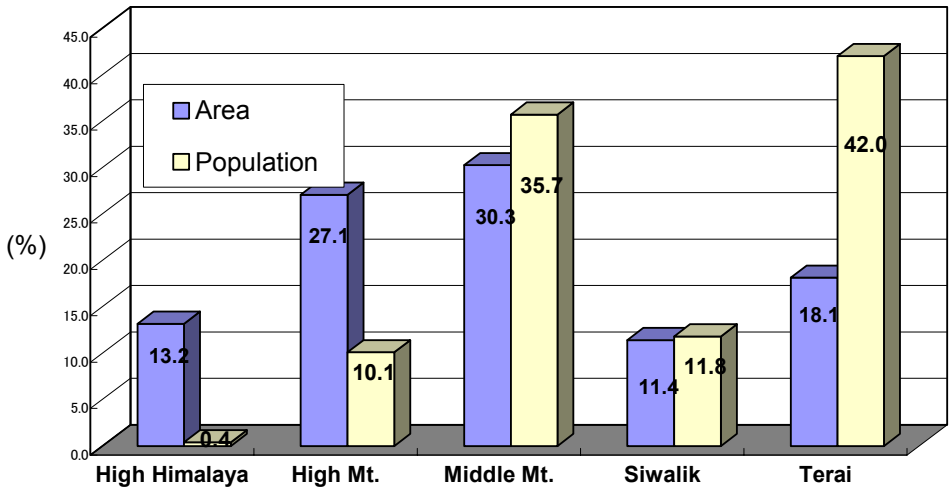


Figure 2.2.2 Share of Area and Population by Region

Population Growth is also rapid in the Terai plain due to migration from hills and mountains as one of the reasons. The average annual growth rate from 1991 to 2001 in Nepal was 2.3%, while the rate in Terai counts 2.7%. To the contrary, the average annual growth rate in the High Himalaya, High Mountain and Middle Mountain were 1.8%, 1.6% and 2.0% respectively, fairly proving the climbing down of the people in the mountains to the Terai plain.

The Terai plain, as its nature, has been developed as agriculture sector, a pulling force of regional economic development. Having been described as an eligible granary of the country, the Terai plain has a role of supplying staple food to the nation, especially to those mountain regions. Cereal production in Terai plain is so significant that 64% and 54% of paddy and wheat, the staple grains of the nation, in 1998/99 respectively were produced. The cereal production is enough to feed the population in the plain and the surplus are transferred to other regions by either export or the mountain inhabitants coming down to the plain to exchange their high value products of hills with the rice and wheat.

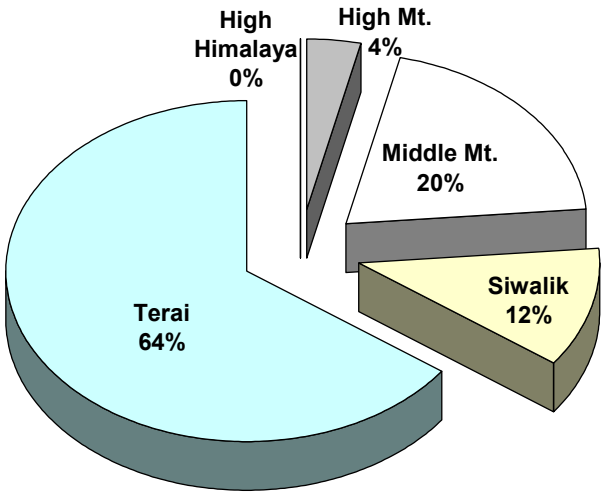


Figure 2.2.3 Share of Paddy Production by Region (1997/98)

However, as mentioned, total food balance of the country has been in deficit. Cereal supply and demand balance in 1997/98 is estimated at a deficit of 123,600 metric ton in total and by region only Siwalik and Terai were estimated at surpluses of 34,000 metric ton (13.3kg per capita) and 167,000 metric ton (18.6kg per capita) respectively. As the Figure 2.2.4 shows, deficit per capita in High Himalaya, High Mountains and Middle Mountains are estimated at 109.7kg, 46.9kg and 26.5kg respectively. Irrigation development as of 1999/2000 has

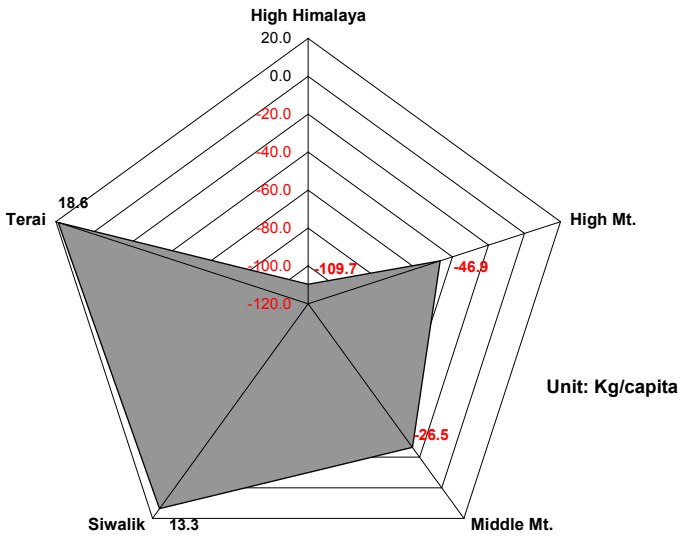


Figure 2.2.4 Cereal Balance per Capita by Region (1997/98 estimate)

covered 1.1 million ha, about 63%[1] of the total irrigable area of 1.77 million ha in the country, and, 0.9 million ha in the Terai plain (66% of the irrigable area in Terai) has been actually irrigated leaving still potential of higher target of agricultural productivity.

Population pressure has given the necessity of public investment in the Terai plain as well as in line with the government development strategy. The budget allocated for development program in 1997/98, however, reveals that the development program budget per capita in Terai is the lowest among the five regions as it is calculated at 627Rs/capita, though the gross amount occupies 31% of the total budget of 19.7billion Rs as shown Figure 2.2.5. It is, therefore, envisaged that, with the potential and the priority given to agriculture including water resource development for irrigation, the needs of investment in the Terai plain is still in line with the balanced development (Refer to Attachment 2).

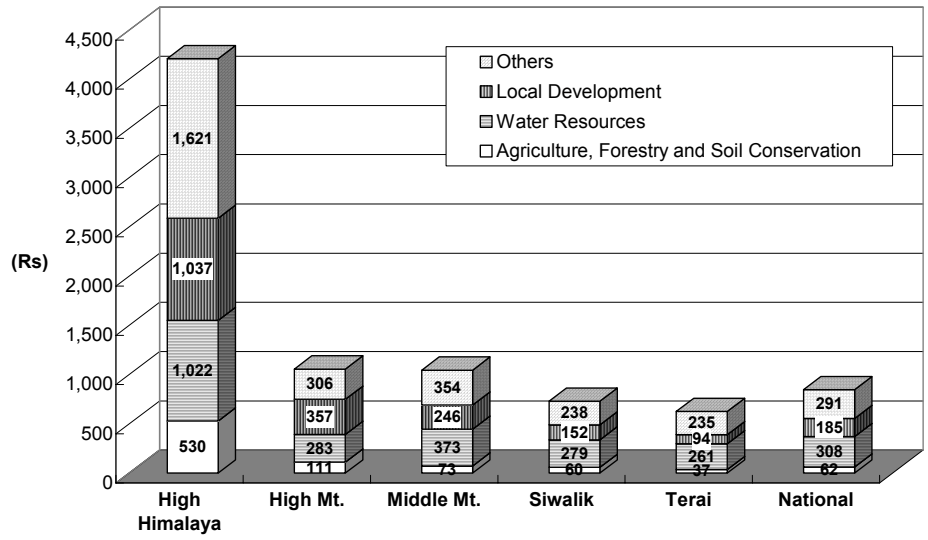


Figure 2.2.5 Development Program Budget per Capita by Region (1997/98)

2.3 Positioning of Sunsari District

Sunsari district is located in the eastern Terai plain with the total area of 1,257km^2 and the population of 628,000, occupying 4.7% and 6.4% of the Terai plain respectively. The population density reaches 500 people per km^2 and the average annual population growth rate from 1991 to 2001 is 3.1% ranked 6th highest out of 75 districts or 4th highest out of 16 districts whose major lands belong to the Terai plain.

Major mother tongue of the people from the eastern Terai is Maithali, the second biggest population in Nepal following to Nepali. In Sunsari district, the population whose mother tongue is Maithali and Nepali occupy 30% each according to 1991 population Census. Also Tharu, the ethnic group ever lived in the Terai plain is significant as 16% of the population in Sunsari district belong to Tharu community against the 5% in proportion to the total Nepal. 7% of total Tharu live in Sunsari district. Another aspect is religious category. In Sunsari district, the population who follows Islam is relatively higher as it occupies 10% of the

[1] Source: Water Resources Strategy Nepal, HMGN Oct. 2001

population in Sunsari district, while the total Islam population consists of 3% in Nepal. 7% of the total Islam lives in Sunsari district (Statistical Year Book 2001).

The eastern Terai region consists of five districts, namely Jhapa, Morang, Sunsari, Saptari, and Siraha located from east to west. It is roughly estimated that the Gross Regional Domestic Product (GRDP)[2] of agriculture, livestock and industry in Sunari District in 1998/99 is 3.8 billion Rs, of which 3.1 billion Rs or 80% is born to agriculture and livestock. Of the share of agriculture and livestock compared to industry in the other eastern districts are 96% in Jhapa, 74% in Morang, 99% in Saptari and 96% in Siraha. The share of agriculture and livestock to GRDP is relatively low in Morang and Sunsari district. This is because there is an industrial zone along the Biratnagar – Dharan road running southern border of India to the north hills comprising of about one hundred industrial factories. The industrial zone is located along the border of Sunsari and Moran Districts (Figure 2.3.1).

GRDP per capita in Sunsari District is 6,120Rs, of which agriculture and livestock occupies 4,900 Rs. GRDP of agriculture and livestock per capita in Sunsari District is the second lowest[3] among five districts of the eastern Terai region (Figure 2.3.2). It would indicate that there would still be some potential for agricultural development in Sunsari Distirct regarding the level of the vicinity districts.

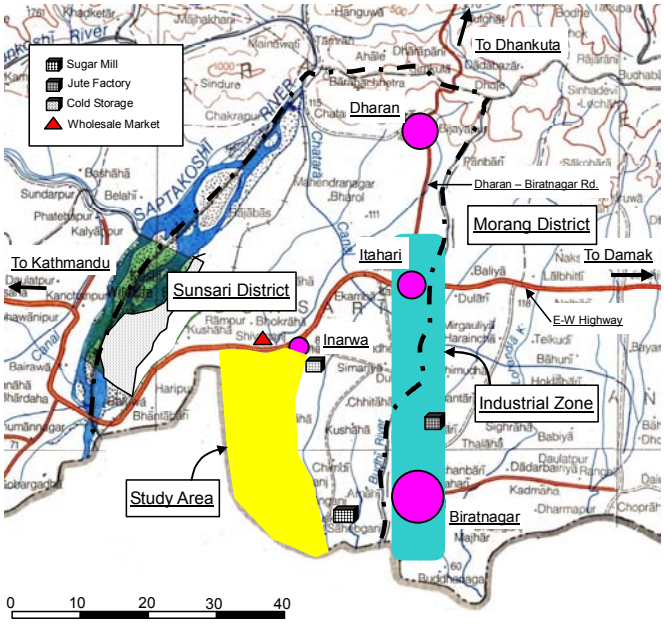


Figure 2.3.1 Regional Map of Sunsari District

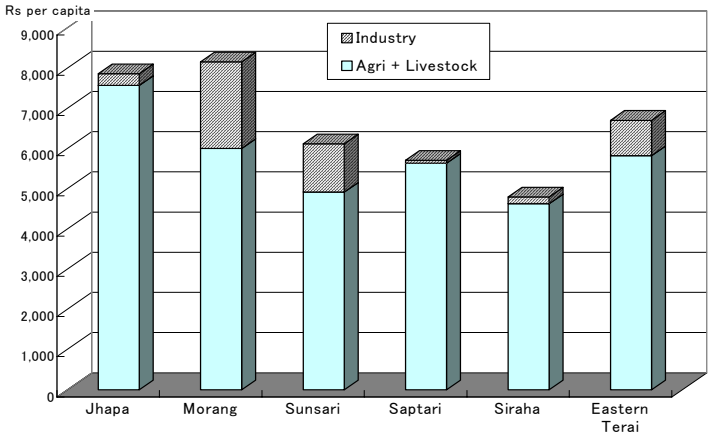


Figure 2.3.2 GRDP per Capita

[2] Due to lack of data, other sectors like service industry were not estimated.

[3] Though population density of Sunsari (498 people/km2) is the highest among five districts, it is not far from the average population density of the five districts (454 people/km2) and considering the population working for industry, the estimation of agriculture production per capita would not be affected by the scale of population.

Major agricultural production in Sunsari district is paddy, wheat, jute, sugarcane and pulses. The production of these crops among 75 districts of the country is ranked as rice in fifth, wheat in twelfth, jute in second, sugarcane in ninth and grass pea in second. Food balance is also surplus with 14,500 metric ton in 1997/98, giving the district a role to supply food grain to the deficit area of the country. Paddy production per capita in 1997/98 is estimated at 254kg/capita. This is over the required amount of cereals for per person and the amount is ranked at 10^{th} out of 75 districts, but it is also a rank of 10^{th} out of 16 districts in the Terai plain (Refer to Attachment 3).

To date, several development programs have been on going by the assistance of donors in Sunsari district. Those are Local Governance Program (LGP) funded by UNDP for capacity building of District Development Committee (DDC) and implementing Village Development Program, Decentralized Planning for Child Program (DPCP) by UNICEF, Sunsari-Morang Program by PLAN International, an international NGO, for health, education, income generation etc. fostering vulnerable families, Nepal Participatory Learning and Advisory Project (NPLAP) funded by DFID for capacity building of local NGOs, Park and People for mitigating those who had adverse impacts from establishment of the Koshi Tappu natural reserve, etc.

2.4 Positioning of the Study Area

The Study area is located southern most part of Sunsari dsitrict bounded by India to the south and west. Total area of the Study area covers 168.2km^2, occupying about 13% of the district and cultivable area is estimated at about 125.3km^2, 74% of the total Study area. Total population of the Study area according to year 2001 Census is 97,700, about 16% of the population in Sunsari district live in the Study area. Population density counts 581people per km^2 , higher than the density of Sunsari district, which is 500 (Refer to Attachment 4).

The annual average population growth rate from 1991 to 2001 is 2.5%, slower growth to the total district. Although the population growth of Sunsari district is relatively rapid due to migration from hills, as one of the factors, it seems that the migration movement has not reached influentially to the Study area due to the location furthest from hill side. Instead, the migrant workers have got its movement to India as well as Arabic countries. According to interviews to farmers in the Study area, some 10% of the villagers in a VDC are going to India or Arabic countries to work.

Generally people residing near the border have based their living cross the border. However, due to recent insurgency of Maoist, Indian security force has been bolstering for security and preventing even their daily trade between the two countries. Although India near the national border is traditionally in the economic block of Nepalese, the national border can be an iron curtain to shut all the transactions. Therefore, the development concept should be formulated on self-sufficiency in Nepalese side as much as possible.

As given the position of Sunsari district above, the Study area can also be considered to be a piece of the granary of the Terai plain. However, the sample household survey in the Study area conducted by Local Governance Program (LGP) funded by UNDP in 1998 reports that 53% of farm households in the Study area answered that they can only support their food

consumption from their land for not more than three months.

The Study area located in the fertile granary of Terai is, nevertheless, placed in a spot of food shortage due to mainly the shortfall of irrigation water, though the Koshi river water was supposed to wet the Study area through the two branch canals of SMIP, Shankarpur and Suksena. It is envisaged that the development in the Study area, as a spot left behind the natural blessing of Terai, should be based on the self-sufficiency of food supply to themselves as a primary target in harmony with the issue of border above.

If we go up along the Suksena canal toward the intake of Chatra main canal, the cropping pattern in winter season drastically changes from the lands occupied almost all with wheat and mustard in mixed cropping in the Study area, to the lands on which the vegetables of tomato, potato, green pea, radish, cauliflower are grown more than wheat.

It is assumed that the reason for the fact could be relatively high yield of paddy including the spring paddy production in the upper stream reaches thanks for enough irrigation water. The high yield of paddy in the upper stream reaches may allow farmers to challenge to grow risky but profitable vegetables during winter. As for the Study area, paddy yield is not so high due to insufficient irrigation water that the farmers may have to grow wheat to be self sufficient with their cereal consumption. If this assumption is somehow true, the present agricultural practice in the upper stream reaches of SMIP will be giving a clue to catch a glimpse of the future vision of agriculture in the Study area.

Soils in the downstream reaches of the Study area are sandy, which is one of the major cause of the shortfall of irrigation water, also give high potential for vegetable cultivation. Actually farmers in the downstream reaches like Dewanganj and Kaptanganj are advancing in vegetable crop such as potato. With improvement of infrastructure such as roads for marketing as well as irrigation and the adequate agricultural extension services incorporated, the area could enjoy their given natural potential leading to improve their living standard and eventually the linkage with other regions of the country will be well built with strengthened people's purchasing capacity of the valuable hill products.

CHAPTER 3 DECENTRALIZATION POLICY AND RURAL DEVELOPMENT

For the effective and efficient use and sustainable operation and management of the capital borne by external resources, consideration on institution/ organization aspects has been emphasized among the donors. In Nepal, having recognized that the development activities whose initiatives were taken by the central government have been inefficient due to the failure of meeting local needs, the government has been emphasizing on decentralization policy since the Eighth Plan (1992-97), namely delegation of the authority, allocation of necessary budget and human resources to the local governance bodies, technical capacity development, and flow of necessary information to them.

Local Governance Act in 1992 and following Local Self Governance Act in 1999 have been enacted in this regard to provide local bodies greater latitude and legal framework for financial and other development responsibilities like sectoral devolution and resource mobilization. The essence of LSGA is a fundamental change in transferring the

comprehensive central decision-making powers and the implementation authority of local level development issues to local bodies, such as Village Development Committee (VDC), Municipalities and District Development Committee (DDC).

This chapter summarizes the prevailing decentralization policy relative to rural development, as it will give direction to the formulation of a development plan that would be especially related in the governance of farmers' association for joint management of irrigation system.

3.1 National Guiding Framework for Decentralized Governance and Poverty Alleviation

A National Guiding Framework for Enhancing Decentralized Governance and Poverty Alleviation Initiatives has been prepared by the Ministry of Local Development and the framework has adopted the following strategies that are 1) Strengthening Decentralization (political and administrative decentralization), 2) Planning Process (Institutionalization of local participatory planning, bottom up planning and monitoring), 3) Strengthening Local Governance (service delivery capacity building of local bodies).

Past experiences, the Framework argues, demonstrate that localized institutional approaches that link capacity building of local bodies to the communities mobilized through partnership arrangements for infrastructure and service delivery can substantially contribute to strengthening democratic governance and poverty alleviation efforts. Yet, this is not possible with the government initiatives alone. It needs other partners and resources. Hence, the Framework concludes that the envisaged future strategies include mechanism for maximum participation of the civil society and development of the decentralization process within the sectoral ministries.

So far there has been major initiatives to strengthen management and planning capacity at the center as well as at almost all the DDCs. 60 districts receive some support under Participatory District Development Program (PDDP), Local Governance Program (LGP). Eight districts get support through District Partnership Program (DPP), two under District Decentralization Advisory Support Unit (DASU), two through Gulmi Argakhanchi Development Program (GARDEP), and three through Rural Development Program (RDP).

Toward further enhancing decentralized governance, the Framework concludes the constraints to overcome as:

- Existing contradictions and inconsistencies among policies, regulations, and acts need to be resolved.
- Legalized and institutionalized Local Development Fund and Community Organizations must be effectively implemented for poverty alleviation efforts.
- The authority and responsibility in revenue collection and sharing between central agencies and the local bodies have to be further clarified.
- Emphasis should be given to decentralization for faster economic growth in association with Poverty Reduction Strategy Paper (PRSP)[4].

[4] PRSP considers three-pronged strategies for poverty alleviation that is broad based growth, social sector

3.2 Policy and Activities of Donors

3.2.1 The World Bank Country Assistance Strategy

The World Bank understands in the Country Assistance Strategy from 1997 – 2001 that local ownership is crucial to success of projects / programs and needs widespread participation, namely if the local bodies had more control, government and donor money could be used much more productively. The Strategy states that at the local level, the poor performance of so many government projects and programs also results more from lack of ownership than lack of money.

Decentralization policy of HMGN is, therefore, considered to be opportunities for much greater responsiveness to local needs. The Bank evaluates that in areas such as forestry, water supply and irrigation, community commitment to locally managed projects has grown to a point where they are proving self-sustaining and many international development agency supported projects are already benefiting from increased local involvement, particularly in forestry, irrigation, roads and rural water supply.

Strategy of the World Bank defined in the Country Assistance Strategy is in accordance with the appreciation of local ownership, namely 1) greater reliance on local stakeholder and private sector participation in project preparation, and 2) closer cooperation among donors to bring about the stronger governance which is needed to reduce waste and mismanagement.

3.2.2 Local Governance Program supported by UNDP

UNDP, in line with the decentralization policy in Nepal, has built Local Governance Program (LGP) since 1996 with the Ministry of Local Development as an executive agency. The program has been implemented in 30 districts including Snnsari district with the purpose of supporting the efforts of government for better local governance, better management of local development and higher impact on poverty reduction.

Development objective of LGP has been set to support the government to empower the people in order to enable them to enlarge choices and opportunities to participate in decisions that affect their lives as well as their capacities to mobilize and channel resources required for poverty alleviation.

To achieve the development objective, LGP also sets three immediate objectives, which are 1) to improve the management of the local development activities through adoption of participatory planning and management methods, which implies a development of planning and management capacity of the local authorities such as DDC and VDC, 2) to support the management of Village Development Program (VDP) by Community Organization (CO) based on the values of social mobilization and self-reliant multi-sector grassroots development, and 3) to strengthen the capabilities of central level agencies, especially the

development, and targeted programs for the backward and vulnerable groups with safety nets. Broad based growth focused on balanced sectoral, regional and spatial development emphasizing the labor-intensive infrastructure projects, which can generate employment to local people facing food insecurity and poverty. Similarly in the public sector basic education, basic health, drinking water and sanitation, agricultural programs have been considered as major priority sector components associated with poverty alleviation.

Ministry of Local Government and National Planning Commission (NPC).

For the improvement of local development activities, strengthening of DDC is the major activity, which consists of management support, establishment of information system (GIS), and Human Resource Development Center. For this purpose, a District Development Advisor and two to four program officers are assigned in DDC. Of them, program officers are going to be transferred from UNDP personnel to DDC staff, as the subsidy for their salary is to be phased out in four years. By this mean, LGP tries for sustainable development.

Under LGP, Village Development Program (VDP) has been also implemented in a participatory manner. The program is implemented with 14 steps of participatory planning process, which climb up from settlement level to VDC, and Ilaka composing two to three VDCs, and to District. For the selected VDC, a social mobilizer is dispatched to form Community Organizations (CO). Through the COs, development activities such as training program, income generation activities, local savings etc. are carried out.

Also Local Trust Fund (LTF) is established under LGP and UNDP supports the fund as well. DDC chairman will serve as the chairman of LTF. LTF gives credit to COs and salaries of program officers in the District and social mobilizer are also paid from LTF. DDC is responsible to contribute 0.2 million Rs per year to LTF and VDC also contributes 50,000 Rs per year to LTF. LTF aims at being a sustainable source for rural development.

CHAPTER 4 THE STUDY AREA

4.1 Demography

4.1.1 Administrative Jurisdiction

Administrative jurisdiction in Nepal is categorized hierarchically from District Development Committee (DDC) – Municipality and Village Development Committee (VDC) – Ward (each VDC is divided into nine Wards). Ward is the smallest administrative recognition. A Ward consists of a few settlements (several groups of household). Border of Ward sometimes separates a settlement to different Wards since the Ward is somehow demarcated by grid pattern. DDC, VDC and Ward are led by elected committee as well as their chairmen. Sunsari district consists of three Municipalities and 49 VDCs, out of which 13 VDCs are included in the Study area.

4.1.2 Population

Total population of the Study area according to year 2001 Census is 97,700 consisting of 50,400 and 47,300 of male and female respectively. The proportion of male and female is thus calculated at 1.00 : 0.94. Total number of households is 16,200 and the average family member per household is calculated at 6.0 per household.

The annual growth rate from 1991 to 2001 is 2.5%, slower growth to the total district of 3.0%. Although the population growth of Sunsari district is relatively rapid due to migration from the hill area, as one of the factors, it seems that the migration movement has not reached influentially to the Study area located southern most part of the district. Indian migration to

Nepal has not taken place for recent years.

In the vicinity of the Study area, there are two significant cities, which are Inarwa, the nearest Municipality to the Study area and Biratnagar, the second biggest city in Nepal. Total populations of Inarwa and Biratnagar in 2001 are 23,200 and 161,000 respectively. These cities are the major link of the economy with the Study area. Table 4.1.1 shows the area and population of the Study area by VDC.

Table 4.1.1 Demography of the Study Area by VDC

VDC/Municipality	Area (ha)		2001 Results of Census					Population	Annual Growth Rate
	Gross	Taxable	No. of HH	Male	Female	Total	Ave. HH	Density (p/km2)	1991-2001 (%)
Sahebganj	1,346.3	1,242.6	643	1,763	1,663	3,426	5.3	254	-2.9
Kaptanganj	1,469.0	1,362.4	1,327	4,253	3,893	8,146	6.1	555	3.0
Dewanganj	373.9	333.9	1,111	3,376	3,122	6,498	5.8	1,738	4.0
Ghuski	1,450.5	1,299.3	1,476	4,845	4,735	9,580	6.5	660	1.9
Rajganj Sinuwari	1,969.1	1,852.7	1,439	4,329	3,922	8,251	5.7	419	2.0
Madhya Harsahi	627.5	589.0	827	2,583	2,318	4,901	5.9	781	2.1
Basantapur	983.0	793.8	753	2,413	2,289	4,702	6.2	478	-1.7
Harinagara	1,089.9	988.8	1,148	3,641	3,397	7,038	6.1	646	1.9
Ramnagar Bhutaha	1,317.0	877.0	1,698	5,684	5,403	11,087	6.5	842	3.3
Jalpapur	599.9	543.2	1,084	2,927	2,754	5,681	5.2	947	2.9
Narsinmha	3,548.9	767.2	2,769	8,943	8,422	17,365	6.3	489	5.2
Gautampur	817.6	768.3	698	1,955	1,828	3,783	5.4	463	1.7
Babiya	1,226.2	1,112.2	1,218	3,716	3,503	7,219	5.9	589	2.7
Total	16,818.8	12,530.4	16,191	50,428	47,249	**97,677**	6.0	581	2.5
Inarwa Municipality	1,392.9	1,274.8	4,497	11,844	11,356	23,200	5.2	1,666	2.3
Biratnagar	5,990.4		33,678	87,664	79,010	161,036	4.8	2,688	2.2
Sunsari District	125,700.0		120,295	315,530	310,103	625,633	5.2	498	3.0

Source: District Development Profile of Nepal (Informal Sector Research & Study Center)
Inarwa Census Office, Result of 2001 Census

4.2 People's Livelihoods

The livelihood of the people in the Study area is studied based on the "Rural Socio-economic Survey" for 202 sample farm households having their own land carried out by the Study Team in July 2002 (hereafter referred as "Rural Socio-economic Survey"), "Household Survey Data Tabulation of Sunsari District", conducted by LGP in 1998 (hereafter referred as "LGP Household Survey", which covered 25% of the total households in the Study area as its sample, and the interviews to relevant government officials, donors, NGO staff and the farmers by the Study Team (Refer to Attachment 5).

4.2.1 Education Status

According to the "LGP Household Survey", 70% of female, 51% of male and totally 60% of the people in the Study area are illiterate. Graduates of primary school and secondary school are 15% and 19% respectively. Disparity of education status by sex increases as the grade goes higher. As the fact of the low literacy rates, there are offices of public letter-writes along the path to the administrative offices like the Land Registration Office. The education status of the "LGP Household Survey" is shown Table 4.2.1 below.

Table 4.2.1 Education Status in the Study Area (% to Sample Population) in 1998

Grade	Female	Male	Total
Illiterate	70	51	60
Primary School	12	18	15
Lower Secondary School	6	11	8
Secondary School	6	12	9
Higher Secondary School	0	1	1
Diploma	0	1	1

There are 171 local NGOs which keep renewing their registration at Sunsari District Administration Office and there are 11 NGOs considered to be somehow active in the Study area and 21 NGOs in Inarwa municipality. People who graduate higher grades and cannot get suitable occupation are likely to engage in NGO activities. NGO is somehow considered to be an occupation of the educated youth in the villages.

4.2.2 Industry

Most of the people in the Study area are engaged in agriculture. Those who earn from agriculture is categorized to land owner, tenant and farm laborer. Women are mostly engaged in agricultural labor. Livestock rearing is also considerable income source by selling milk and meats. Fishery in rivers and fishponds is also a common occupation, especially for those who are landless. According to the population census 2001, 31% of the households in the Study area has some economic activities besides agriculture, livestock and fishery.

Inarwa Municipality

Common industries are small retailer, cart driver, masonry, carpenter, blacksmith, sewing, and trading centered in Inarwa Municipality, north side of the Study Area (shown above picture). A nearby sugarcane factory has employment capacity of 500 people and there are 101 industrial plants and factories along Binatragar – Dharan road[5], which consist of agro-processing, food and snacks, plastic products, soap, paper, fiber, rubber, metal etc

Temporary migration work to India or Arabic countries as well as major cities inside Nepal have also got momentum. According to interviews to farmers in the Study area, some 10% of the villagers in a VDC are going to India or Arabic countries to work. For migrant work in India normally takes five to six months from March.

[5] Inventory Survey by the Study Team in 2002.

4.2.3 Farm Economy

1) Land Holding

According to the Sample Census of Agriculture in 1991/92, majority of the farm households in Sunsari district owns less than 0.5 ha counting 31% of the total sample households and 86% of the farm households have no more than 3 ha. Owners who hold more than 10 ha occupy only 1%. Average size of landholdings per owner in Sunsari district is estimated at 1.5ha. Land holdings are fragmented as the average pieces of plots per owner in Sunsari district is counted at 2.5 pieces.

Turning to the Study area, the result of 2001 population census reveals that the number of household having no farmland reaches to 38% of total households in the Study area (Table 4.2.2). Also a baseline survey, which covered all the households of Kaptanganj VDC carried out in 2001 by LGP, shows that about 40% of the households are landless engaged either in sharecropping or farm labor or other jobs and average land holding size of landowners in Kaptanganj is estimated at 1.4 ha (Refer to Table 4.2.3). Considering the total area (taxable area), total households and adopting share of 38% for landless, average land holding size per landowner in the Study area is estimated at 1.24ha, (or 0.77ha per household including landless).

Table 4.2.2 Number of Household having Agricultural Land, Livestock and Poultry in 2001

VDC/Mun	Total HH.	Agri.Land only	Livestock only	Poultry only	Land and Livestock	Land and Poultry	Livestock and poultry	Land, livestock, poultry	None of all	Without Agri. Land	
										No.	share
Babiya	1,218	84	138	3	443	1	31	145	373	545	45%
Basantapur	753	74	56	4	406	10	17	87	99	176	23%
Dewanganj	1,111	151	85	9	406	11	41	117	291	426	38%
Ghuski	1,476	201	94	25	198	34	75	377	472	666	45%
Gautampur	698	79	84	2	317	1	15	53	147	248	36%
Harinagara	1,148	84	225	13	436	4	38	88	260	536	47%
Jalpapur	1,084	121	29	3	55	8	82	309	477	591	55%
Kaptanganj	1,327	160	148	35	570	22	53	79	260	496	37%
Madhya Harsahi	827	71	99	1	513	3	6	66	68	174	21%
Narsinmha	2,769	259	289	19	1263	15	103	264	557	968	35%
Rajganj Sinuwari	1,439	89	156	7	788	5	59	130	205	427	30%
Ramnagar Bhutaha	1,698	275	101	13	317	33	80	478	401	595	35%
Sahebganj	643	52	70	3	309	7	10	38	154	237	37%
Total	16,191	1,700	1,574	137	6,021	154	610	2,231	3,764	6,085	38%

Source: Population Census 2001

The land holding size ranges from less than 0.5 ha to 20 ha in the Study area, but the majority of the owners are small-scale farmers. The baseline survey in Kaptanganj shows that 63% of the households are either landless (42%) or own less than 0.5 ha (21%) and 86% of households fall in the category of less than 2 ha. Households who own more than 5 ha only occupy 3% of the total households in Kaptanganj. According to a series of field interviews with farmers, the situation in other VDCs would be more or less same.

2) Land Tenure

Land tenure is prevailing in the Study area. According to the sample Census of Agriculture in 1991/92, 29% of households in Sunsari district are engaged in renting lands. Also the baseline survey in Kaptanagnj shows that 14% of landless households (5.7% of total household) are sharecropping tenants. Average renting area per tenant in Kaptanganj is counted at 0.94 ha per household.

Beside the landless households, farmers who have own lands are also renting land for their farming. According to the baseline survey in Kaptanganj, landowners who also rent land are 30% of total landowners (18% of the total households). Landowners, specially having small piece of land are going for renting land. 73% of the owners who also rent lands have less than 1ha of their own land in Kaptanganj. By renting land, the average farming land per household becomes 1.64ha against the average land holding area of 1.37ha (Refer to Table 4.2.3).

Figure 4.2.3 Land Holding and Tenure in Kaptanganj VDC (2001)

Land Holding	Household			Average Farm Land (in ha)							Own + Rent		Food
				Own Land				Tenant	Total	Average			
	family member	No.	%	Self Cultivation	Lease	Total	Average	(Share)	Farming Land	Farming Land	No.	%	Availability (*)
Without Land													
Farm laborer and others	5.1	463	35.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.0	0.0
Sharecropping	6.2	74	5.7	0.00	0.00	0.00	0.00	69.38	69.38	0.94	0	0.0	1.3
With land													
under 0.5 ha	6.2	278	21.5	53.84	1.80	55.63	0.20	77.10	132.73	0.48	91	32.7	1.1
0.5 ha - 1.0 ha	6.1	149	11.5	94.37	2.45	96.83	0.65	48.20	145.03	0.97	60	40.3	2.1
1.0 ha - 2.0 ha	6.3	154	11.9	198.78	10.07	208.85	1.36	34.69	243.54	1.58	41	26.6	2.8
2.0 ha - 3.0 ha	6.6	69	5.3	161.73	1.97	163.70	2.37	12.57	176.27	2.55	14	20.3	3.5
3.0 ha - 4.0ha	7.6	44	3.4	135.58	7.60	143.18	3.25	17.47	160.65	3.65	11	25.0	3.7
4.0 ha - 5.0 ha	6.3	23	1.8	99.02	2.83	101.85	4.43	5.00	106.85	4.65	6	26.1	3.7
5.0 ha - 10.0 ha	8.1	34	2.6	185.94	31.66	217.60	6.40	4.00	221.60	6.52	3	8.8	3.9
10.0 ha and over	9.3	4	0.3	40.00	9.67	49.67	12.42	0.00	49.67	12.42	0	0.0	4.0
Total(Average) with land	6.4	755	58.4	969.26	68.05	1,037.31	1.37	199.02	1,236.33	1.64	226	29.9	2.2
Grand Total(Average)	5.9	1,292	100.0	969.26	68.05	1,037.31	0.80	268.41	1,305.71	1.01	226	17.5	1.4

Food Availability = 1= - 3months
(*) see 3) Food Security 2= 3-6months
3= 6-9months
4= 9-12months

Source: LGP (DPCP) Baseline Survey 2001

Major tenant system in the Study area is share cropping. Landowner and the tenant share the output by 50: 50. According to the field survey, landowners in the Study area normally share the input as well with 50: 50 except for labor, of which the tenant takes care. There are also some landowners who do not share the inputs but loan them to the tenant. They take interest for the loaned inputs from the tenant.

In Sunsari district, there are other types of tenancy such as fixed rate in cash or in kind. According to the sample census of agriculture in 1991/92, of the total tenants, 63% were in form of sharecropping and 23% for fixed rate in kind, 7% for fixed rate in cash and 7% for other arrangements.

SMIP stage III study finalized in 1995 also reported that about 36% of the total area of 46,000 ha covering Suksena canal command area in its part is cultivated by tenant farmers, 70% of whom are sharecropper dividing the produce 50: 50 with landlord. In SMIP stage III area, it is reported that generally owners pay for expenditure for seed and manure. The tenants are, however, found initially bearing such expenditure and getting 11% of total output in owner's share as compensation. In this case, tenant receives 61% and the owner gets 39% of the share in total output.

SMIP stage III study also reports on the tenancy with fixed rate, describing that about 26% of around 900 sample households are sharing of crop produced in fixed quantity. The quantity of seasonal crop (generally paddy) paid to the owner is found as 681kg/ha on average.

It is also reported that tenants paying cash to the owner are very rare as counted only 4% of the sample households in SMIP stage III area. The amount of fixed rate in cash, according to the study, was 1,200Rs to 1,500Rs per ha per year depending on the soil conditions of the farm. However, during the field interviews in the Study area, the Study team has only met a tenant in Rajganj Sinuwari (midstream reaches of the Study area), who goes with fixed rate either in kind (Rate is 1,190kg/ha/year).

In general, as crop yield becomes stable, owners and tenants are more likely to contract the rent with fixed rate, while the sharecropping is found in the area with unstable crop yield. Sharecropping system functions in such area as sharing of risks between owners and tenants. It could be confirmed, from such view, that the Study area is indeed located in the area of unstable crop production.

3) Income and Expenditure

Table 4.2.4 summarizes a feature of income and expenditure status of the farm household according to their farm size, based on the result of "Rural Socio-economic Survey". In "Rural Socio-economic Survey", the sample households were selected from the ones having own land and distributed as equal number as possible according to the farm size. Therefore, the sample households include much higher share of large-scale farm households against the actual share of large-scale of farm households in the total households in the Study area. Also the landless households are not included in the sample.

On condition that, the results of "Rural Socio-economic Survey" would indicate more apt for the structural difference of household economy by farm size, as compared to "LGP Household Survey" shown in Table 4.2.6. But the amount of other income obtained by "Rural Socio-economic Survey" is considerably higher than the result of "LGP Household Survey". It could be said that "LGP Household Survey" would have included poorer samples in their survey than "Rural Socio-economic Survey", since their target was directly poverty alleviation.

It is estimated that average household net incomes including self-consumption of agricultural produce for the households with 0.03 to 0.4ha, 0.45 to 0.9ha, 0.9ha to 1.8ha, 1.8 to 3.0ha and 3.0 to 14.0ha are 56,700Rs (9,500Rs/capita), 48,000Rs (8,100Rs/capita), 66,300Rs (10,300Rs/capita), 78,800Rs (11,300Rs/capita) and 149,800Rs (21,400Rs/capita), of which the shares of income from agriculture are 22%, 42%, 49%, 51% and 62% respectively.

As indicated that the households who own less farmland are getting more income from other income sources including farm labor. As well as relying on other income source, the households with less farmland cultivate their lands more intensively than the large-scale farm households, as the farm size gets bigger, the cropping intensity shows decreasing tendency. Accordingly the agricultural productivity measured in gross value of output is higher in small-scale farm households.

Some part of agriculture and livestock produce is self-consumed in practice and therefore, the income in cash basis is less than the value they harvest. Amounts of cash income estimated are 48,200Rs, 30,000Rs, 43,200Rs, 53,600Rs and 116,900Rs respectively for the households

of 0.03 to 0.4ha, 0.45 to 0.9ha, 0.9 to 1.8ha, 1.8 to 3.0ha and 3.0 to 14.0ha. Compared to the cash expenditure, the sample households on average could have some savings in the last year.

Table 4.2.4 Income and Expenditure by Farm Size in the Study Area

Farm size		0.03 – 0.4ha	0.45 – 0.9ha	0.9 – 1.8ha	1.8 – 3.0ha	3.0 – 14.0ha
Sample		28	53	51	41	29
Ave. size	Family	6.0	5.9	6.4	7.0	7.0
	Farm (ha)	0.213	0.753	1.587	2.541	5.331
Cropping intensity	(%)	196	166	163	175	153
Agriculture						
Gross income (value)	(Rs/yr)	21,943	42,394	71,640	100,281	214,614
Input expenditure	(Rs/yr)	9,404	22,039	39,111	60,090	121,116
	(% to Gross)	(43)	(52)	(55)	(60)	(56)
Net income (value)	(Rs/yr)	12,539	20,355	32,529	40,191	93,498
Self-consumption	(Rs/yr)	6,686	15,729	20,511	23,154	30,191
	(% to Net)	(53)	(77)	(63)	(58)	(32)
Net income (Cash)	(Rs/yr)	5,853	4,626	12,018	17,037	63,307
Livestock						
Gross income (value)	(Rs/yr)	5,505	6,920	6,995	7,259	9,501
Input expenditure	(Rs/yr)	650	1,015	1,480	1,620	2,786
	(% to Gross)	(12)	(15)	(21)	(22)	(29)
Net income (value)	(Rs/yr)	4,855	5,905	5,515	5,639	6,715
Self-consumption	(Rs/yr)	1,847	2,165	2,659	2,015	2,623
	(% to Net)	(38)	(37)	(48)	(36)	(39)
Net income (Cash)	(Rs/yr)	3,008	3,740	2,856	3,624	4,092
Other income (Cash)	(Rs/yr)	39,314	21,698	28,287	32,958	49,542
Total net income (value)	(Rs/yr)	56,708	47,958	66,331	78,788	149,755
	(per capita)	(9,451)	(8,128)	(10,364)	(11,255)	(21,394)
	(% of agr.)	(22)	(42)	(49)	(51)	(62)
Total cash income	(Rs/yr)	48,175	30,064	43,161	53,619	116,941
	(per capita)	(8,029)	(5,096)	(6,744)	(7,660)	(16,706)
	(% of agr.)	(12)	(15)	(28)	(32)	(54)
Total cash expenditure	(Rs/yr)	32,673	28,762	33,139	48,893	75,820
Balance	(Rs/yr)	15,502	1,302	10,022	4,726	41,121
Gross agri. income/ha	*(Rs/ha)*	*103,019*	*56,300*	*45,142*	*39,465*	*40,258*

Source: Rural Socio-economic Survey by the Study Team in 2002

Expenditure by item is shown in Table 4.2.5. Food expenditure including self-consumption occupies the highest share in the total expenditure and the share is higher for the smaller-scale farm households. The shares of food expenditure for 0.03 to 0.4ha, 0.45 to 0.9ha, 0.9 to 1.8ha, 1.8 to 3.0ha and 3.0 to 14.0ha are 58%, 55%, 50%, 42%, and 39% respectively. Expenditure for clothes occupies the second highest share for most of the class with 12 to 13%. Larger-scale farm households have tendency to get higher amount of credit or it could be said that they could have better access to credit than the small-scale farm households. Education expenditure is spent much more in the larger-scale farm households.

Table 4.2.5 Household Expenditure by Farm Size

Farm size	0.03 – 0.4ha		0.45 – 0.9ha		0.9 – 1.8ha		1.8 – 3.0ha		3.0 – 14.0ha	
Sample	28		53		51		41		29	
Ave. Family size	6.0		5.9		6.4		7.0		7.0	
Education	1,875	(4)	2,074	(4)	2,695	(5)	6,370	(9)	6,359	(6)
Food (self consumption)	*13,693*	*(30)*	*19,235*	*(40)*	*21,100*	*(39)*	*25,676*	*(34)*	*26,724*	*(26)*
Food (purchase)	12,940	(28)	6,974	(15)	5,967	(11)	6,232	(8)	13,367	(13)
Medication	4,143	(9)	4,032	(8)	4,121	(8)	7,073	(9)	7,569	(7)
Tax	70	(0)	149	(0)	337	(1)	527	(1)	904	(1)
Energy	141	(0)	59	(0)	153	(0)	205	(0)	579	(1)
Repayment of Credit	2,484	(5)	3,785	(8)	6,671	(12)	8,706	(12)	16,652	(16)
Religious Event	3,018	(7)	3,830	(8)	4,788	(9)	4,617	(6)	7,017	(7)
Clothes	6,143	(13)	6,255	(13)	6,785	(13)	9,402	(13)	12,655	(12)
Water Fee	2	(0)	95	(0)	37	(0)	29	(0)	110	(0)
Others	1,857	(4)	1,509	(3)	1,585	(3)	5,732	(8)	10,607	(10)
Total Expenditure	46,366	(100)	47,997	(100)	54,239	(100)	74,569	(100)	102,543	(100)
Total Expenditure in Cash	32,673		28,762		33,139		48,893		75,819	

Source: Rural Socio-economic Survey by the Study Team in 2002

According to the "LGP household survey", average income per household is estimated at 15,800 Rs per year, of which 5,000 Rs is born from agriculture. Considering the results of the "Rural Socio-economic Survey", the samples of "LGP Household Survey" would have been focused on small-scale farmers or poorer households. The amount of other income is also found to be much little in "LGP Household Survey" than the result of "Rural Socio-economic Survey". Table 4.2.6 shows the household income by VDC.

Table 4.2.6 Annual Average Income per Household in 13 VDCs in 1998

VDC/Municipality	Annual Income (Total Sample)				Average Annual Income per Household (Rs)				
	Agricultural Crops	Livestocks	Others like employment	Total	Households	Agricultural Crops	Livestocks	Others like employment	Total
Sahebganj	368,575	46,164	341,325	756,064	156	2,363	296	2,188	4,847
Kaptanganj	1,414,665	200,875	1,105,800	2,721,340	152	9,307	1,322	7,275	17,904
Dewanganj	419,700	442,566	3,249,095	4,111,361	309	1,358	1,432	10,515	13,305
Ghuski	366,400	632,850	4,528,800	5,528,050	386	949	1,640	11,733	14,321
Rajganj Sinuwari	1,975,550	781,900	859,700	3,617,150	208	9,498	3,759	4,133	17,390
Madhya Harsahi	789,950	306,020	1,148,231	2,244,201	167	4,730	1,832	6,876	13,438
Basantapur	364,723	61,450	673,861	1,100,034	139	2,624	442	4,848	7,914
Downstream	5,699,563	2,471,825	11,906,812	20,078,200	1,517	3,757	1,629	7,849	13,235
Harinagara	758,700	170,410	4,937,001	5,866,111	292	2,598	584	16,908	20,089
Ramnagar Bhutaha	915,495	59,425	2,178,550	3,153,470	227	4,033	262	9,597	13,892
Jalpapur	430,400	770,854	1,156,102	2,357,356	269	1,600	2,866	4,298	8,763
Narsimha	4,182,700	503,500	4,183,702	8,869,902	400	10,457	1,259	10,459	22,175
Gautampur	1,243,400	315,145	645,500	2,204,045	129	9,639	2,443	5,004	17,086
Babiya	1,606,020	80,400	3,310,603	4,997,023	164	9,793	490	20,187	30,470
Upstream	9,136,715	1,899,734	16,411,458	27,447,907	1,481	6,169	1,283	11,081	18,533
Study Area Total	14,836,278	4,371,559	28,318,270	47,526,107	2,998	4,949	1,458	9,446	15,853
Share (%)	31	9	60	100		31	9	60	100

Source: Local Governance Program Sample Household Data Tabulation 1998

Other fact is that the average income per household of VDCs located downstream is lower than that of VDCs located upstream. As the Table 4.2.7 shows, the average income per household of VDCs in downstream reaches and upstream reaches are 18,500Rs and 13,200Rs respectively, indicating economic disparity rooted in their geographical conditions.

3) Food Security

According to "LGP Household Survey" in 1998, 53% of households answered that they live with inadequate food for more than nine months. The word "Inadequate" in this survey is defined that household who cannot support their food from their own farmland. So the meaning of inadequate rather indicates self-sufficiency at household level. As the Table 4.2.7 shows, the areas much constrained with food supply are not always located in the downstream reaches of the Study area, where it is envisaged the water shortage for agriculture should be much more than the upstream reaches. In this sense, the inadequate food supply at household level may be more correlated to the size of land holdings.

Table 4.2.7 Households having inadequate food (self-insufficiency) in 1998

VDC/Municipality	No. of Families having inadequate food					% of Families having inadequate food			
	Up to 3 months	Up to 6 months	Up to 9 months	More than 9 months	Total	Up to 3 months	Up to 6 months	Up to 9 months	More than 9 months
Sahebganj	25	68	16	38	147	17	46	11	26
Kaptanganj	21	43	4	81	149	14	29	3	54
Dewanganj	13	45	17	194	269	5	17	6	72
Ghuski	12	86	67	216	381	3	23	18	57
Rajganj Sinuwari	11	84	9	169	273	4	31	3	62
Madhya Harsahi	25	77	62	16	180	14	43	34	9
Basantapur	9	30	20	85	144	6	21	14	59
Harinagara	28	77	28	82	215	13	36	13	38
Ramnagar Bhutaha	43	84	37	245	409	11	21	9	60
Jalpapur	5	40	3	187	235	2	17	1	80
Narsimha	113	169	35	156	473	24	36	7	33
Gautampur	22	31	9	47	109	20	28	8	43
Babiya	1	17	13	170	201	0	8	6	85
Study Area Total	328	851	320	1,686	3,185	10	27	10	53

Source: Local Governance Program Sampl Household Data Tabulation 1998

Aforementioned Table 4.2.3 shows the food availability of a household according to farming size. On the right hand edge of the table indicates the food availability throughout a year. If the rate is 4, it means food are available for more than 9 months from their own land. The data indicates that households who has less than 2 ha of farmland can secure food for not more than half of a year from their own land and 63% of the total households (less than 0.5 ha of land holdings) cannot supply food even for 3 months from their own land. This data in Kaptanganj is relatively correspondent to the "LGP household survey".

4.2.4 Household Assets

Physical wealth of people in the Study area is envisaged from their assets. According to the "LGP Household Survey", people's assets are summarized as follows:

Item	Description
- Type of roof:	About 80% and 15% of households use straws and plain iron sheet for roofing respectively.
- Toilet:	99% of the households do not have toilet in their house.
- Drinking Water:	Almost 100% of people get drinking water from well or tube well.
- Fuel for cooking:	86% of the households use dried cowdung as fuel for cooking and 34% use firewood. Some households are using both cowdung and firewood. Only 1% of the households use kerosene as fuel for cooking.

- Light: Main source of light is kerosene for almost all the households. Although electrical infrastructure has been on progress in the Study area, still very few people access to the electricity.
- Other assets: Households having radio, TV set, bicycle, motorbike, and thresher are 23%, 2%, 43%, 1%, and 2% respectively. Households who own tractor are less than 1% according to the survey. It was observed that at least 20 tractors exist in the Study area.

4.2.5 Savings and Finance

There are several sources of finance for the people in the Study area, that are ADBN, LTF by LGP, local moneylenders etc.

1) ADBN

ADBN is a major public financial source of the Study area. Three branch and sub-branch offices of Inarwa, Harinagara, and Laukahl cover the Study area. The performance of ADBN in the Study area is as following Table 4.2.8. Total repayment rate in the Study area is counted at 69%, fairly better, compared to overall ADBN performance.

Table 4.2.8 Credit Flow and Repayment of ADBN in 2001

VDC	Total no. of outstanding loans	Total Household	%	Amount of out standing loans(in'000)	Rs/HH	No. of over due loans	%	Amount of overdue loans(in' 000)	%
Babiya	258	1,224	21	11,442.0	44,349	66	26	1,479.0	13
Jalpapur	89	1,093	8	3,030.0	34,045	18	20	348.0	11
Narshimha	581	2,770	21	15,195.0	26,153	304	52	8,217.0	54
Dewanganj	109	1,101	10	983.6	9,024	NA		45.6	5
Gautampur	186	700	27	368.0	1,978	NA		123.2	33
Ghuski	282	1,482	19	358.0	1,270	NA		144.0	40
Harinagara	266	1,142	23	725.0	2,726	NA		403.2	56
Kaptanganj	157	1,328	12	543.5	3,462	NA		145.8	27
Madhya harsai	107	824	13	167.1	1,562	NA		36.5	22
Rajganj Sinwari	249	1,435	17	3,849.2	15,459	NA		505.1	13
Ramnagar Butaha	224	1,703	13	2,355.5	10,516	NA		576.7	24
Sahebganj	110	641	17	798.3	7,257	NA		563.0	71
Basantpur	105	744	14	485.7	4,626	NA		27.1	6
Total	2,723	16,187	17	40,300.9	14,800			12,614.2	31

Source: ADBN, Inarwa, Harinagara, Laukahl

2) Other Financial Resources

There are other sources of finance like Rural Development Bank and private local lenders (merchant). Also landowners sometimes lend money for purchasing inputs to their tenants. Interest of local lender can reach 50% to 60% per year vulnerable to the borrower. According to the baseline survey in Kaptanganj, there are several sources of finance as shown in Table 4.2.9. 56% of the total households have got loan from several financial sources, of which 75% are borrowing money from local lenders. ADBN occupies only 20% of those who got loan. It is indicated that small scale farmers have difficulty to access public loan due to lack of collateral.

Table 4.2.9 Source of Finance in Kaptanganj VDC (2001)

Loan Borrowed	No.	%	
Rural Bank	25	3.4	1.9
Women Development Bank	0	0.0	0.0
Other Bank	8	1.1	0.6
Merchant	549	75.3	42.2
Other	5	0.7	0.4
ADBN	142	19.5	10.9
Total	729	100.0	56.0
Total Household	1,301	-	100.0

Source: Household Survey Data by LGP in 1998

3) Local Trust Fund (LTF)

LTF has been established as a part of LGP component since 1997 (See Chapter 3 for detail explanation on LTF). However, not everybody can access to the LTF, since LGP has implemented only in five VDCs in Sunsari district, out of which only Narshmha VDC is included in the Study area. Total credit capital flow of LTF is 6.77 million Rs, or 753Rs/capita (CO member) so far. Now Village Development Program (VDP) under LGP is going to implement in Kaptanaganj VDC, so as the participants to LTF will be increased.

4.3 Infrastructure, Marketing and Agro-industry

4.3.1 Marketing

Subsistence agriculture is still prevailing in the Study area as around 60% of the agricultural produce is self-consumed according to "Rural Socio-economic Survey". Anyhow, some surplus and the produce of relatively large-scale farmers are sold at local markets such as Dewanganj, or Harinagara in the Study area. Inarwa Municipality and a few small towns in the east side up to Biratnagar are also the major markets of the agricultural produce. Another significant markets are located in Indian side and farmers near the border are transporting their products by bicycle or on foot.

Farmers are mostly individually going to market to sell their produce. They use bicycle, cattle cart and tractor. Those who do not have tractor can rent the tractor, which costs 1,000 to 1,200Rs/trip to Inarwa from downstream reaches of the Study area. There are also middlemen coming in for purchasing the produce. Collective marketing activity is not observed active.

There is a market yard for wholesale along E-W highway in the northern Inarwa municipality. The market is open for five days a week. Traders gather not only from the vicinity area but also from Dharan, 40 km north of Inarwa or from Jhapa District and during winter season, even traders based in Kathmandu are coming to the market. Farmers in the southern most part of the Study area like Dewanganj are bringing their products by bicycle or other mean.

Market price of crop, especially vegetables, varies in wide range by season. Figure 4.3.1 shows the monthly market price of major crops. The facts that there had not been large adequate storage and farmers' urgent need of cash for repayment of loan forced farmers to sell their produce careless with the market situation.

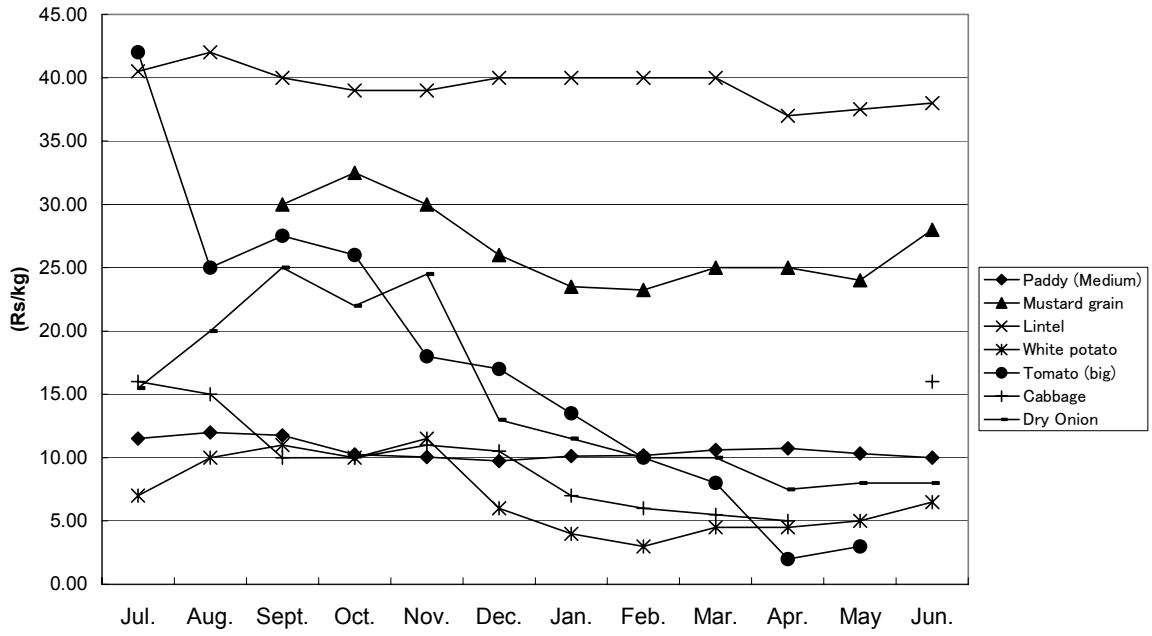


Figure 4.3.1 Monthly Market Price by Crop in 2000/01

4.3.2 Marketing Infrastructure

There is a major trunk road running north-south, north part of which are paved. Road along the Suksena and Shankarpur canals are also in good condition and there are three roads in east-west direction between Biratnagar and the Study area, apart from E-W highway, that are connected at Inarwa, Harinagara and Dewanganji. Through the trunk road running through the center of the Study area, public bus is available. There are three trips between Dewanganji and Inarwa and two trips between Biratnagar and Dewanganji. The cost is 25Rs per trip for each bus rute.

Road condition in the northern part, the eastern part and along the trunk road at the center of the Study area is relatively maintained and there is no major difficulties to transport agriculture produce by this road network. However, the western part of the Study area such as Basantapur, Ghuski is in poorer road condition.

In this year of 2002, a vegetable collection center was constructed by the Marketing Directorate of the Department of Agriculture in Kaptanganj, southern location of the Study area. This collection center was constructed to attract traders to come into the area to purchase agricultural products so that the farmers in the area can save the transport cost and sell the products more collectively. So far, the management board of the center has not been identified and the aim of the center has not been realized yet. The section of the trunk road between Ramnagar Bhutaha and the collection center, which is around 9 km long, has not paved yet. If the road up to the collection center were paved, it would be an encouraging factor for traders to come to the center.

There is a cold storage in Inarwa, which started operating in 2001 and the whole facility is

going to be completed in this year 2002. The storage is owned by private sector and has mainly targeted to preserve potatoes produced in the southern part of Sunsari district, which includes Kaptanganj and Dewanganj of the Study area, as well. The capacity of the cold storage is 2,000t/year, which can cover 100ha to 200ha of potato crop area. The cost for storage of potato is 3Rs/kg. The price of potato becomes three times in off-season from the rock-bottom price. Therefore, 3Rs/kg of storage cost will be acceptable for potato growers.

Now they are, as the countrywide cold storage association, talking to ADBN to give more loans for potato growers and recommend them to preserve the produce in the cold storage. By keeping the produce until the market price becomes higher, farmers can get high benefit and return the loan to ADBN easily. Hence the demand of the cold storage and ADBN aiming to achieve high repayment ratio will meet.

4.3.3 Agro-Processing

Significant existing agro-processing relative to the Study area is four jute-processing factories seven rice mills, three flour mills and four vegetable oil refining factories along Biratnagar – Dharan road[6]. There are two sugar mills around the Study area. Jute processing has been a traditional agro-industry in the region. However, jute products are getting out of date, substituted by chemical products.

As for sugar processing, there is a large-scale sugar factory right eastern side of the Study area. The factory is established by private sector in 1997 and has processing capacity of 250,000t/year, which is the biggest magnitude in the whole eastern region. However, their actual operation is so low as the operation ratio of the first year was 50% and the ratio has been decreasing as they estimate the operation ratio in this year would be only 25%.

The factory management section evaluates the current status that the farmers are not interested in growing sugarcane, as it is not comparatively profitable. On the other hand it is pointed out that the purchasing price of sugarcane by the factory may not be high enough (132Rs/100kg at mill gate price or 122Rs/100kg at farm gate price) and the extension services by the factory is not intensive as they just facilitate farmers to get loan from ADBN, not being a form of contract basis cropping, indicative to be less care for farmers by the factory.

For milling rice and wheat, which are major crops in the Study area, some farmers in the villages own small-scale milling machine and they possibly cover the demand of milling in the Study area. Rice and wheat for sale are transported to the above mills. Rice and wheat milling cost in the Study area is about 35Rs/100kg.

4.4 Relation with India

South and West borders of the Study area are demarcated by national boundary of India. Major language of the people there is common with Indian dialectic. The villages near the Indian border in fact have strong connection with Indian side. They go to buy or sell vegetables to the towns (Phulka, Jogbani, and Basmatia) in India and buy fertilizers, as well. People are almost freely crossing the national border.

[6] Inventory Survey by the Study Team in 2002

There is a custom office in Kaptanganj, south edge of the Study area. There used to be another custom offices in Ghuski and Basantapur, which are located in the southwest and west edges of the Study area respectively, but these offices have been abandoned. The custom is regulating the traders crossing the national border by truck or tractors. However, they cannot stop the residents crossing the border with their vegetables for sale by bicycle or on foot.

Exports are dominated from Indian side. Export from Nepal side is insignificant, since there are no particular goods to export there. According to the record of the custom office in Kaptanganj, value of export and import in October-November 2001 was 21,000Rs and 435,000Rs respectively (Refer to Attachment 6).

Individual farmers are transporting their vegetables by bicycle. By bicycle, they can transport about 70 to 80kg of vegetables such as green peas and cauliflowers at one time. The price in Indian market is expectedly 2Rs to 3Rs/kg higher than the price in Nepal market, giving them around 140 to 240Rs per bicycle-load, which is equivalent to two to three days of farm labor wage. Subsidy to fertilizers in India is to be abolished and though the fertilizers still cheap from India, the quality is often less.

Farmer carrying Pea to sell in India

Due to security problem (Maoist insurgency in Nepal), now the border guarding has been so strict that the official trading at the point of Kaptanganj custom has been suspended since January 2002. All the trucks to export goods to Nepal found in Indian side have been stopped by the Indian police. Also farmers transporting fertilizers from India by bicycle has now been risky to be stopped by police. They are often, therefore, transporting fertilizers at night. Although India is traditionally of the economic block for the Nepalese living near the border, the national border can be an iron curtain to shut all the transactions, due to security issue.

4.5 Concerned Government Offices and Activities

4.5.1 District Development Committee

1) Structure and Staff

Local government has been strengthened in line with the decentralization policy as mentioned in Chapter 3. District Development Committee (DDC) is a local body administrated by 32 to 34 elected committee members and national government officials dispatched from the Ministry of Local Development. The members of the DDC are elected based on Iraka, which is a group of two to three VDCs and Municipalities run by their representatives. There are four national government officers posted in Sunsari district and they serve as executive chief and secretary to the DDC.

DDC of Sunsari is structured with seven departments and three committees that are Planning and Subsidy Department, Technical Department, Auditing Department, Account Department,

Administration Department, Registration Department, Cash Department, Tax Registration and Case Department, Agriculture, Forestry and Environment Committee, Population and Social Development Committee and Information Investigation Committee. The total number of the staff in 2001/02 counts 55. Table 4.5.1 shows the number of staff by assigned department.

Table 4.5.1 Number of Staff in the DDC of Sunsari District (2001/02)

Department / Committee	No. of Staff	Remark
Dispatched from Government	4	Their title is Local Development Officer, Project Officer, engineer, and overseer of Technical Dept.
Planning and Subsidy Dept.	3	
Technical Dept.	14	4 overseers, 8 assistant overseers
Auditing Dept.	2	
Accounting Dept.	2	
Administration Dept.	9	
Registration Dept.	2	
Cash Dept.	2	
Tax Registration and Case Dept.	3	1 lawyer
Agri., Forest and Environment Committee	1	
Population and Social Development Committee	1	
Information Investigation Committee	1	
Other	11	Peon
Total	55	

Apart form these staff at the head quarter of the DDC, the offices of line agencies like District Agriculture Development Office, Livestock Service Office, Small Cottage Industry Office, Education Office, Women Development Office, Eastern Regional Road Division, District Drinking Water Office, District Irrigation Office etc. are stationed in the district.

2) Budget

Revenue of the DDC consists of subsidy from national government and internal fund such as taxes and administration charges. The subsidy is composed of Social Safety Fund, Election Constituency Development Program, Agricultural Road, and Local Trust Fund of LGP etc. Annual revenue of the DDC in 1999/00 (actual), 2000/01 (proposed) and 2001/02 (estimated) are 60.9million Rs, 85.3million Rs and 89.4million Rs respectively, of which the shares of internal fund in respective years counted 17%, 36% and 33%. Expenditure of the DDC is divided into administrative budget and development budget. The share of the development budgets in recent three years counted around 80% of the total expenditure. Table 4.5.2 shows the budget structure of the DDC and the detail of the budget allocation and source of internal fund is attached in Attachment 7.

Table 4.5.2 Budget Status of Sunari DDC

Year	Particular		Revenue (Rs)	%	Expenditure (Rs)		Balance
1999/00	Internal Fund	Administrative Budget			8,506,942	14	
		Development Budget			1,887,611	3	
		Sub-total	10,394,553	17	10,394,553	17	0
	Subsidy	Administrative Budget			3,974,267	7	
		Development Budget			46,597,237	76	
		Sub-total	50,531,504	83	50,571,504	83	-40,000
	Total		60,926,057	100	60,966,057	100	-40,000
2000/01 (Proposed)	Internal Fund	Administrative Budget			11,602,404	14	
		Development Budget			19,394,724	22	
		Sub-total	30,997,128	36	30,997,128	36	0
	Subsidy	Administrative Budget			3,797,567	5	
		Development Budget			50,532,183	59	
		Sub-total	54,329,750	64	54,329,750	64	0
	Total		85,326,878	100	85,326,878	100	0
2001/02 (Estimated)	Internal Fund	Administrative Budget			10,125,000	11	
		Development Budget			19,394,723	22	
		Sub-total	29,519,723	33	29,519,723	33	0
	Subsidy	Administrative Budget			4,260,000	5	
		Development Budget			55,617,000	62	
		Sub-total	59,877,000	67	59,877,000	67	0
	Total		89,396,723	100	89,396,723	100	0

Source: Sunsari District Development Committee Annual Report 2001/02

3) Sunsari District Development Plan

Sunsari DDC has prepared a seven years periodic development plan from 2001 to 2006. The concept of the long term planning at district level was first mooted during 8th five-year plan but periodic and integrated district development plan was started after Local Self Governance Act (LSGA) in 1998/99 came into effect. Out of many methods of periodic planning, a commonly used method is the logical frame method and this development plan is based on this method. Participatory workshops at different levels were conducted to formulate the plan.

The Development Plan has identified the challenges and opportunities of the District in order to formulate the plan. Following are the challenges and opportunities identified:

Challenges

- Geographical diversity and regional imbalance
- Socio-economic disparity and poverty
- Flood
- Unemployment due to increase in population and migration
- Open Border with India
- Encroachment of forest
- Weak development management

Opportunities

- Fertile and productive soil
- Tourism
- Industry

- Trade

As for agriculture sector, with the objective of increasing production as well as productivity of agricultural and livestock products, the plan has set targets as to increase present annual growth rate of agricultural production from 5% to 6% and to increase present annual growth rate of livestock production from 3.5% to 4%. To achieve the targets, the plan formulated a strategy of agriculture sector with the following activities:

- Organization of farmer groups
- Updating of training courses
- Regular interaction between technicians and farmer groups
- To organize refresher trainings for trained farmers and technicians.
- To arrange for supervision and monitoring of ongoing irrigation projects by all party committee
- To develop a system of transparency for investment
- To organize phase wise program to enhance the capabilities of WUA
- To conduct seed multiplication program among the farmers and help them in marketing management
- To start farmers school to disseminate latest technologies to the farmers.
- To develop infrastructures for Agricultural development as per the APP

These activities will be carried out in corporation with the on-going and presumed irrigation projects in Sunsari district, which are Sunsari Morang Irrigation Project (SMIP), Sector irrigation project, Chanda Mohana Irrigation project, and Sunsari river irrigation project, namely the target of this Study.

4.5.2 VDC and Municipality

Sunsari district run by the DDC is juristically divided into 49 Village Development Committees (VDC) and three Municipalities. VDC and Municipalities are also the local bodies overseen by the DDC. Since there is no Municipality situated in the Study area, we mainly discuss VDC. VDC consists of 11 elected committee members. As mentioned above, each VDC is divided by nine Wards, the minimum administrative recognition and the Ward is managed by Ward Development Committee consisting of four committee members and the chairman. VDC is formed by the nine Ward chairmen and the president and vise president.

VDC can reserve 75% of land tax and around 500,000Rs per year is disbursed from the Central Government as Development Grant. This budgetary system has just started in line with the decentralization or local self-governance policy. Land tax rate is so small as 5Rs per year for the landowners holding less than 1ha and 6.8Rs/year for landowners holding from 1 to 2 ha, who are the majority of the farm households in the Study area. Therefore, the land tax revenue is not so significant. Land tax revenue of 13 VDCs in the Study area in 1999/00 was from 2,700Rs to 40,300Rs according to their scale of jurisdiction.

Necessary projects in VDCs are implemented by DDC. Projects or program are implemented under the name of village aid program, for which the subsidy from central

government is spared. In fiscal year 2000/01, 225,000Rs of the subsidy was sanctioned for 13 VDCs of the Sutdy area, which is only 4% of the total subsidy of 54 million Rs for the year, though the population in the Study area occupy 16% of the district. Village Aid Program composes road improvement, building school compound, building temple, etc.

4.5.3 ADBN

Agriculture Development Bank of Nepal is a major financial body in the rural area. There are a branch and two sub-branches of ADBN covering the VDCs located in the Study area, namely Inarwa, Harinagara and Lukaus. Most of the VDCs (9 VDCs) are covered by Harinagara sub-branches and Jalpur and Babiya are covered by Inarwa branch and Narshimha VDC is covered by Laukahi sub-branch, which recently separated from Inarwa branch.

They have credit facilities for cereals, agro-industry, equipment, livestock, small cottage, bio-gas, horticulture, fishery etc. Each loan has different conditions in interest and repayment duration. Interest rate is 15% for short-term loan and 16% for other loan. Those who pay the interest monthly, they get 10% discount of the interest. Collateral is mainly lands and houses. There is a kind of loan without collateral for those who have skill, trained by the Department of Cottage Industry. They can borrow up to 5,000Rs without collateral.

Basically the loan is of individual but ADBN has made special programs of group loan like Small Farmer Development Program (SFDP), Women Development Program, Micro Enterprise Development Program (UNDP supported lending program). SFDP supports group activity by lending to the group and the group is targeted to become a cooperative. When the group becomes a cooperative, ADBN will withdraw the support. (SFDP covers landless by group loan without collateral.). They also look after the lending part of MEDEP and women development program of HMG/N.

The repayment performance of ADBN is not very good as mentioned in section 4.2.5. Collaterals of 20 to 30 farmers are auctioned every year. (In Harinagara branch there was only one farmer whose collateral was auctioned last year.). Repayment rate is 53% for Inarwa Branch and 61% for Harinagara branch. Earlier it used to be even lower but after launching of their phase wise reform programs there has been some improvement. To come over the problem of high liquidity, some of their branches in urban areas are functioning as any other commercial bank and their branches in sub-urban and rural areas still function as development bank.

4.6 Donors and NGO Activities

4.6.1 LGP (UNDP)

1) LGP in Sunsari District

Sunsari district is one of the 30 districts implementing Local Governance Program (LGP) assisted by UNDP. To support DDC strengthening, three program officers (Agronomist, Social Development, Women and children care) have been hired in Sunsari DDC. It has been four years since they were hired and now the DDC pays 100% of their Salary.

Village Development Program (VDP) has been initially implemented in five VDCs since July 1997 and in this fiscal year additional five VDCs started implementing VDP under the support of UNDP and also the DDC by themselves started planning to implement VDP in six VDCs. In total, 16 VDPs are on going or on planning in Sunsari.

VDP consists of 1) saving scheme, 2) skill development and 3) organization development. To implement VDP, Community Organization (CO) is organized with more than 80% of households in a settlement supported by a social mobilizer dispatched by the LGP. Now there are 314 COs with 9,000 members in Sunsari district (30 households per CO on average). They categorize the COs into mature group, moderate group and new group and mature groups will be given maturity certificate to encourage them. Currently about 170 COs, which counts 54% of the total COs, are evaluated as mature groups in Sunsari district. Matured groups have prepared training lists and enterprise development plan.

Local Trust Fund (LTF) to be a source of development fund has been established in the DDC. The DDC and VDCs provide 200,000Rs and 50,000Rs every year respectively and UNDP has provided 10 million Rs since 1997. UNDP has dispatched a District Development Advisor and also a Mobile Team consisting of team leader, saving and credit facilitator, and assistant engineer since 1998 to assist VDP. Personnel expenses of Social Mobilizers and Mobile Team are borne by LTF.

Apart from the implementation of VDP and strengthening the DDC, GLP is also promoting Public Private Partnership Program. By the program, feasibility studies for fishery, tourism development, rafting in Khoshi river and establishing agriculture school have been formulated. Now the studies are waiting for anyone to take it into action.

2) VDP in Narshimha VDC

Out of current on-going five VDPs, a VDP has been implemented in Narshimha VDC, a VDC in the Study area. A locally hired social mobilizer has assisted the VDP since 1998. Activity of the social mobilizer is 1) formation of CO, 2) teaching on saving, 3) skill development arrangement with line Agencies, 4) advice for income generating activities, 5) coordination to get LTF fund, etc.

Number of COs in Narshima is currently 72 consisting of 14 female groups, 45 male groups and 13 mixed groups, and total members are 2,036 consisting of 725 female and 1,311 male. Of them, the biggest CO consists of 50 members. The social mobilizer evaluates that currently 60% of the COs is considered to be active. It was also found during field survey that farmers in the south west of Narshimha reported that although they had organized a CO, it had not been functional. While others in a village near the east – west highway reported that though they were not really aware of defining themselves members of CO, their members used collective loan for purchasing thresher.

CO activities consist of road construction, construction of meetinghouse, UNICEF collaboration DPCP, orchard tree planting, and formation of collective loan without no mortgage. With the collective loan, significant number of the villagers in Narshimha VDC could accesses to LTF. Since 1998, 40 COs in Narshimha has got credit from LTF totaling

991,000Rs, about 880Rs/capita. Though the fund requires 12% of interest per year, about 400,000Rs has been repaid. In Narshimha, 70% of the credit has been invested in Agriculture, followed by business with 21%, livestock with 9% and industry with 0.1%.

Some both male and female members of COs in Narshmha also attended several training as 44 members for livestock raising, 44 for health and sanitation (smokeless stove and toilet installation), and 21 for cottage and small industries such as bamboo crafts, pumping set maintenance.

CO formation process is described as 1) go to village to meet people, 2) explanation on CO, 3) make ad hoc committee, and 4) register CO in VDC on recommendation of social mobilizer. CO has meeting every week. Social mobilizer tries to attend their meeting especially for new COs. Chairman of each CO attends regular meeting held on 10th of every month at VDC compound.

Difficulties that the social mobilizer has faced to form CO were, 1) difficulty to explain new concept, 2) women think that they should not talk to person from outside (especially in Muslim community), 3) villagers thought that the social mobilizer was getting money from the office (LGP) by using them since they had bad experience 30 years ago when the government introduced land reform and there was cheating in change of land ownership. Neverthless, the social mobilizer could support in organizing 72 COs so far. The fact is, 1) his repetition of visit convinced people, 2) demonstration by their neighborhood works, 3) find a leader in the village and tries to speak to him at first.

4.6.2 DPCP (UNICEF)

Decentralized Planning for Child Program (DPCP) has been operated as a partnership program with LGP, especially supporting the side of female social empowerment. Based on CO formed by Village Development Program, activities such as group monitoring of child care, sanitation, training etc. have been conducted. There is one facilitator posted in one VDC paid by VDC or DDC. Budget necessary for CO level, VDC level, and DDC level are submitted to UNICEF and UNICEF will disburse the approved budget to each level. Last year they got 2.9 million Rs for Sunsari district, but they could only spend 1.7 million Rs.

In Narshima VDC, they built two Child Care Centers (kind of kindergarten). In the center, one mother will take care of children so that other mothers can go to work. Rotationally one mother will take care of the children of the village at the center. DPCP local personnel hired by UNICEF has been collaborating with Women Development Office under the Ministry of Social Affair in Inarwa. UNICEF gives one bicycle to each women worker and some logistics such as computer, stationary and training for Women Development Office.

DPCP has been implemented in 20 Districts. The name of program changes from DPCP to DACAW (Decentralized Action for Child And Women) from 2002 just to include women in its name. The program will finish in 2006. The target in Sunsari is to cover 19 VDCs and three Municipalities by 2006. Even if LGP terminates the program, they will continue their activities.

4.6.3 INGO: PLAN International

PLAN international (PLAN) is an international NGO, whose head quarter is situated in UK. PLAN international has established Sunsari/Morang Program since 1993. The program covers 40 VDCs in Sunsari and Morang districts, out of which 6 VDCs (Harinagara, Madhe Harashi, Dewanganji, Rajganji Sinwari, Gautanpur and Jalpapur) are located in the Study area.

Their activities cover health sector, education sector, human resource development, income generation, community infrastructure, environment and conservation etc. Their strategy is to identify the poorest of poor for foster family (PLAN family) through PRA and give intensive support to them. They have identified 9,456 PLAN families with total population of 56,736 in the 40 VDCs in Sunsari and Morang Districts.

One of successful projects carried out by PLAN is a kitchen gardening project. PLAN rents two kata (0.06ha) of land and spare to the PLAN family for three years without rent. For the first year PLAN provide agricultural inputs and the second year 75% of inputs are subsidized, then the third year the subsidy becomes 50% and from the fourth year the support of PLAN withdraws from the family. It is reported that this project is relatively successful as reported that a family under this project expanded their vegetable garden by the profit from the land given by PLAN.

Their major lessons from their experiences are

- In the past, children were used as a medium to reach community with PLAN's development programs. Now, it is realized that the emphasis should be the other way round, that is, community should be a medium for reaching children.

- Women can only benefit from development programs when they are brought into the mainstream of development processes taking into consideration that they are a separate gender, that they have their own needs/wants, and that they have different constraints.

Their future direction is: PLAN Sunsari/Morang will continue focusing its programs and activities primarily on humanitarian development of children with full commitment to justice and gender equity. The future program of PLAN Sunsari/Morang will mainly focus on three key aspects, which are putting children at the center, mainstreaming women into the development process and empowerment of rural poor.

4.6.4 Local NGO and NPLAP

The number of local NGOs so far registered at Sunsari District Administration Office has reached to 903. However the NGOs renewed their registration in 2001 counts 171. There are 11 NGOs considered to be somehow active in the Study area and 21 NGOs in Inarwa Municipality. People who graduate collage and cannot get suitable occupation are likely to engage in NGO activities. The NGO is somehow considered to be an occupation of the educated youth in villages.

For the purpose of capacity building of local NGO, DFID of UK has been implementing

Nepal Participatory Learning and Advisory Project (NPLAP). The program started in 1998 and implemented in Sunsari in 1999. The program has been implemented in eight districts, out of which five districts are in the Eastern Region (Terhathum, Dhankuta, Sunsari, Saptari and Siraha). For the NPLAP activities in Sunsari district, their office has been established in Inarwa municipality posting three program staff. Whole program is planned to complete in 2005. Their program is formulated to carry out for three years duration in one district.

Process of implementation is described as first, familiarization visit of NGOs, second, federate NGOs, third, listing of active NGOs (about 30NGOs), fourth, NGO workforce (give some task to NGOs to evaluate their ability), fifth, select 15 NGOs, and sixth, second round workforce (to select 7～8 NGOs). By next April 2002, they will select one NGO as a program partner. Then they will close the office in Inarwa and move to the office of the selected NGO. They will work with the NGO for another one year for its capacity building, then they will terminate the program in Sunsari District.

4.6.5 CBO: Chanda Mohana WUA

There is a definition of organization called Community Based Organization (CBO). The difference between NGO and CBO is definition of for whom. NGO works for others, while CBO works for themselves. NGO is registered at District Administration Office and they pay administration fee of 100Rs/year. Whereas, CBO is registered in relevant agencies. Water Users' Association registered in concerned local irrigation office is, therefore, defined as CBO. In the Study area, Chanda Mohana WUA is the significant CBO relative to the Study.

Chanda Mohana Irrigation Project falls in the most south-eastern part of the Study area. The water source of the project is Budhi river which demarcates the Study are at its eastern part. A headwork having 65m long weir cum bridge with a design duty of 1.6 l/s/ha and 500 m^3/s flood for 50 years return has been constructed to divert the irrigation water to Rajganj, Sinuwari, Sahebganj, Amahi and Belaha VDCs. The project has also constructed eastern and western main canals of 15 km (of which 3 km concrete lining), 21 branch canals with total length of 41 km together with other ancillary facilities, and upgraded 15 km gravel access road. The project started irrigating the area in the monsoon season of 2001.

Project Duration:	FY 1996/97 to 2000/2001
Command Area:	1,800 ha (1,000 east + 800 west)
Total project Cost:	2.578 million US dollar (1,400 $/ha)
Foreign-OPEC Fund Loan:	2.314 million US dollar
Local - HMGN:	0.264 million US dollar

The DOI controls the headwork and the main canals as of February 2002, but later on the main canals management of the system is to be handed over to the WUAs concerned. There is a WUA, called Chanda Mohana WUA. The Chnada Mohana WUA covers above four VDCs. The committee of the WUA consists of 20 members, who are the leaders of water users groups in the branch canal level.

The WUA does not know the total number of the beneficiaries (equivalent to the general members). They are now identifying the members, reaching to as many as over 2,000. This situation happened due to rushed organization of the WUA. The organizing process started with approaching the community through VDC. One day VDC chairmen and some farmer leaders were invited for a meeting with the project office and an ad hoc committee was organized in April-May 1998. The ad hoc committee prepared draft constitution of WUA and the constitution was ratified by a general assembly, which was formed with about 150 farmers only against the prospective 2,000 members. Then the committee of WUA was formally elected and the formal committee replaced the ad hoc committee.

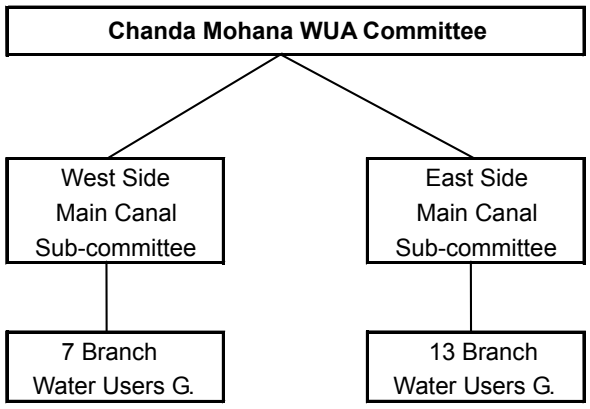


Figure 4.6.1 Structure of the WUA

This rushed organization with limited beneficiaries are now giving the committee the weakness or threatening for the WUA. Their weakness is the fact that due to lack of outlets, they cannot fully use irrigation water. If there are enough outlets, they can use irrigation water for nine months per year. Threatening, they think, is that some part of branch canals is not complete (lack of outlets). This fact may cause social conflict between farmers who can and cannot use the irrigation water. Few involvements of the beneficiaries are also resulted in the incompleteness of the facilities and that are their concerned issues to date. It is observed during the Study team's field survey that this issue of outlets are causing of illegal outlets mostly in the west canal. The detail is discussed in APPENDIX-11.

On the other hand, the committee sees their strengthen and opportunities for the WUA. For strengthen, they feel good coordination has been done among beneficiaries and this was helped by their historical context, namely there had been a sort of informal water users' association since around 50 years ago. That made them less difficult to organize the WUA. As for the opportunity, they pick the points that the bridge on Budhi River, built with the headwork has given them income by transport charge (10 Rs for tractor, 20 Rs for truck and bus, and 5 Rs for small vehicle). The area near the headwork can also be developed for a picnic field.

4.7 Summary of the Study Area

Figure 4.7.1 shows an outline of the Study area. It is indicated from the figure that the western parts of the Study area such as Ramnagar Bhutaha, Basantapur and Ghuski have got little attention from development support agencies. Poor transportation conditions to access to these areas (except Ramnagar Bhutaha) could be one reason for the situation. Households having inadequate food supply are scattered not only in the downstream reaches but also in upper parts of the Study area.

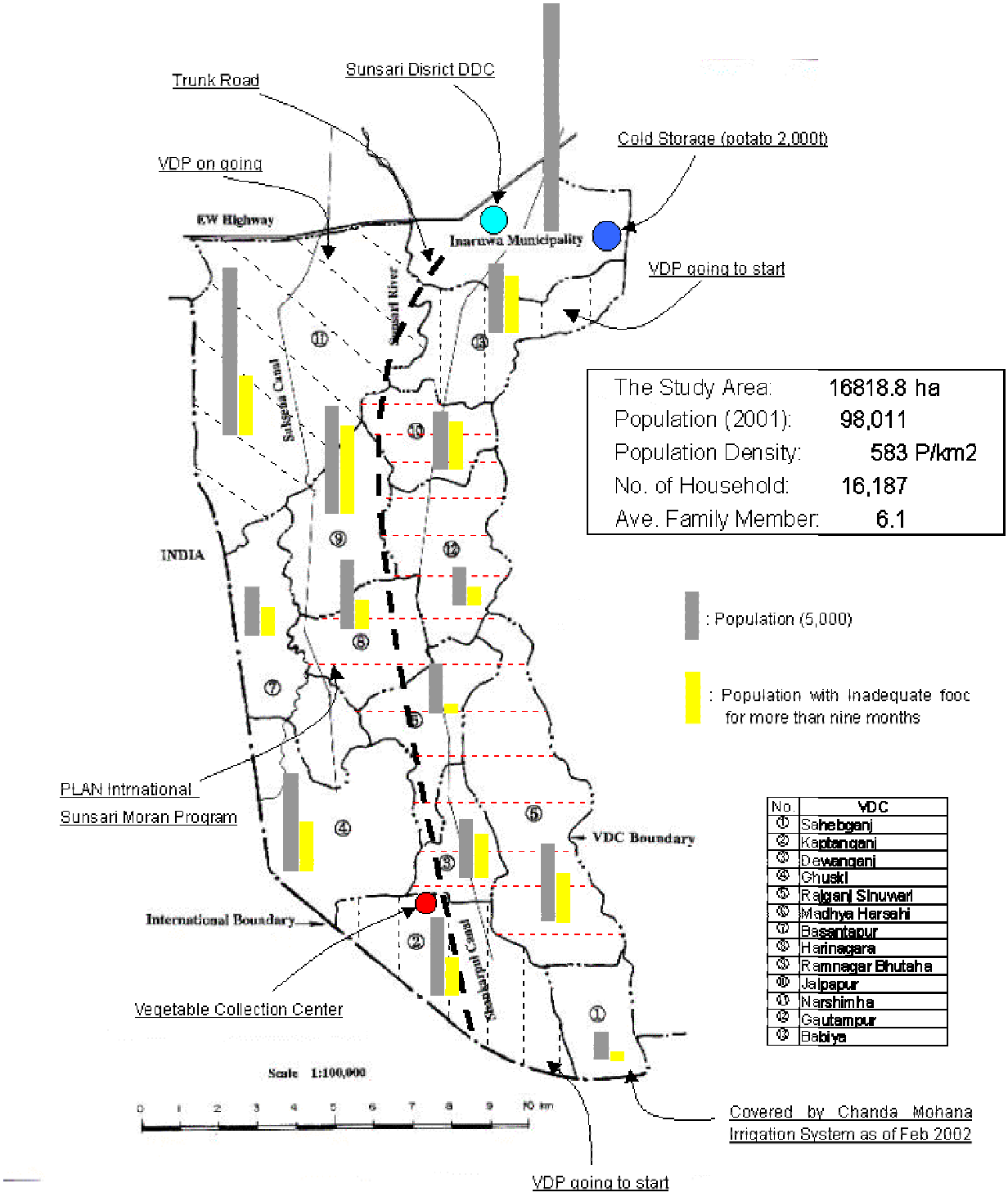


Figure 4.7.1 The Study Area at a Glance

CHAPTER 5 DVELOPMENT CONSTRAINTS AND OPPORTUNITIES

5.1 Development Constraints

It is confirmed that the lack of irrigation water is affecting the Study area. According to the interviews to farmers who live far from the main canal of Suksena, they grow paddy dependent on rainwater and the harvest can be nil unless they were favored with adequate rain. During winter season, they irrigate the winter crops, mainly wheat, by shallow tube wells, but irrigating paddy by the well, which requires three to five times of wheat, is too expensive for farmers to practice.

Farming size of the farmers is so small as around 80% of the households cultivate less than 2ha. There are also significant numbers of landless households, who even cannot rent lands. This situation together with the low yield of paddy is apt to orient farmers to grow cereals away from challenging vegetables, which would be more suitable for the sandy soil in the Study area and have potential of higher profits.

Road condition especially in the western side (Basantapur and Ghuski) is poorer comparing to other sites of the Study area, leading to less attention from the development assistances. Also the poor road conditions constrain the marketing of agricultural products in the areas.

Irrigation policy of Nepal, which imposes upfront payment for the beneficiaries of irrigation projects and the const sharing of 10% for the capital cost in case of new construction, has not been consistent on the ground. For example, Chanda Mohana Irigation System, whose part covers the southern parts of the Study area (Sahebganj), was constructed without any cost sharing of the capital cost by the beneficiaries. This inconsistency may discourage the potential beneficiaries of the irrigation development in the Study area to burden such expenses.

5.2 Development Opportunities

Present agriculture situation in the upper stream reaches of Suksena and Shankarpur canals or upper part of Chatra main canal may give a clue to catch a glimpse of the future agriculture in the Study area since the area is considered to have been in with project condition.

The cropping pattern in the upper stream reaches of SMIP (along Chatra canal) is very different from the one in the Study area. Cropping pattern in this dry season in the Study area is seen as mainly wheat crop with mustard mix cropping. Whereas, the cropping pattern in the upper stream reaches of SMIP in the dry season is dominated by vegetables or pulses crop (Refer to Figure 5.2.1).

As some interviews to farmers revealed, majority of farmers in the Study area are growing wheat during the dry season for their cereal consumption, due to low yield of paddy. They can only eat rice once a day (and wheat twice a day) or some times every three days, although they prefer to have rice. If the paddy yield increases by irrigation development, farmers in the Study area will be able to have options of crops other than wheat as SMIP area.

The sandy soils in the Study area, especially seen in the southern parts have potential to grow

vegetables or fruits. Also Biratnagr, the second biggest city in Nepal, is located near the Study area having big capacity of demand for the products. Actually the area has become a production center for potatoes. Besides, the cold storage in Inarwa recently built by a private sector is also targeting to receive the potatoes from the southern part of the Sunsari district. With effective extension services, the vegetable crop in the area can be expanded.

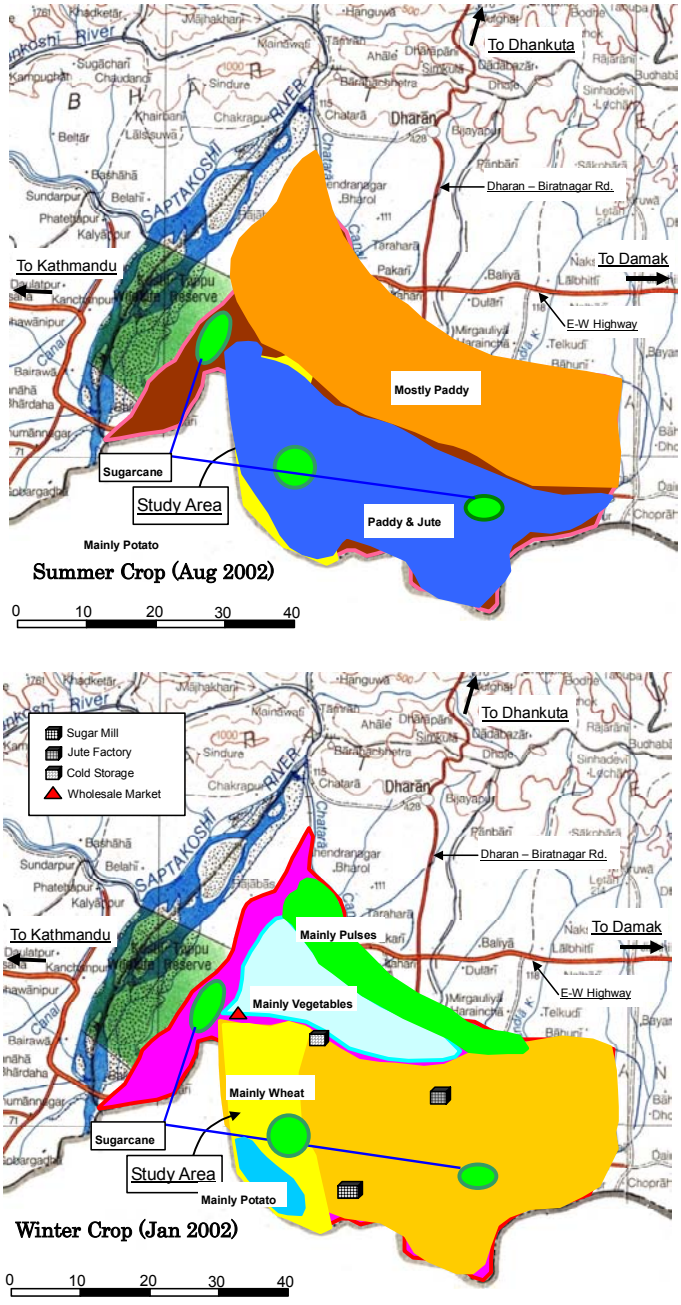


Figure 5.2.1 Cropping Pattern Observed in SMIP in 2002

CHAPTER 6 DEVELOPMENT PLAN

6.1 Development Framework and Strategy

6.1.1 Development Strategy

The Study area is considered as an area rather in food deficit due to unstable and low productivity of paddy crop. To cope with the situation, the development strategies incorporated with other fields of this Study were set 1) to meet cereal requirement for the population in the Study area and 2) to promote profitable crops suitable for sandy soils such as vegetables and fruits, to improve farm economy. The proposed development plan hereunder will consider supportive measures for irrigation development of Sunsari River based on the above strategies.

Irrigation development will raise the productivity of agriculture, leading to uplift the basis of living standard of the people in the Study area. However, the process of transforming the increased agricultural productivity into the improvement of people's living standard might not be automatic but need some supportive measures. Strategy of regional economy to formulate a development plan will be, therefore, set as realization of the benefit, to the utmost extent, from the irrigation development and also more equitable distribution of the benefit into the people in different status.

6.1.2 Development Framework

Firstly, to realize the full extent of benefit from irrigation development, additional investment may require. However, if the additional investment is piled up, the cost-benefit performance of the project will become less and unnecessarily increasing project costs will also lead to hardships to get approval of the project finance. Therefore, the regional economic plan will be subject to irrigation development in maximizing the project benefit. Figure 6.1.1 illustrates the position of the components for regional economic development. Plans, which can be formulated independently from the irrigation component, will not be included in this plan.

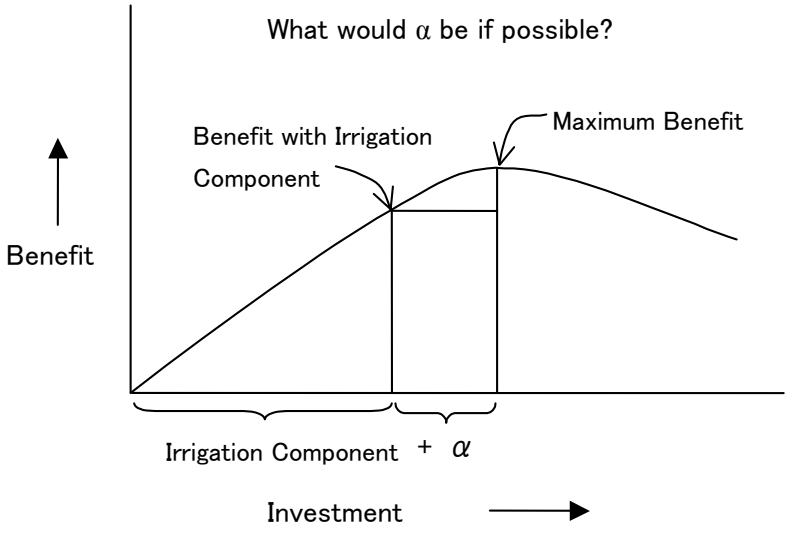


Figure 6.1.1 Illustrative Concept of Regional Economic Development Plan

Secondly, to consider more equitable distribution of the benefit, the potential beneficiaries in the Study area will be classified by relevant definitions. From the viewpoint of irrigation development, beneficiaries of the project can be classified with the landholding status of people, namely landowners, tenants and farm laborers (illustrated below Figure 6.1.2). Landowners are directly benefited from the irrigation development and tenants are also, to some extent, direct beneficiaries with the sharecropping As for landless farm laborers, they could not get direct benefit from the irrigation. This class needs to clarify the way of getting benefits from the project even though indirectly.

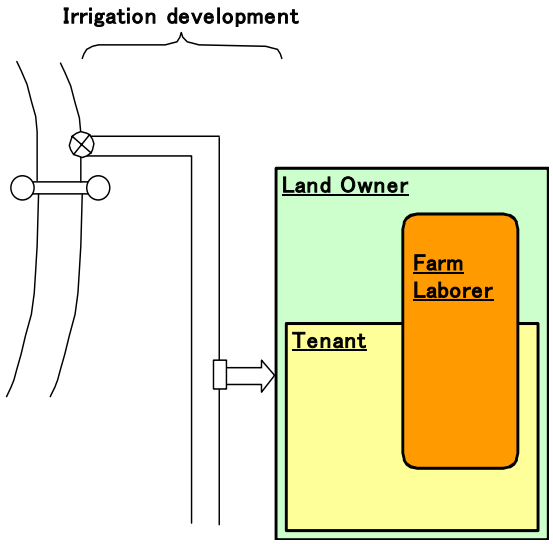


Figure 6.1.2 Classification of Beneficiaries of Irrigation

Another demarcation is area wise aspects. As discussed above, the western part of the Study area, namely Ramnagar Bhutaha, Ghuski and Basantapur have received little interventions for their area development and the households in the downstream reaches are little depressed in the economic status. These areas should also be lighted in formulating the development plan.

6.2 Development Plan Relative to Irrigation Development

6.2.1 Roads Network Improvement in Dewanganj – Ghuski – Basantapur

Transaction in kind is still an important mean in the economy of the Study area. Paddy is used for paying land rent to the land owner and also agricultural income is still mainly in a form of kind for self-consumption and small part of agriculture produce is exchanged to cash. According to the results of "Rural Socio-economic Survey", self-consumption ration of paddy is estimated at around 60% of the total produce.

Self-consumption of cereals is, on one hand, a good way of avoiding any risks from marketing. Yet, the people require cash for their daily necessary expenses. Cash generation measure for the people in the Study area is primarily to sell farm produce. Selling farm produce will be enhanced by improving access to market, namely improvement of road network. The road improvement will ease the constraints for marketing and encourage the farmers to grow more vegetables, leading to the realization of the benefit from the irrigation development.

As it has been mentioned above, the road conditions in the western part of the Study area is poorer and that may have also caused the current little development interventions in the areas. Therefore, the improvement of road network condition in the western part of the Study area will be put in high priority. To improve current road network situation, connection of village

roads and canal maintenance roads is proposed to establish a road network for effective transportation in the areas.

To establish effective road network in the western part of the Study area, three sections of existing village roads will be necessary to improve. These sections are (1) Dewanganj – Ghuski, the length of 5 km and (2) Harinagara – Basantapur with the length of 1.3 km and (3) Ghuski – Basantapur with the length of 5.5 km. The roads of (2) and (3) requires new construction of brdges apart from existing road improvement. If these roads are improved, the people in Basantapur and Ghuski can more easily access to Dewanganj and Harinagara to connect to Inarwa and Biratnagar and there is also above vegetable collection center being constructed by the Department of Agriculture in the right south of Dewanganj.

Canal maintenance road will be designed with five meters width, wide enough for four-wheel vehicles to pass and the terminal or crossings of the canal maintenance road will be connected with the main village roads. Canal maintenance roads along both the Suksena canal and its branch canal running through the center of Basanterpur will be utilized for the road networking.

Connection between above two roads and canal maintenance roads will also improve the accessibility to the E-W highway, north direction from Basantapur and Ghuski. By this road networking, the mobility of the people in the areas will be improved and they could be encouraged to grow vegetable for marketing, as well. Also development supports by the government as well as the donor agencies will have more access to these areas. Figure 6.2.1 shows the proposed road network in the western parts of the Study area.

The village roads of (1) Dewanganj – Ghuski and (3) Ghuski – Basantapur have been actually identified as priority roads in the District Transport Master Plan (DTMP) prepared by the DDC of Sunsari in 2001. The road of (1) Dewanganj – Ghuski has been under maintenance work by the DDC for the beginning of some 600m in this year. To connect Ghuski and Basantapur, a bridge to cross the Sunsari river will be needed and such bridge construction has been planned by Department of Road (DOR) and the construction will start as early as year 2002 when the budget is disbursed to the department.

DTMP estimates the possible fund for road improvement for the total Sunsari district at 2.37 million Rs per year from 2001/02 to 2005/06. The source of funds are identified as Rural road grants at 400,000Rs, DDC grants at 200,000Rs, VDC grants at 800,000Rs, Agriculture Road Program at 300,000Rs, DOR funds at 670,000Rs.

As DTMP states the implementation plan of the above roads, the Study also proposes to put the highest priority on the three roads including the construction of the bridge. This Study considers the construction of the roads as a part of the SRIP project, but the construction of the bridge is allocated to the said program (means road construction is included in the cost estimation, but bridge is excluded). Information on designing of the roads is given in Annex-8, “Irrigation Facilities and Rural Infrastructure”.

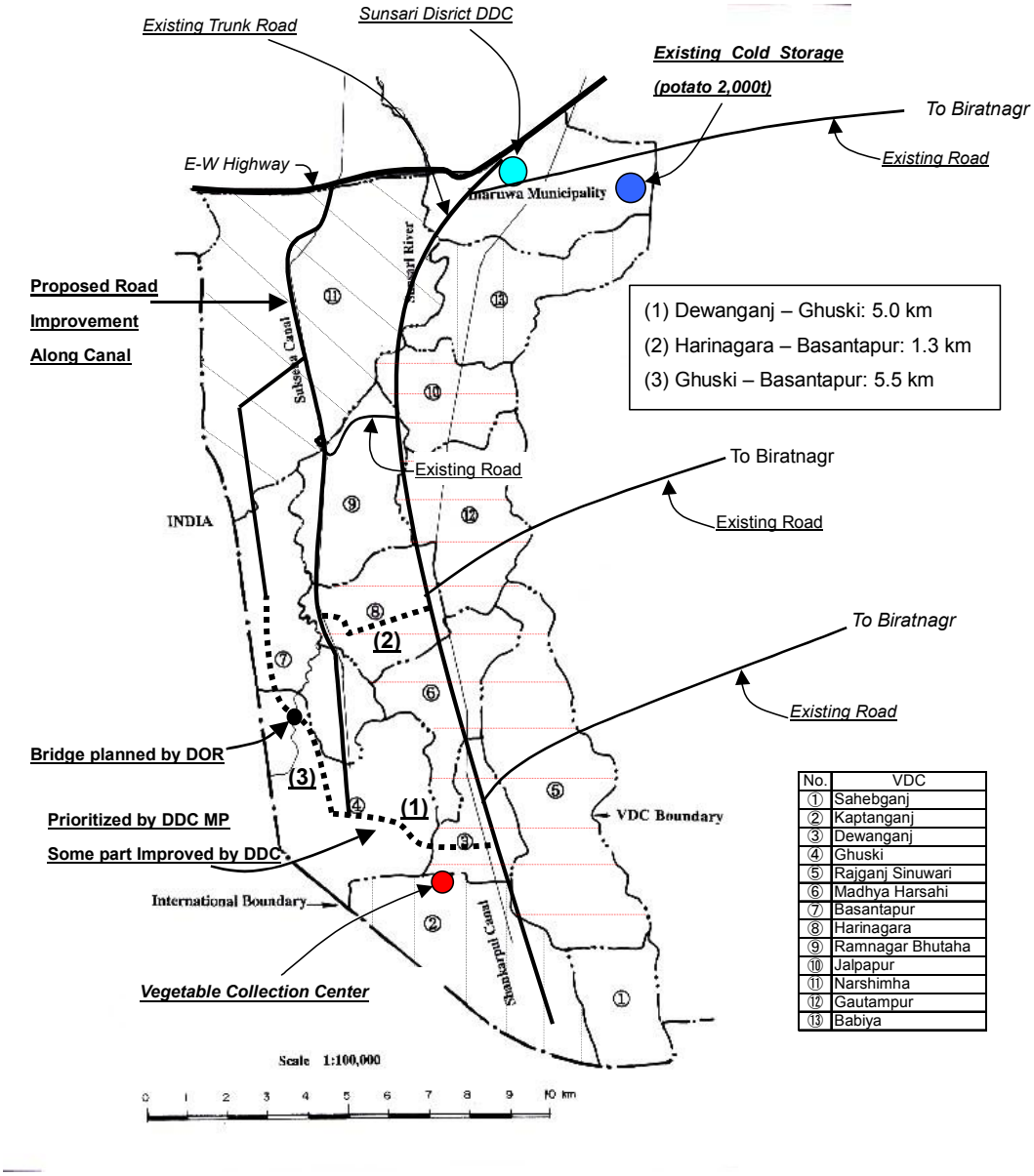


Figure 6.2.1 Proposed Road Network in Western Parts of the Study Area

6.2.2 WUA Supplemental Activities

Irrigation development Project includes the establishment of Water Users' Association (WUA), since the operation and maintenance of the irrigation system will be carried out in a manner of joint management between the government and the water users. It is planed that WUA will operate and maintain all the branch canals and below thereof, while the government will mainly take care of the Shankarpur Canal and Suksena Canal. Though, the primary purpose of WUA is to manage irrigation water, some supplemental activities carried out by WUA would be considered for effective benefit distribution.

1) Tenants to be a member

Around the Study area in practice, Irrigation Service Charge (ISF) is paid by landowners. Accordingly the only landowners can be the members of WUA. However, WUA is an association for water users, namely if tenants are using irrigation water, tenants should pay the ISF and be the members of the WUA. Actually in Saptari district, the neighbor district of Sunsari, ISF of Chandra Nahar Irrigation System has ever been collected from those who use irrigation water, meaning that tenants are also paying ISF.

Here, it is proposed that the members of the WUA should be actual water users including tenants. As being a member of WUA, tenant farmers can join in decision-making process of WUA and also they can get the benefits by accessing the activities of WUA proposed below. To the contrary, disqualification of absentee landlords who live far from actual situations on the ground should be considered, as well.

2) ISF Collection in Kind and Storage Management

ISF should be basically collected in cash. Although there is a practice of ISF collection in kind like in the Philippines, ISF collection in kind is rather troublesome, since it needs storage of agriculture produce, costs for hauling, needs marketing, and also farmers may pay ISF by less quality produce etc. With those risks, the amount of ISF collected in kind will very often diminish, when the rate of ISF is fixed with the weight of produce.

To avoid those risks, WUA should submit ISF to DIO, the government, in a form of cash considering the capacity of the DIO, which has no functions of storing and marketing agriculture produce. Stable income is required for the government as to maintain the main facilities like headworks and main canals, which would cost for operation and maintenance more than branch canals.

As for among the members of WUA, they could collect ISF in kind under their own decision. The merits of ISF collection in kind are 1) ISF collection efficiency can increase because they can collect the products immediately after the harvest, and 2) members also do not need to go to sell their produce to the market. In this case WUA has to take risk, but risking the institution gives them more opportunities to meet together to discuss raising issues. This process will empower and build the capacity of the WUA.

For example of Magat River Integrated Irrigation System (MRIIS) in the Philippines, Irrigation Management Transfer (IMT) has been introduced there and Council of Irrigators' Association (CIA), a federation of WUA, collects ISF from the members by themselves and submit to National Irrigation Administration (NIA) of the Philippines (before IMT, NIA itself collected ISF from farmers). They collect ISF from the members either in cash or in kind. After transferred the function of ISF collection from NIA to CIA, share of ISF collection in kind increased. Though ISF collection in kind gives some burdens to CIA, ISF collection efficiency increased up to 85%, while the national average collection efficiency in the Philippines is just over 30%.

WUA, though it needs to take risk, can have options to collect ISF from the members not only

in cash but also in kind. This will tackle the current low efficiency of ISF in SMIP project area, which has reached no more than 20% every year.

WUA may require building storage to store the agriculture produce collected as ISF, when they adopt ISF collection in kind. At the same time, collection of ISF in kind will lead WUA to operate collective marketing. The storage can also be utilized not only for the produce collected as ISF, but also for other produces such as pulses, potatoes. Currently there is only one private cold storage near the Study area and its capacity is only 2,000 ton, only to cover 100 to 200ha of potatoes. Storage and collective marketing by WUA will serve the better return of the crop production.

3) Village Road Improvement

While the road network for marketing and improving living standard is proposed above, hauling crops from the farm to major roads has to be taken into account to mitigate the constraints of transportation. Following the plan formulated by an ADB study for Community Ground Water Irrigation Sector Project, village road improvement in a manner below is also proposed.

The process of village road improvement is described as, the Project (DOI) will help WUA to 1) identify, prioritize and select farm-to-market road segments (access and village roads) that need improvement, 2) reach an agreement with DOI on the design and cost estimates of the proposed roads, and 3) implement minor rehabilitation works by relevant WUA or VDC, while DOI will implement major road improvement works.

Concerning the major road improvement works above by DOI, this Study proposes densely networked tertiary canals. The tertiary has a width of 3 m road in all the cross sections which is enough for bull-cart passage, and the total length reach to as long as 172 km. This tertiary arrangement will obviously facilitate the transportation of the agriculture produce. Aside from this densely networked tertiary canals, secondary canals having same 3 m road width and about 60 km total length will also facilitate the transportation of the product. Thus, the arrangement proposed by this Study for feeder road improvement is:

- The Government (DOI) will construct extensive road network together with tertiary and secondary canal networks in addition to the main canals of Suksena and Shankarpur.

- The WUAs are requested to construct small feeder road from their field to the nearby tertiary or secondary by utilizing their own labor, cash appropriation from their ISF income and maybe an allocation from VDC budgets if available.

4) Micro Credit among members

Micro credit or revolving fund among the members of WUA is proposed as well as utilization of existing financial activities facilitated by LGP etc. As it has been shown on Table 4.2.6 in Chapter 4, 75% of the people in Kaptanganj are taking out a loan from private moneylender, who takes very high interest (50 to 60%). It indicates that many people cannot even access to public institution such as ADBN for finance. Even with lower interest rate of ADBN (15 to 16%), 31% of the people in the Study area, who borrowed money from ADBN, are overdue

in the end of 2001.

Tenant or farm laborer cannot access to the finance with out collateral, as well. If WUA establishes micro credit / revolving fund in its association by their own capital, the members are to be able to access to finance with better conditions. If tenants can be members of WUA by paying ISF, they can at least access to the micro finance of WUA and they are the ones who cannot easily access to the public finance, though still farm laborer is left behind even from this measure.

6.2.3 Indirect Benefits of Irrigation Development

As measures for realizing the benefit of the irrigation development and for more equitable distribution of the benefit, road improvement especially focusing on the western part of the Study area and the conceived supplemental activities of WUA involving tenants as its members have been proposed. The ones still left behind are landless who even cannot be tenants. They could not be directly benefited from the irrigation development, but the benefit would reach to those in some ways. Here the ways of indirect benefits to the landless will be clarified.

1) Job creation for Landless

With the irrigation development, crop yield will increase and cropping intensity will also be intensified. Increase of crop production creates job opportunities for harvesting labor and crop diversification proposed in this Study as well contributes to creating opportunities for farm labor. Other way of job creation with the proposed project is a canal maintenance work. Canal maintenance work such as desilting and grass cutting in secondary or tertiary canals can be done by hired labor and the source of wage could be born to ISF. The distribution of the benefit from irrigation development is illustrated right Figure 6.2.2.

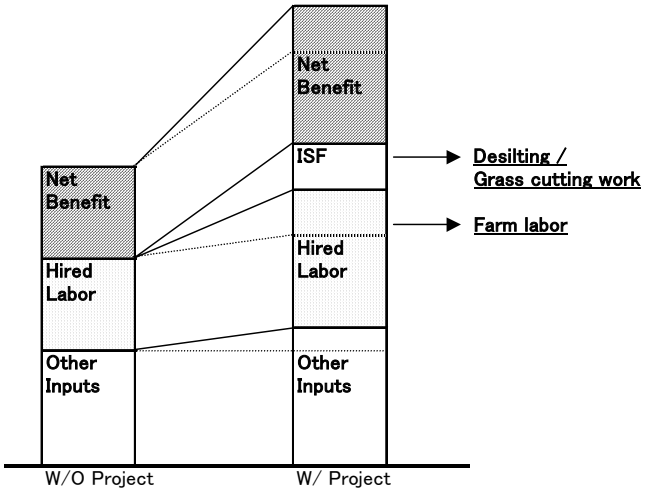


Figure 6.2.2 Benefit Distribution into Landless

According to the proposed cropping pattern and yields with project situation (Base case), around 116,830 man-day or 400 men for full time[7] farm labor in total will be created (Refer to Appendix-5) and for the canal maintenance work, total proposed desilting and grass cutting cost is 2.252 million Rs[8] and the job is calculated to be 22,520 man-day. Applying

[7] Estimation of creating 116,830 man-day would still be conservative since it is supposed in its calculation that family labor also increases with project situation in proportion to the share of family labor and hired labor without project situation. 116,830 man-day / 292day/capita = 400 men. Provide that one farm laborer represents one household, about 6.0% of landless households in the Study area can access to farm labor.

[8] Appendix-11 Attachment 2: Desilting at main canal: 411,000Rs, Grass cutting at main canal: 101,000Rs, Desiliting and grass cutting at secondary canal and thereof: 1,740,000Rs, Total: 2,252million Rs.

50Rs/day for farm labor, the total value of work generated is estimated at 11.6 million Rs per annum for farm labor, about 2% of total incremental benefit of agricultural production by the project, which is estimated at 563 million Rs.

It seems to irrigation development that the large-scale landowners would be the ones who receive the benefit of the project most, hence enlarging the economic disparity among the rural population by the project. Although to some extent this is true, there is another aspect regarding the farm size and farming system of the Study area. "Rural Socio-economic Survey" reveals that there is a tendency of cropping intensity going down, as the farm size gets larger as Table 6.2.1. This indicates that the creation of farm labor will happen more on the farm of large-scale farmers, while the small-scale farmers may not have much room for hiring labor.

Table 6.2.1 Agriculture Income per ha and cropping Intensity by scale of farming

Class (ha)	0.03 – 0.39	0.45 – 0.90	0.93 – 1.80	1.83 – 3.00	3.09 – 13.8
No. of Sample	28	53	51	41	29
Ave. Cultivated Land (ha)	0.213	0.753	1.587	2.541	5.331
Agri. Income/ha	103,019	56,300	45,142	39,465	40,258
Crop Intensity (%)	196	166	163	175	153

Source: Rural Socio-economic Survey by the Study Team in 2002

This estimation is extended by the sharing structure of farmland in the Study area. There is no data on share of farmland according to farm household size for 13 VDCs in the Study area, but available in Kaptanganj VDC. Figure 6.2.3 below shows the shares of farmland and number of households according to their farm size. The figure shows that 80% of households own less than 2.5ha and occupy only around 50% of the total farmland in Kaptanganj. Whereas the households having more than 2.5ha counts only 20% but occupy 50% of the total farmland. The irrigation development will encourage large-scale farmers to utilize their farmlands and the utilization of the farmlands owned by the large-scale farmers will be crucial for creation of job opportunity or of sharecropping. That would bring some compensation to landless over the envisaged expansion of economic disparity by the project.

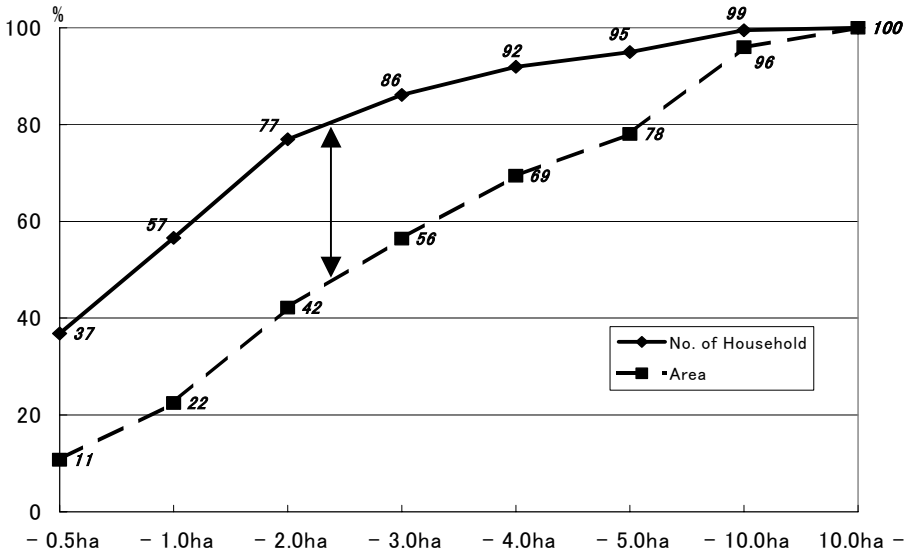


Figure 6.2.3 Distribution of Farmland and Household in Kaptanganj

2) Targeting for Poverty Alleviation

For those who even cannot get a piece of land for rent, they have no way to access WUA micro credit or other functions of WUA proposed above. This Study scoped in irrigation development will seek a way to coordinate with other donors who have been actively tackling programs / projects for poverty alleviation.

The above introduced donors have been supporting poverty alleviation activities with wide range from health and sanitation, education, family planning, income generation such as introduction of kitchen gardening, bamboo crafts making, group saving and credit etc. This Study for irrigation development can suggest those donors to set their target beneficiaries, as a criterion, on those who even cannot be a member of WUA.

3) Fishermen in Sunsari River

There are people who are engaged in fishery in the Sunsari River. Especially those who fish in the downstream reaches may be affected by the headwork, which is proposed in this Study, 600m south of E-W highway crossing Sunsari River. To compensate the damage conceived to those fishermen, a promotion of fish culture utilizing the tracks of old Sunsari river would be proposed. Detail on this issue is discussed in Annex 10, "Environment".

CHAPTER 7 ECONOMIC IMPACT ANALYSIS IN REGIONAL ECONOMY

In the final chapter of Regional Economy, some impacts of the irrigation project into the regional economy in the eastern Terai are discussed. The investment in irrigation development in the Study area should create some impacts to enrich the regional economy. Major change with the project in the Study area will be 1) increase of crop production, 2) crop diversification, leading to 3) improvement of living standard of the people in the Study area. How these points will impact the region in terms of economy will be examined here. The assessment here applies for the case of maximum realization of the benefit (refer to Appendix-5 Agriculture Development).

7.1 Impact on Cereal Balance

At present, it is considered that the Study area has been in deficit of cereal production. As "LGP Household Survey" found out, 53% of households cannot support their food consumption from their own farmland. Correspondingly it is estimated that cereal balance in the 13VDCs of the Study area at present is in deficit of 6,900 metric tons. With the irrigation development, the cereal balance in the Study area is projected to improve into the surplus of 3,700 metric tons in 2017 (Refer to Attachment 8 including following section).

7.2 Impact on Cash Crop Supply

With the advance of the sandy soil condition, the Study proposes the diversification of cropping pattern in the irrigation development. Diversified crops are considered to be more profitable than the cereals. Here the impact on increase of diversified crop production in the Study area is analyzed from the viewpoint of supply and demand in the eastern Terai.

The major diversified crops in the Study area are summer and winter vegetables such as cucumber and cauliflower, potato, sugarcane, and jute. These products have been traded outside the Study area. Vegetables for marketing outside the Study area are mainly traded at a wholesale market yard in Inarwa. There are sugarcane and jute mill near the Study area. Potato trading is routed as vegetables, but recent establishment of cold storage in Inarwa will create another marketing route or timing of shipment. Figure 7.2.1 shows the major marketing route of the products in the Study area.

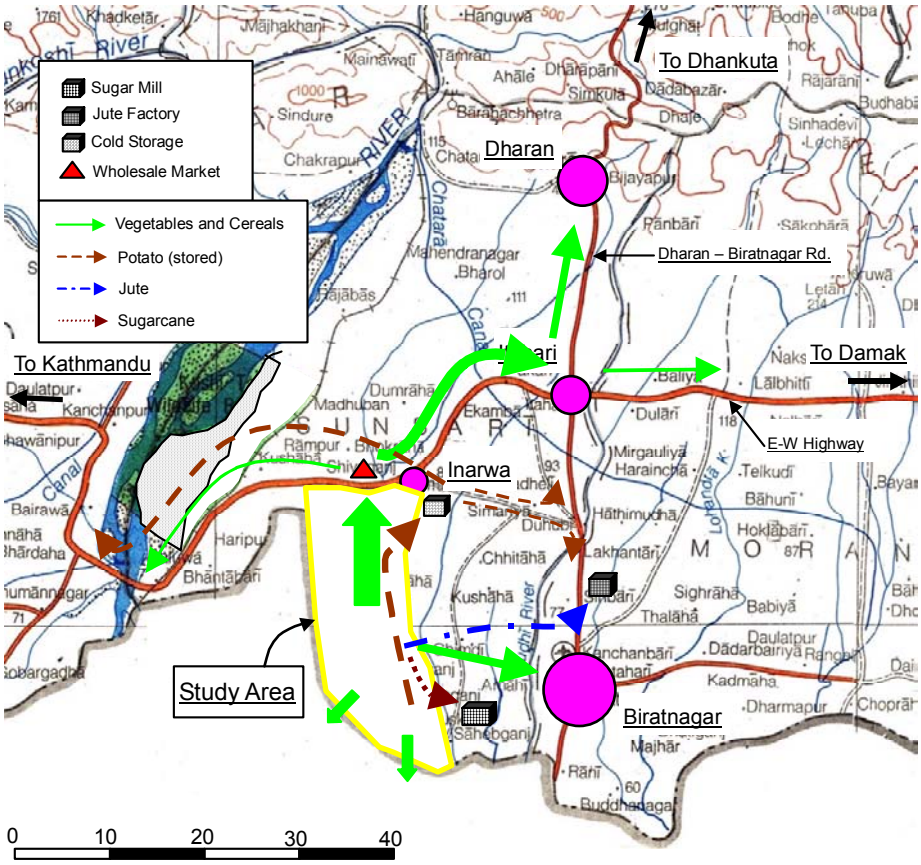


Figure 7.2.1 Marketing Route of Agricultural Products in the Study Area

1) Vegetables

At present, the productions of vegetables in the Study area are estimated at 4,570 metric tons, of which summer vegetables counts 2,501 metric tons and 2,069 metric tons for winter vegetables. Population of the eastern Terai region (Jhapa, Morang, Sunsari, Saptari and Siraha Districts) in 2001 is 3.3 million and the vegetable consumption per capita in Nepal is estimated at 58.5kg per year according to FAO survey. Therefore, it is estimated that the required amount of vegetables in the eastern Terai region is 193,000 metric ton.

The amount of vegetable supply from the Study area into the region excluding the loss of 15% during transport etc. and consumption within the Study area is estimated at 34 metric ton or only 0.02% of the total required amount of the eastern Terai region. The share of cultivable area of the Study area over the cultivable area of the eastern region is about 3%. Therefore,

the vegetable production in the Study area has no significant position in the eastern Terai region.

However, on condition that the sandy soil suitable for vegetable crop, the Study proposes to introduce more vegetables to the area. According to the proposed cropping pattern and yields, the amount of vegetables in the Study area with the project situation is expected to reach to 46,940 metric ton, around 10 times of the present situation. It is projected that the population in the eastern Terai will increase by 4.8 million in 2017, a year provided as 10^{th} year after the completion of the project. By the time of year 2017, the vegetable crop area and yield assumed with the project situation would be realized and the amount of the vegetable supply from the Study area into the eastern Terai is estimated at 34,500 metric ton.

It is calculated that the share of the vegetable supply from the Study area will occupy 12.6% of the required amount of the vegetables in the eastern Terai. This share seems very ambitious, considering the share of the area. Utilizing the soil suitability, the Study area could be a vegetable production center, but the marketing aspect should be taking into account widening the target area up to Kathmandu or India. In fact, there are some traders coming to Inarwa from Kathmandu and marketing into India has ever practiced by the farmers.

2) Potato

Consumption of potato per capita in Nepal is estimated at 35.1kg per year (FAO) and the required amount of potato in the eastern Terai (except for the Study area) in 2001 is calculated at 113,500 metric tons and projected to increase by 164,200 metric tons in 2017. Potato production has already been prevailing, particularly in the downstream reaches of the Study area. Therefore, the production increase will not be expected so much that the supply amount of potato outside the Study area to the required amount in the eastern Terai will be 9%, almost same with the present and with project situations.

3) Sugarcane

Sugar production is proposed to increase from 13,170 metric ton at present situation to 40,600 metric tons with project situation. Since there is a large-scale sugar mill near the Study area and the mill has been poorly operating as mentioned at Section 4.3.3. Therefore, there would still be room for increasing sugarcane production without fierce competition. Nearness of the mill to the Study area is also an advance for the sugarcane growers in the Study area.

4) Jute

The Study area has been oriented significantly to jute production due to insufficient irrigation water for paddy, as it has been shown above Figure 5.2.1. However, jute industry is getting out of date expelled by chemical fabric. Also if irrigation water supply by the project is realized, farmers will shift their crop into paddy. Therefore, it would be adequate that proposed cropping pattern reduces the jute production from 3,460 metric tons at present to 3,200 metric tons with project situation.

7.3 Impact on Demand for Industrial Goods

Improvement of living standard in the Study area with the irrigation project will uplift the people's purchasing power. Incremental benefit of the proposed project is estimated at 563 million Rs per year, some portion of which would be expended for purchasing some industrial goods. According to the "LGP Household Survey", the saturation level of devices, appliances, and vehicles in the Study area is as follows:

Table 7.3.1 Saturation of Industrial Goods in the Study Area in 1998

Iron roof	Toilet facility	Piped water	Kerosene for cooking	Radio
15%	1%	Almost none	1%	23%
TV set	Bicycle	Motorbike	Thresher	Tractor
2%	43%	1%	2%	Less than 1%

Source: "LGP Household Survey" in 1998

If the income of beneficiaries of the project increases, demands for above goods or any others will be increased. Increase of the demands by the project is another way of contributing to the regional economy. Electrification in the Study area has been progressing, though it is in slow motion. Prevailing electrification will also encourage people, of course as their preference to purchase electric appliances or devices for their living.

Expenditure for education will be expected to increase, as well. According to the "Rural Socio-economic Survey" by the Study team has revealed that the richer farm households are sparing the expenditure for education more than the poorer farm households. The percentage of children who go on above lower secondary school is 19% in the Study area, according to the "LGP Household Survey" in 1998. It is, then, expected that increase of income would be allocated to education by the parents, as the investment in children should mean the investment in their future.

Table 1.1 Gross Domestic Product (GDP) at Current Prices

(In Rs. Millions)

Description	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00*	2000/01**
Agriculture, Fisheries and Forestry	55,368.0	65,156.0	70,090.0	80,589.0	85,569.0	96,896.0	108,785.0	112,495.0	132,373.0	142,908.0	144,420.0
Mining and Quarrying	574.5	794.7	921.0	990.0	1,117.0	1,342.0	1,495.0	1,553.0	1,685.0	1,815.0	1,981.0
Manufacturing	7,894.0	12,822.0	14,618.0	17,861.0	19,555.0	22,466.0	24,816.0	26,987.0	30,337.0	35,387.0	38,714.0
Electricity, Gas and Water	815.0	1,241.0	1,525.0	2,163.0	2,862.0	3,598.0	4,457.0	4,383.0	4,574.0	5,895.0	7,715.0
Construction	11,078.4	14,769.2	17,318.0	19,621.0	23,093.0	26,093.0	29,263.0	30,483.0	33,262.0	36,127.0	39,331.0
Trade, Restaurant and Hotel	12,902.0	16,563.4	19,259.9	22,497.0	24,326.0	28,317.0	30,551.0	33,687.0	39,313.0	43,109.0	45,862.0
Transport, Communication and Storage	6,559.9	8,557.8	10,819.0	12,625.0	13,995.0	15,898.0	19,315.0	22,598.0	24,631.0	29,281.0	33,321.8
Finance and Real Estate	10,944.4	13,240.9	15,684.0	18,122.0	20,533.0	23,521.0	27,157.0	29,778.0	33,203.0	36,919.0	40,507.0
Community and Social Services	9,991.1	11,788.2	15,115.0	17,128.0	18,924.0	21,257.0	23,731.0	27,834.0	30,582.0	37,922.0	45,896.0
GDP at factor cost before deduction of bank service charges	116,127.3	144,933.2	165,349.9	191,596.0	209,974.0	239,388.0	269,570.0	289,798.0	329,960.0	369,363.0	397,747.8
Less imputed value of bank service charges	2,289.0	2,933.0	3,578.0	4,473.0	5,060.0	5,932.0	7,009.0	7,896.0	9,438.0	10,708.0	11,912.0
Total GDP at factor cost	113,838.3	142,000.2	161,771.9	187,123.0	204,914.0	233,456.0	262,561.0	281,902.0	320,522.0	358,655.0	385,835.8
Indirect taxes, net	6,532.0	7,487.0	9,702.0	12,149.0	14,261.0	15,457.0	17,952.0	18,943.0	21,456.0	24,898.0	28,632.7
GDP at producers prices	120,370.3	149,487.2	171,473.9	199,272.0	219,175.0	248,913.0	280,513.0	300,845.0	341,978.0	383,553.0	414,468.5

* Revised estimates
** Preliminary estimates
Source: Central Bureau of Statistics

Table 1.2 Gross Domestic Product (GDP) at Constant Prices (1984/85 = 100)

(In Rs. Millions)

Description	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00*	2000/01**
Agriculture, Fisheries and Forestry	28,371.9	28,070.2	27,896.0	30,017.0	29,917.0	31,239.0	32,529.0	32,867.3	33,761.3	35,438.5	36,852.5
Mining and Quarrying	271.4	293.4	299.8	318.0	329.0	371.8	397.0	402.0	417.0	436.0	453.0
Manufacturing	3,756.3	4,957.8	5,266.5	5,915.0	6,031.0	6,576.0	7,040.0	7,281.0	7,666.0	8,663.0	9,224.0
Electricity, Gas and Water	461.3	492.6	447.4	475.0	532.0	635.0	646.0	619.0	659.0	761.0	906.0
Construction	5,532.3	5,961.9	6,250.0	6,662.0	7,008.0	7,471.0	7,929.0	8,080.0	8,621.0	9,089.0	9,327.0
Trade, Restaurant and Hotel	6,288.5	6,657.9	7,085.3	7,685.2	8,104.0	8,446.0	8,755.0	9,233.0	9,605.0	10,184.0	10,522.0
Transport, Communication and Storage	3,916.0	4,256.1	4,615.4	4,986.0	5,515.0	5,816.0	6,266.0	6,736.0	7,187.0	7,726.0	8,251.4
Finance and Real Estate	5,654.2	5,951.1	6,298.0	6,696.8	6,985.0	7,515.0	7,869.0	8,334.0	8,752.0	9,204.0	9,653.0
Community and Social Services	5,516.4	5,890.4	6,427.5	6,931.0	7,264.0	7,703.0	7,957.0	8,564.0	9,121.0	9,205.0	10,844.0
GDP at factor cost before deduction of bank service charges	59,768.3	62,531.4	64,585.9	69,686.0	71,685.0	75,772.8	79,388.0	82,116.3	85,789.3	90,706.5	96,032.9
Less imputed value of bank service charges	1,178.0	1,265.0	1,399.0	1,624.0	1,818.9	2,019.0	2,050.0	2,222.0	2,376.0	2,599.0	2,815.0
Total GDP at factor cost	58,590.3	61,266.4	63,186.9	68,062.0	69,866.1	73,753.8	77,338.0	79,894.3	83,413.3	88,107.5	93,217.9
Indirect taxes, net	3,362.0	3,230.0	3,792.0	4,420.0	5,130.0	5,238.0	5,642.0	5,589.0	5,841.8	6,298.0	6,788.7
GDP at producers prices	61,952.3	64,496.4	66,978.9	72,482.0	74,996.1	78,991.8	82,980.0	85,483.3	89,255.1	94,405.5	100,006.6

* Revised estimates
** Preliminary estimates
Source: Central Bureau of Statistics

Table 1.3 Percentage Contribution to Total GDP by Sector

(Unit: %)

Description	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00*	2000/01**
Agriculture, Fisheries and Forestry	47.7	45.0	42.4	42.1	40.8	40.5	40.4	38.8	40.1	38.7	36.3
Mining and Quarrying	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5
Manufacturing	6.8	8.8	8.8	9.3	9.3	9.4	9.2	9.3	9.2	9.6	9.7
Electricity, Gas and Water	0.7	0.9	0.9	1.1	1.4	1.5	1.7	1.5	1.4	1.6	1.9
Construction	9.5	10.2	10.5	10.2	11.0	10.9	10.9	10.5	10.1	9.8	9.9
Trade, Restaurant and Hotel	11.1	11.4	11.6	11.7	11.6	11.8	11.3	11.6	11.9	11.7	11.5
Transport, Communication and Storage	5.6	5.9	6.5	6.6	6.7	6.6	7.2	7.8	7.5	7.9	8.4
Finance and Real Estate	9.4	9.1	9.5	9.5	9.8	9.8	10.1	10.3	10.1	10.0	10.2
Community and Social Services	8.6	8.1	9.1	8.9	9.0	8.9	8.8	9.6	9.3	10.3	11.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Revised estimates
** Preliminary estimates
Source: Central Bureau of Statistics

Table 1.4 Annual Growth Rates of GDP by Sector

(In Rs. Millions)

Description	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00*	2000/01**
Agriculture, Fisheries and Forestry	2.2	−1.1	−0.6	7.6	−0.3	4.4	4.1	1.0	2.7	5.0	4.0
Mining and Quarrying	8.9	8.1	2.2	6.1	3.5	13.0	6.8	1.3	3.7	4.6	3.9
Manufacturing	17.7	32.0	6.2	12.3	2.0	9.0	7.1	3.4	5.3	13.0	6.5
Electricity, Gas and Water	34.4	6.8	−9.2	6.2	12.0	19.4	1.7	−4.2	6.5	15.5	19.1
Construction	8.1	7.8	4.8	6.6	5.2	6.6	6.1	1.9	6.7	5.4	2.6
Trade, Restaurant and Hotel	11.5	5.9	6.4	8.5	5.4	4.2	3.7	5.5	4.0	6.0	3.3
Transport, Communication and Storage	13.2	8.7	8.4	8.0	10.6	5.5	7.7	7.5	6.7	7.5	6.8
Finance and Real Estate	10.1	5.3	5.8	6.3	4.3	7.6	4.7	5.9	5.0	5.2	4.9
Community and Social Services	5.4	6.8	9.1	7.8	4.8	6.0	3.3	7.6	6.5	0.9	17.8
All Industries	6.4	4.6	3.3	7.9	2.9	5.7	4.8	3.4	4.5	5.7	5.9

* Revised estimates
** Preliminary estimates
Source: Central Bureau of Statistics

Table 1.5 Some Important Macro Economic Indicators

(Unit: %)

Description	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00*	2000/01**
Consumption/GDP (%)	47.7	45.0	42.4	42.1	40.8	40.5	40.4	38.8	40.1	38.7	36.3
Investment/GDP (%)	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5
Gross Domestic Saving/GDP (%)	6.8	8.8	8.8	9.3	9.3	9.4	9.2	9.3	9.2	9.6	9.7
Export/GDP (%)	0.7	0.9	0.9	1.1	1.4	1.5	1.7	1.5	1.4	1.6	1.9
Import/GDP (%)	9.5	10.2	10.5	10.2	11.0	10.9	10.9	10.5	10.1	9.8	9.9
Export/Import	11.1	11.4	11.6	11.7	11.6	11.8	11.3	11.6	11.9	11.7	11.5
Total population (in millions)	18.30	18.68	19.13	19.59	20.25	20.53	21.02	21.53	22.04	22.57	23.11
Per capita GDP in NRs	6,577.24	8,001.80	8,964.46	10,174.55	10,929.55	12,122.75	13,342.86	13,975.95	15,515.98	16,996.08	17,937.31
Per capita GNP in NRs	6,694.56	8,147.13	9,133.38	10,371.78	11,169.76	12,296.43	13,564.52	14,255.82	16,009.65	17,577.66	18,677.10
Average exchange rate (Nrs/US$)	36.00	42.75	42.95	49.30	49.94	55.05	56.98	61.44	68.30	68.98	73.70
Per capita GDP in US$	182.70	187.18	208.72	206.38	218.85	220.21	234.17	227.47	227.17	246.39	243.38
Per capita GNP in US$	185.96	190.58	212.65	210.38	223.66	223.37	238.06	232.03	234.40	254.82	253.42

* Revised estimates
** Preliminary estimates
Source: Central Bureau of Statistics

Table 1.6 Value** of Export and Import of Commodity by Countiries

(In Million Rs)

Description	1990/91	1991/92	1992/93	1993/94	1994/95*	1995/96*	1996/97*	1997/98*	1998/99*	1999/00*
Export (FOB)	7,387.5	13,706.5	17,266.5	19,293.4	17,639.2	19,881.1	22,636.5	27,513.5	35,676.3	51,623.0
(a) India	1,552.2	1,450.0	1,621.7	2,408.9	3,124.3	3,682.6	5,226.2	8,794.4	12,530.7	22,618.7
(b) Other countries	5,835.3	12,256.5	15,644.8	16,884.5	14,514.9	16,198.5	17,410.3	18,719.1	23,145.6	29,004.3
Import (CIF)	23,226.5	31,940.0	39,205.6	51,570.8	63,679.5	74,454.5	93,553.4	89,002.0	87,525.3	106,966.8
(a) India	7,323.1	11,245.5	12,542.1	17,035.4	19,615.9	24,398.6	24,853.3	27,331.0	32,119.7	40,928.1
(b) Other countries	15,903.4	20,694.5	26,663.5	34,535.4	44,063.6	50,055.9	68,700.1	61,671.0	55,405.6	66,038.7
Total Balance	−15,839.0	−18,233.5	−21,939.1	−32,277.4	−46,040.3	−54,573.4	−70,916.9	−61,488.5	−51,849.0	−55,343.8
	−5,770.9	−9,795.5	−10,920.4	−14,626.5	−16,491.6	−20,716.0	−19,627.1	−18,536.6	−19,589.0	−18,309.4
(a) India	−10,068.1	−8,438.0	−11,018.7	−17,650.9	−29,548.7	−33,857.4	−51,289.8	−42,951.9	−32,260.0	−37,034.4
(b) Other countries										
Share of India (%)										
(a) Export	21.0	10.6	9.4	12.5	17.7	18.5	23.1	32.0	35.1	43.8
(b) Import	31.5	35.2	32.0	33.0	30.8	32.8	26.6	30.7	36.7	38.3

* Revised estimates
** Customs based data (at basic exchange rate)
Source: Nepal Rastra Bank

Table 1.7 Value of Exports by Major Commodity Groups*

(In Million Rs)

Description	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00**
Food and live animals	986.5	1,941.6	1,862.9	1,163.4	1,562.7	1,946.6	2,661.7	3,123.2	3,724.5	5,390.9
Tobacco and beverages	11.2	13.7	13.2	12.8	11.3	9.7	14.9	22.8	50.0	110.0
Crude materials, inedibles (except fuels)	312.1	437.4	531.8	432.4	485.5	768.7	663.5	487.1	469.9	526.8
Mineral fuels & lubricants	0.0	0.0	0.3	0.0	0.0	1.3	1.4	20.4	0.5	2.0
Animal and vegetable oils and fats	201.9	160.3	176.4	138.4	214.1	251.3	312.6	2,136.3	3,597.2	3,605.6
Chemicals and drugs	17.7	19.6	28.7	212.1	302.3	640.4	1,353.4	1,968.5	2,804.0	4,075.8
Manufactured goods classified chiefly by materials	4,312.3	7,557.0	10,298.3	10,912.6	9,260.3	10,455.7	11,028.6	11,637.1	13,539.6	16,013.7
Machinery and transport and equipments	0.1	0.3	1.2	6.4	37.1	35.2	59.6	58.0	97.8	384.2
Miscellaneous manufactured articles	1,545.7	3,576.4	4,352.3	6,415.1	5,765.8	5,772.2	6,540.3	8,059.6	113,928.0	21,513.6
Commodity & transactions not classified according to kind	0.0	0.0	1.4	0.2	0.1	0.0	0.5	0.0	0.0	
Total	7,387.5	13,706.3	17,266.5	19,293.4	17,639.2	19,881.1	22,636.5	27,513.0	138,211.5	51,622.6

* Customs based data (at basic exchange rate)
** Provisional
Source: Nepal Rastra Bank

Table 1.8 Value of Imports by Major Commodity Groups*

(In Million Rs)

Description	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00**
Food and live animals	1,820.5	2,947.5	3,024.7	4,084.8	4,464.0	4,785.8	5,400.5	4,929.0	7,619.5	10,734.7
Tobacco and beverages	257.0	288.3	469.3	367.6	500.9	508.6	590.7	799.5	846.1	941.2
Crude materials, inedibles (except fuels)	2,013.4	3,415.7	3,977.0	3,122.3	3,347.9	4,865.9	5,487.1	6,976.2	6,246.7	7,232.0
Mineral fuels & lubricants	2,278.3	3,644.7	3,834.1	4,837.0	4,717.1	5,549.3	7,160.3	9,537.3	8,737.5	9,113.9
Animal and vegetable oils and fats	741.7	801.8	1,085.1	1,457.2	2,056.0	2,830.9	2,327.6	2,025.8	3,329.0	4,445.9
Chemicals and drugs	3,051.1	4,615.3	5,265.0	5,541.4	7,193.2	8,686.8	8,504.2	11,077.3	12,476.4	15,464.6
Manufactured goods classified chiefly by materials	5,950.8	8,599.9	11,633.1	19,147.4	25,300.6	28,129.7	44,741.9	32,601.6	25,638.0	33,408.8
Machinery and transport and equipments	5,990.8	5,892.5	7,701.7	10,037.5	13,027.6	15,301.1	13,794.9	16,734.7	18,063.7	20,227.4
Miscellaneous manufactured articles	1,120.7	1,547.6	2,185.9	2,884.5	3,057.2	3,794.6	4,016.4	3,974.0	4,302.4	5,320.2
Commodity & transactions not classified according to kind	2.2	186.7	29.7	91.1	15.0	1.8	1,529.8	346.6	266.0	78.1
Total	23,226.5	31,940.0	39,205.6	51,570.8	63,679.5	74,454.5	93,553.4	89,002.0	87,525.3	106,966.8

* Customs based data (at basic exchange rate)
** Provisional
Source: Nepal Rastra Bank

Table 1.9 Overall Budgetary Position

(In Million Rs)

Description	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00*	2000/01**
Expenditure	23,549.8	26,418.2	30,897.7	33,597.4	39,060.0	46,542.4	50,723.7	56,118.3	59,579.0	67,564.8	91,621.3
Regular	7,570.3	9,905.4	11,484.1	12,409.2	19,265.1	21,561.9	24,181.1	27,174.4	31,047.7	34,272.8	43,512.7
Development	15,979.5	16,512.8	19,413.6	21,188.2	19,794.9	24,980.5	26,542.6	28,943.9	28,531.3	33,292.0	48,108.6
Source of Financing	12,894.7	15,156.5	18,941.7	21,974.4	28,512.3	32,718.2	36,361.8	38,340.5	41,587.6	48,303.3	64,828.6
Revenue	10,729.9	13,512.7	15,148.4	19,580.8	24,575.1	27,893.1	30,373.5	32,937.9	37,251.0	42,582.7	52,987.0
Foreign Grants	2,164.8	1,643.8	3,793.3	2,393.6	3,937.2	4,825.1	5,988.3	5,402.6	4,336.6	5,720.6	11,841.6
Surplus/Deficit	−10,655.1	−11,261.7	−11,956.0	−11,623.0	−10,547.7	−13,824.2	−14,361.9	−17,777.8	−17,991.4	−19,261.5	−26,792.7
Foreign Loan	6,256.7	6,816.9	6,920.9	9,136.6	7,312.3	9,463.9	9,043.6	11,054.5	11,852.4	13,650.1	1,972.7
Internal Loan	4,552.7	2,078.8	1,620.0	1,820.0	1,900.0	2,200.0	3,000.0	3,400.0	4,710.0	5,500.0	7,000.0
Cash Balance Surplus	−154.3	2,366.0	3,415.1	666.4	1,335.4	2,160.3	2,318.3	3,323.3	1,429.0	111.4	17,820.0
Share of Foreign Grants and Loan to DevelopmentExpenditure	52.7	51.2	55.2	54.4	56.8	57.2	56.6	56.9	56.7	58.2	28.7

Note: The change in foreign exchange rate is adjusted in direct payments
* Revised estimate
** Budget
Source: Budjet speech of the fiscal year 2000/01, Ministry of Finance

ATTACHMENT 1

Table 1.10 Government Revenue by Source

(In Million Rs)

Description	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00*
Tax Revenue	8,176.1	9,784.6	11,662.2	15,371.4	19,660.0	21,668.0	24,424.3	25,939.8	28,752.9	19,870.4
Customs	3,044.4	3,358.9	3,945.0	5,255.0	7,018.1	7,327.4	8,309.1	8,502.2	9,517.7	6,719.0
Imports	2,752.7	2,795.2	3,164.3	4,356.0	5,840.1	6,246.5	7,093.2	7,019.4	7,698.3	5,526.9
Exports	78.5	114.7	154.4	427.0	332.5	149.9	167.8	217.1	378.0	258.2
Indian Excise Refund	211.7	447.4	623.6	460.4	837.5	899.9	1,009.1	1,102.0	1,206.0	873.0
Others	1.5	1.6	2.7	11.6	8.0	31.1	39.0	163.7	235.4	60.9
Tax on Consumption and Product of Goods and Services	3,763.2	4,821.5	5,681.0	7,261.2	8,792.6	9,684.7	10,775.2	11,249.7	11,719.1	8,287.5
Industrial Product	1,199.7	1,414.1	1,452.4	1,592.2	1,657.3	1,944.3	2,298.1	2,885.8	2,953.2	1,869.3
Liquor Contract	0.6	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Sales Tax	2,026.1	2,840.7	3,439.1	4,693.1	6,031.7	6,431.3	7,126.5	7,122.6	7,882.2	6,177.7
Entertainment Tax	39.5	38.3	51.8	112.2	91.1	100.4	114.0	90.6	23.5	9.9
Hotel Tax	115.6	191.3	224.0	219.1	229.1	284.2	301.1	45.9	1.5	0.9
Air Flight Tax	173.4	177.9	205.9	270.7	278.2	311.1	314.2	343.3	240.7	0.1
Contract Tax	173.3	113.3	292.5	356.5	505.2	613.4	621.3	761.5	618.0	229.6
Road & Bridges Maint. Tax & Others	35.0	45.7	15.1	17.1	0.0	0.0	0.0	0.0	0.0	0.0
Land Revenue and Registration	538.7	636.1	754.9	833.1	937.7	1,066.6	1,015.4	1,004.2	1,003.2	578.7
Land Revenue	82.1	64.8	69.4	61.0	34.9	18.2	5.9	3.6	1.4	14.1
House and Land Registration	456.6	571.3	685.5	772.1	902.8	1,048.4	1,009.5	1,000.6	1,001.8	564.6
Tax on Property, Profit & Income	829.8	968.1	1,281.3	2,022.1	2,911.6	3,589.3	4,324.6	5,183.7	6,512.9	4,285.2
Income Tax from Public Enterprises	162.2	171.1	236.8	534.1	860.2	1,144.5	1,231.1	1,317.8	1,526.5	946.1
Income Tax from Private Corporate Bodies	2.7	5.3	21.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0
Income Tax from Individuals	0.0	6.5	9.5	19.7	440.1	563.9	858.4	925.1	1,155.0	699.7
Income Tax from Salary Earners	531.2	617.9	800.7	1,184.8	1,293.1	1,470.1	1,711.4	2,120.8	2,772.7	1,631.8
Urban House and Land Tax	49.9	54.7	56.7	83.8	118.4	133.1	168.1	322.2	396.5	262.5
Vehicle Tax	0.2	22.3	16.7	8.4	34.2	87.2	95.0	110.7	123.3	84.1
Tax on Interest	23.9	54.4	63.3	41.4	54.0	70.7	106.2	174.9	219.4	412.4
Wealth Tax	37.8	19.5	71.7	96.7	111.6	119.8	154.4	212.2	319.5	248.6
Other Taxes	21.9	16.4	4.8	51.1	0.0	0.0	0.0	0.0	0.0	0.0
Non-Tax Revenue	2,553.3	3,637.1	3,484.6	4,209.1	4,945.1	6,225.0	5,822.8	6,998.2	8,498.1	3,820.8
Charges, Fees, Fines & Forfeiture	1,012.5	1,106.3	332.2	248.0	207.1	286.1	270.8	329.6	336.1	246.5
Firm Registration	19.7	26.1	28.4	32.6	34.3	39.2	47.4	50.9	53.8	50.3
Arms Registration	0.9	0.9	2.1	2.9	3.2	2.5	2.0	2.8	2.4	4.7
Vehicle Licence	15.0	19.5	50.5	71.4	50.9	57.2	52.9	68.2	94.7	62.9
Judiciary	30.3	27.7	29.5	47.4	50.2	114.8	78.3	89.1	97.3	57.1
Administration, Penalty & Forfeiture	946.6	1,032.1	221.7	93.7	68.5	72.4	90.2	118.6	87.9	71.5
Receipts from Sales of Commodities & Services	511.4	765.0	889.4	1,269.9	1,388.3	1,673.2	1,673.2	2,255.6	2,146.6	1,460.6
Drinking Water	2.4	2.8	3.9	6.8	16.8	19.1	19.1	21.2	21.4	7.6
Irrigation	1.0	3.1	1.3	1.4	1.5	1.7	1.7	1.6	1.3	0.5
Electricity	1.0	1.1	3.3	1.3	2.5	2.5	2.5	212.3	2.4	0.8
Postal Services	55.3	74.1	96.6	112.8	160.0	157.6	157.6	198.8	201.7	151.6
Food & Agriculture	25.8	20.1	19.1	21.1	28.9	21.0	21.0	28.7	34.1	21.9
Education	16.2	17.7	29.3	23.7	20.9	22.7	22.7	58.5	50.5	73.2
Forest	136.3	197.8	178.9	342.6	335.9	442.1	442.1	390.5	374.6	260.2
Transport	78.7	150.3	175.0	191.7	179.4	263.1	263.1	311.5	235.9	57.5
Others	194.7	298.0	382.0	568.5	642.4	743.4	743.4	1,032.5	1,224.7	887.3
Dividend	459.5	644.4	755.5	775.5	1,060.1	1,363.0	1,134.4	1,311.0	1,782.8	870.0
Financial Institutions	455.6	627.1	752.0	755.5	1,037.7	1,281.3	1,120.7	1,276.7	1,455.2	676.0
Trading Concerns	0.9	3.1	0.0	0.5	9.3	47.2	0.0	31.0	124.0	9.7
Industrial Undertakings	0.0	14.2	3.0	0.4	0.8	2.0	0.1	2.8	0.0	3.2
Service Sector	3.0	0.0	0.5	19.1	12.3	32.5	13.6	0.5	203.6	181.1
Royalty and Sale of Fixed Assets	27.9	137.8	59.9	90.4	196.9	67.8	447.9	565.2	202.3	62.6
Royalty from Mining	1.3	2.6	2.3	2.3	5.1	2.2	3.0	3.9	11.1	8.4
Other Royalties	11.1	117.3	41.0	51.3	91.8	25.5	394.1	440.7	94.8	12.9
Others	15.5	17.9	16.6	36.8	100.0	40.1	50.8	120.6	96.4	41.3
Principal and Interest Payment	498.2	971.4	1,431.1	1,811.0	2,083.1	2,818.8	2,220.7	2,461.1	3,927.5	1,116.7
Loan Corporations	261.4	427.2	735.7	606.1	1,210.4	1,089.8	862.8	1,244.9	2,235.2	744.1
Interest from Loan to Companies & Corporations	236.5	543.8	694.8	1,191.9	872.4	1,724.2	1,357.1	1,212.4	1,682.7	367.5
Others	0.3	0.4	0.6	13.0	0.3	4.8	0.8	3.8	9.6	5.1
Miscellaneous Items	43.8	12.2	16.5	14.3	9.6	16.1	75.8	75.7	102.8	64.4
Total	10,729.4	13,421.7	15,146.8	19,580.5	24,605.1	27,893.0	30,247.1	32,938.0	37,251.0	23,691.2

* Provisional (First eight months)
Source: Economic Survey 1999/2000, Ministry of Finance

Table 2.1 District Development Profile - Land

Region	Zone		District		Major Land	Area	Physical Condition						Physical Condition						Physical Condition						Physical Condition						Physical Condition						Physical Condition					
							High Himalaya						High Mountain						Middle Mountain						Siwalik						Terai						Total					
							Agriculture		Pasture	Forest	Others	Total	Agriculture		Pasture	Forest	Others	Total	Agriculture		Pasture	Forest	Others	Total	Agriculture		Pasture	Forest	Others	Total	Agriculture		Pasture	Forest	Others	Total	Agriculture		Pasture	Forest	Others	Total
							Cultivated	Non Cultivated					Cultivated	Non Cultivated					Cultivated	Non Cultivated					Cultivated	Non Cultivated					Cultivated	Non Cultivated					Cultivated	Non Cultivated				
						km2	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha
Eastern	Mechi	1	Taplejung	2	High Mt.	3,646	37	61	13,608	30,218	12,195	56,119	10,386	5,783	16,108	88,056	30,396	150,729	17,128	7,903	735	20,893	950	47,609	0	0	0	0	0	0	0	0	0	0	0	0	27,551	13,747	30,451	139,167	43,541	254,457
		2	Panchthar	3	Middle Mt.	1,241	0	0	167	179	369	715	423	272	1,454	14,981	134	17,264	40,790	18,771	3,671	42,547	832	106,611	0	0	0	0	0	0	0	0	0	0	0	0	41,213	19,043	5,292	57,707	1,335	124,590
		3	Ilam	3	Middle Mt.	1,703	0	0	0	0	0	0	9	6	0	5,182	0	5,197	40,598	22,113	3,398	51,526	1,832	119,467	3,399	594	0	38,268	2,602	44,863	748	90	0	942	418	2,198	44,754	22,803	3,398	95,918	4,852	171,725
		4	Jhapa	5	Terai	1,606	0	0	0	0	0	0	0	0	0	0	0	0	110	16	0	92	0	218	6,032	321	0	3,167	573	10,093	107,474	9,621	3,058	13,849	12,578	146,580	113,616	9,958	3,058	17,108	13,151	156,891
			Total(Average)			8,196	37	61	13,775	30,397	12,564	56,834	10,818	6,061	17,562	108,219	30,530	173,190	98,626	48,803	7,804	115,058	3,614	273,905	9,431	915	0	41,435	3,175	54,956	108,222	9,711	3,058	14,791	12,996	148,778	227,134	65,551	42,199	309,900	62,879	707,663
	Koshi	5	Morang	5	Terai	1,855	0	0	0	0	0	0	0	0	0	0	0	0	2,727	2,391	667	10,583	82	16,450	2,631	1,145	188	14,494	459	18,917	101,976	9,730	1,616	29,614	6,377	149,313	107,334	13,266	2,471	54,691	6,918	184,680
		6	**Sunsari**	**5**	**Terai**	**1,257**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**511**	**555**	**0**	**2,064**	**20**	**3,150**	**1,440**	**659**	**0**	**5,867**	**132**	**8,098**	**72,590**	**6,189**	**4,912**	**15,273**	**16,864**	**115,828**	**74,541**	**7,403**	**4,912**	**23,204**	**17,016**	**127,076**
		7	Dhankuta	3	Middle Mt.	891	0	0	0	0	0	0	0	0	0	0	0	0	33,105	13,711	4,067	36,336	2,754	89,973	0	0	0	47	0	47	0	0	0	0	0	0	33,105	13,711	4,067	36,383	2,754	90,020
		8	Bhojpur	3	Middle Mt.	1,507	0	0	0	0	0	0	784	672	1,721	13,366	0	16,543	42,303	21,975	4,283	64,519	1,369	134,449	0	0	0	0	0	0	0	0	0	0	0	0	43,087	22,647	6,004	77,885	1,369	150,992
		9	Terhathum	3	Middle Mt.	679	0	0	0	0	0	0	28	17	124	223	0	392	26,891	9,931	3,901	2,374	1,142	44,239	156	259	86	662	0	1,163	0	0	0	0	0	0	27,075	10,207	4,111	3,259	1,142	45,794
		10	Sankhuwasabha	2	High Mt.	3,480	0	0	17,110	0	73,118	90,228	5,851	4,560	21,043	11,552	2,070	45,076	26,285	12,772	1,103	43,844	1,236	85,240	0	0	0	0	0	0	0	0	0	0	0	0	32,136	17,332	39,256	55,396	76,424	220,544
			Total(Average)			9,669	0	0	17,110	0	73,118	90,228	6,663	5,249	22,888	25,141	2,070	62,011	131,822	61,335	14,021	159,720	6,603	373,501	4,227	2,063	274	21,070	591	28,225	174,566	15,919	6,528	44,887	23,241	265,141	317,278	84,566	60,821	250,818	105,623	819,106
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	3,312	503	89	31,808	10,837	149,174	192,411	19,602	11,314	17,812	93,673	2,063	144,464	1,330	474	229	720	48	2,801	0	0	0	0	0	0	0	0	0	0	0	0	21,435	11,877	49,849	105,230	151,285	339,676
		12	Khotang	3	Middle Mt.	1,591	0	0	0	0	0	0	4,407	2,581	1,767	16,826	4	25,585	42,826	21,508	5,678	62,728	2,539	135,279	0	0	0	0	0	0	0	0	0	0	0	0	47,233	24,089	7,445	79,554	2,543	160,864
		13	Okhaldhunga	3	Middle Mt.	1,074	0	0	0	0	0	0	2,810	2,547	2,471	13,854	216	21,898	27,015	16,465	8,440	33,493	1,191	86,604	0	0	0	0	0	0	0	0	0	0	0	0	29,825	19,012	10,911	47,347	1,407	108,502
		14	Udayapur	4	Siwalik	2,063	0	0	0	0	0	0	0	0	0	0	0	0	16,929	13,917	1,933	53,024	1,591	87,394	16,417	3,206	519	83,478	5,007	108,627	1,719	205	440	2,415	2,369	7,148	35,065	17,328	2,892	138,917	8,967	203,169
		15	Saptari	5	Terai	1,363	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	814	59	0	3,059	172	4,104	78,982	6,530	2,649	3,594	12,534	104,289	79,796	6,589	2,649	6,653	12,706	108,393
		16	Siraha	5	Terai	1,188	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,477	151	35	25,763	358	27,784	79,289	7,438	1,279	2,392	4,615	95,013	80,766	7,589	1,314	28,155	4,973	122,797
			Total(Average)			10,591	503	89	31,808	10,837	149,174	192,411	26,819	16,442	22,050	124,353	2,283	191,947	88,100	52,364	16,280	149,965	5,369	312,078	18,708	3,416	554	112,300	5,537	140,515	159,990	14,173	4,368	8,401	19,518	206,450	294,120	86,484	75,060	405,856	181,881	1,043,401
	Total(Average)					28,456	540	150	62,693	41,234	234,856	339,473	44,300	27,752	62,500	257,713	34,883	427,148	318,548	162,502	38,105	424,743	15,586	959,484	32,366	6,394	828	174,805	9,303	223,696	442,778	39,803	13,954	68,079	55,755	620,369	838,532	236,601	178,080	966,574	350,383	2,570,170
Central	Janakpur	17	Dhanusa	5	Terai	1,180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,221	173	96	29,528	809	31,827	74,446	7,341	2,080	872	5,180	89,919	75,667	7,514	2,176	30,400	5,989	121,746
		18	Mahottari	5	Terai	1,002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,267	176	55	13,428	666	15,592	61,677	6,203	1,038	11,029	3,206	83,153	62,944	6,379	1,093	24,457	3,872	98,745
		19	Sarlahi	5	Terai	1,259	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,818	512	0	14,378	852	17,560	74,574	7,832	2,538	17,866	5,958	108,768	76,392	8,344	2,538	32,244	6,810	126,328
		20	Sindhuli	4	Siwalik	2,491	0	0	0	0	0	0	0	0	0	70	0	70	17,116	13,349	1,110	62,043	1,409	95,027	22,369	6,012	304	116,017	7,910	152,612	0	0	0	0	0	0	39,485	19,361	1,414	178,130	9,319	247,709
		21	Ramechhap	3	Middle Mt.	1,546	0	0	4,259	7,249	11,478	22,986	2,088	1,704	2,501	18,501	0	24,794	37,962	17,426	4,669	44,902	1,955	106,914	0	0	0	0	0	0	0	0	0	0	0	0	40,050	19,130	11,429	70,652	13,433	154,694
		22	Dolakha	2	High Mt.	2,191	52	11	23,294	12,076	39,541	74,974	10,181	6,666	8,111	59,707	952	85,617	19,190	8,771	2,723	22,695	308	53,687	0	0	0	0	0	0	0	0	0	0	0	0	29,423	15,448	34,128	94,478	40,801	214,278
			Total(Average)			9,669	52	11	27,553	19,325	51,019	97,960	12,269	8,370	10,612	78,278	952	110,481	74,268	39,546	8,502	129,640	3,672	255,628	26,675	6,873	455	173,351	10,237	217,591	210,697	21,376	5,656	29,767	14,344	281,840	323,961	76,176	52,778	430,361	80,224	963,500
	BagMati	23	Sindhupalchok	2	High Mt.	2,542	0	0	7,549	5,195	27,859	40,603	11,863	7,199	7,791	87,416	9,701	123,970	29,722	15,120	1,965	33,932	784	81,523	0	0	0	0	0	0	0	0	0	0	0	0	41,585	22,319	17,305	126,543	38,344	246,096
		24	Kavrepalanchok	3	Middle Mt.	1,396	0	0	0	0	0	0	0	0	0	0	0	0	35,760	24,754	3,741	72,950	1,255	138,460	682	403	5	2,851	85	4,026	0	0	0	0	0	0	36,442	25,157	3,746	75,801	1,340	142,486
		25	Lalitpur	3	Middle Mt.	385	0	0	0	0	0	0	0	0	0	0	0	0	12,585	4,779	87	20,722	793	38,966	208	88	0	5	0	301	0	0	0	0	0	0	12,793	4,867	87	20,727	793	39,267
		26	Bhaktapur	3	Middle Mt.	119	0	0	0	0	0	0	0	0	0	0	0	0	8,076	1,605	25	1,947	364	12,017	0	0	0	0	0	0	0	0	0	0	0	0	8,076	1,605	25	1,947	364	12,017
		27	Kathmandu	3	Middle Mt.	395	0	0	0	0	0	0	0	0	0	0	0	0	19,203	5,400	367	13,752	2,479	41,201	0	0	0	0	0	0	0	0	0	0	0	0	19,203	5,400	367	13,752	2,479	41,201
		28	Nuwakot	3	Middle Mt.	1,121	0	0	107	100	2,450	2,657	1,040	787	1,989	12,805	842	17,463	37,957	20,368	2,316	36,750	2,309	99,700	0	0	0	0	0	0	0	0	0	0	0	0	38,997	21,155	4,412	49,655	5,601	119,820
		29	Rasuwa	2	High Mt.	1,544	0	0	13,437	3,180	55,253	71,870	4,671	3,066	9,739	48,506	9,178	75,160	1,661	983	889	604	12	4,149	0	0	0	0	0	0	0	0	0	0	0	0	6,332	4,049	24,065	52,290	64,443	151,179
		30	Dhading	3	Middle Mt.	1,926	0	0	4,892	2,940	7,840	15,672	3,438	1,334	5,807	26,209	1,053	37,841	40,945	27,428	5,242	63,707	1,452	138,774	0	0	0	0	0	0	0	0	0	0	0	0	44,383	28,762	15,941	92,856	10,345	192,287
			Total(Average)			9,428	0	0	25,985	11,415	93,402	130,802	21,012	12,386	25,326	174,936	20,774	254,434	185,909	100,437	14,632	244,364	9,448	554,790	890	491	5	2,856	85	4,327	0	0	0	0	0	0	207,811	113,314	65,948	433,571	123,709	944,353
	Narayani	31	Rautahat	5	Terai	1,126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	364	352	91	6,894	59	7,760	58,006	5,877	2,448	23,858	5,760	95,949	58,370	6,229	2,539	30,752	5,819	103,709
		32	Makwanpur	4	Siwalik	2,426	0	0	0	0	0	0	0	0	0	0	0	0	16,070	11,316	2,461	64,411	689	94,947	24,772	7,499	675	103,037	8,141	144,124	0	0	0	5	0	5	40,842	18,815	3,136	167,453	8,830	239,076
		33	Bara	5	Terai	1,190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	995	458	96	14,905	1,006	17,460	61,828	6,682	2,853	37,654	3,086	112,103	62,823	7,140	2,949	52,559	4,092	129,563
		34	Parsa	5	Terai	1,353	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,119	167	66	45,127	2,043	48,522	48,927	4,519	2,790	31,997	2,188	90,421	50,046	4,686	2,856	77,124	4,231	138,943
		35	Chitawan	4	Siwalik	2,218	0	0	0	0	0	0	0	0	0	0	0	0	3,417	3,486	541	20,158	319	27,921	43,397	4,979	9,966	120,515	11,017	189,874	0	0	0	1,749	0	1,749	46,814	8,465	10,507	142,422	11,336	219,544
			Total(Average)			8,313	0	0	0	0	0	0	0	0	0	0	0	0	19,487	14,802	3,002	84,569	1,008	122,868	70,647	13,455	10,894	290,478	22,266	407,740	168,761	17,078	8,091	95,263	11,034	300,227	258,895	45,335	21,987	470,310	34,308	830,835
	Total(Average)					27,410	52	11	53,538	30,740	144,421	228,762	33,281	20,756	35,938	253,214	21,726	364,915	279,664	154,785	26,136	458,573	14,128	933,286	98,212	20,819	11,354	466,685	32,588	629,658	379,458	38,454	13,747	125,030	25,378	582,067	790,667	234,825	140,713	1,334,242	238,241	2,738,688
Western	Gandaki	36	Gorkha	3	Middle Mt.	3,610	240	84	34,696	108,000	94,520	237,540	6,397	4,882	22,509	60,331	29,699	123,818	34,845	18,091	1,785	41,404	1,187	97,312	0	0	0	0	0	0	0	0	0	0	0	0	41,482	23,057	58,990	209,735	125,406	458,670
		37	Lamjung	3	Middle Mt.	1,692	0	0	10,620	3,136	17,451	31,207	2,587	1,871	10,874	47,122	2,058	64,512	26,182	13,234	1,129	34,058	550	75,153	0	0	0	0	0	0	0	0	0	0	0	0	28,769	15,105	22,623	84,316	20,059	170,872
		38	Tanahu	3	Middle Mt.	1,546	0	0	0	0	0	0	0	0	0	0	0	0	39,482	25,583	2,544	84,294	2,534	154,437	827	208	42	1,068	295	2,440	0	0	0	0	0	0	40,309	25,791	2,586	85,362	2,829	156,877
		39	Syangja	3	Middle Mt.	1,164	0	0	0	0	0	0	0	0	0	0	0	0	37,718	22,300	10,265	31,691	1,713	103,687	0	0	0	0	0	0	0	0	0	0	0	0	37,718	22,300	10,265	31,691	1,713	103,687
		40	Kaski	3	Middle Mt.	2,017	21	36	20,219	4,973	38,739	63,988	5,449	2,055	4,436	53,574	337	65,851	31,551	13,891	4,004	31,456	2,484	83,386	0	0	0	0	0	0	0	0	0	0	0	0	37,021	15,982	28,659	90,003	41,560	213,225
		41	Manang	1	High Himalaya	2,246	650	220	41,995	15,261	1,284,400	1,342,526	167	40	6,941	3,905	21,993	33,046	0	0	94	0	0	94	0	0	0	0	0	0	0	0	0	0	0	0	817	260	49,030	19,166	1,306,393	1,375,666
			Total(Average)			12,275	911	340	107,530	131,370	1,435,110	1,675,261	14,600	8,848	44,760	164,932	54,087	287,227	169,778	93,099	19,821	222,903	8,468	514,069	827	208	42	1,068	295	2,440	0	0	0	0	0	0	186,116	102,495	172,153	520,273	1,497,960	2,478,997
	Dhawalagiri	42	Mustang	1	High Himalaya	3,573	4,516	751	146,174	16,023	18,384	185,848	174	26	1,505	2,465	432	4,602	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,690	777	147,679	18,488	18,816	190,450
		43	Myagdi	3	Middle Mt.	2,297	0	0	0	0	0	0	2,199	1,150	1,047	4,846	71	9,313	16,389	8,867	4,725	15,151	485	45,617	0	0	0	0	0	0	0	0	0	0	0	0	18,588	10,017	5,772	19,997	556	54,930
		44	Parbat	2	High Mt.	494	0	0	28,593	4,419	62,929	95,941	11,137	7,234	18,533	62,959	3,537	103,400	8,107	3,532	1,951	17,075	0	30,665	0	0	0	0	0	0	0	0	0	0	0	0	19,244	10,766	49,077	84,453	66,466	230,006
		45	Baglung	2	High Mt.	1,784	0	0	7,991	2,812	2,816	13,619	10,203	6,019	13,109	53,648	987	83,966	32,498	13,827	7,193	41,586	0	95,104	0	0	0	0	0	0	0	0	0	0	0	0	42,701	19,846	28,293	98,046	3,803	192,689
			Total(Average)			8,148	4,516	751	182,758	23,254	84,129	295,408	23,713	14,429	34,194	123,918	5,027	201,281	56,994	26,226	13,869	73,812	485	171,386	0	0	0	0	0	0	0	0	0	0	0	0	85,223	41,406	230,821	220,984	89,641	668,075
	Lumbini	46	Gulmi	3	Middle Mt.	1,149	0	0	0	0	0	0	18	30	0	124	0	172	31,450	22,680	11,964	40,540	1,113	107,747	0	0	0	0	0	0	0	0	0	0	0	0	31,468	22,710	11,964	40,664	1,113	107,919
		47	Palpa	3	Middle Mt.	1,373	0	0	0	0	0	0	0	0	0	0	0	0	33,385	18,457	6,629	52,551	975	111,997	3,182	2,148	369	17,327	278	23,304	0	0	0	1,294	0	1,294	36,567	20,605	6,998	71,172	1,253	136,595
		48	Nawalparasi	4	Siwalik	2,162	0	0	0	0	0	0	0	0	0	0	0	0	6,413	3,308	1,390	20,750	374	32,235	23,321	4,603	1,739	85,561	8,890	124,114	30,441	2,057	1,167	8,589	3,011	45,265	60,175	9,968	4,296	114,900	12,275	201,614
		49	Rupandehi	5	Terai	1,360	0	0	0	0	0	0	943	164	0	0	0	1,107	140	105	60	217	0	522	650	417	55	18,189	414	19,725	88,688	6,798	900	20,926	2,684	119,996	90,421	7,484	1,015	39,332	3,098	141,350
		50	Kapilbastu	5	Terai	1,738	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	528	501	0	27,283	100	28,412	87,181	5,645	933	50,555	2,968	147,282	87,709	6,146	933	77,838	3,068	175,694
		51	Arghakhanchi	3	Middle Mt.	1,193	0	0	0	0	0	0	0	0	0	0	0	0	20,996	13,642	9,433	40,239	22	84,332	3,548	2,060	309	32,895	428	39,240	0	0	0	0	0	0	24,544	15,702	9,742	73,134	450	123,572
			Total(Average)			8,975	0	0	0	0	0	0	961	194	0	124	0	1,279	92,384	58,192	29,476	154,297	2,484	336,833	31,229	9,729	2,472	181,255	10,110	234,795	206,310	14,500	3,000	81,364	8,663	313,837	330,884	82,615	34,948	417,040	21,257	886,744
	Total(Average)					29,398	5,427	1,091	290,288	154,624	1,519,239	1,970,669	39,274	23,471	78,954	288,974	59,114	489,787	319,156	177,517	63,166	451,012	11,437	1,022,288	32,056	9,937	2,514	182,323	10,405	237,235	206,310	14,500	3,000	81,364	8,663	313,837	602,223	226,516	437,922	1,158,297	1,608,858	4,033,816
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	1,309	0	0	0	0	0	0	674	354	1,732	7,185	133	10,078	26,862	14,412	11,167	61,583	534	114,558	635	104	0	3,926	219	4,884	0	0	0	0	0	0	28,171	14,870	12,899	72,694	886	129,520
		53	Rolpa	3	Middle Mt.	1,879	0	0	0	0	0	0	5,852	4,696	10,092	26,830	392	47,862	30,850	18,457	22,607	67,267	107	139,288	0	0	0	0	0	0	0	0	0	0	0	0	36,702	23,153	32,699	94,097	499	187,150
		54	Rukum	2	High Mt.	2,877	0	0	13,482	5,177	43,967	62,626	19,256	11,691	36,158	118,852	10,622	196,579	9,159	5,194	3,446	12,423	1,247	31,469	0	0	0	0	0	0	0	0	0	0	0	0	28,415	16,885	53,086	136,452	55,836	290,674
		55	Salyan	3	Middle Mt.	1,462	0	0	0	0	0	0	0	0	0	0	0	0	34,383	18,291	17,334	79,583	496	150,087	0	0	0	15	0	15	0	0	0	0	0	0	34,383	18,291	17,334	79,598	496	150,102
		56	Dang	4	Siwalik	2,955	0	0	0	0	0	0	0	0	0	0	0	0	6,480	4,874	5,005	320,181	0	336,540	61,775	7,556	3,900	166,641	10,377	250,249	91	8	0	451	0	550	68,346	12,438	8,905	487,273	10,377	587,339
			Total(Average)			10,482	0	0	13,482	5,177	43,967	62,626	25,782	16,741	47,982	152,867	11,147	254,519	107,734	61,228	59,559	541,037	2,384	771,942	62,410	7,660	3,900	170,582	10,596	255,148	91	8	0	451	0	550	196,017	85,637	124,923	870,114	68,094	1,344,785
	Bheri	57	Banke	5	Terai	2,337	0	0	0	0	0	0	0	0	0	0	0	0	962	755	138	4,282	0	6,137	2,903	1,032	49	107,528	2,185	113,697	47,527	5,797	2,434	55,389	5,001	116,148	51,392	7,584	2,621	167,199	7,186	235,982
		58	Bardiya	5	Terai	2,025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,063	485	0	59,153	1,879	63,580	52,915	6,473	2,894	68,529	9,172	139,983	54,978	6,958	2,894	127,682	11,051	203,563
		59	Surkhet	4	Siwalik	2,451	0	0	0	0	0	0	0	0	0	0	0	0	17,177	118,737	13,246	67,698	1,376	218,234	18,998	4,188	1,152	110,157	3,187	137,682	0	0	0	0	0	0	36,175	122,925	14,398	177,855	4,563	355,916
		60	Dailekh	3	Middle Mt.	1,502	0	0	0	0	0	0	687	578	2,390	19,760	865	24,280	34,583	16,873	15,265	58,377	676	125,774	0	0	0	0	0	0	0	0	0	0	0	0	35,270	17,451	17,655	78,137	1,541	150,054
		61	Jajarkot	2	High Mt.	2,230	0	0	9,381	9,273	11,471	30,125	11,108	6,018	15,883	89,393	6,129	128,531	14,643	6,453	4,685	36,949	797	63,527	0	0	0	0	0	0	0	0	0	0	0	0	25,751	12,471	29,949	135,615	18,397	222,183
			Total(Average)			10,545	0	0	9,381	9,273	11,471	30,125	11,795	6,596	18,273	109,153	6,994	152,811	67,365	142,818	33,334	167,306	2,849	413,672	23,964	5,705	1,201	276,838	7,251	314,959	100,442	12,270	5,328	123,918	14,173	256,131	203,566	167,389	67,517	686,488	42,738	1,167,698
	Karnal	62	Dolpa	1	High Himalaya	7,889	1,218	333	129,589	16,411	462,452	610,003	4,790	3,000	30,141	47,464	7,832	93,227	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,008	3,333	159,730	63,875	470,284	703,230
		63	Jumla	2	High Mt.	2,531	12	21	24,966	8,552	51,898	85,449	14,731	9,293	41,259	96,019	7,614	168,916	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14,743	9,314	66,225	104,571	59,512	254,365
		64	Kalikot	2	High Mt.	1,741	0	0	0	0	0	0	15,828	7,920	42,072	105,942	3,051	174,813	0	0	0	114	0	114	0	0	0	0	0	0	0	0	0	0	0	0	15,828	7,920	42,072	106,056	3,051	174,927
		65	Mugu	2	Hgih Mt.	3,535	17	10	52,822	8,811	123,480	185,140	11,555	7,062	39,105	102,233	12,983	172,938	100	49	0	0	0	149	0	0	0	55	0	55	0	0	0	0	0	0	11,672	7,121	91,927	111,099	136,463	358,282
		66	Humla	1	High Himalaya	5,655	185	49	103,890	9,201	325,862	439,187	5,881	3,182	34,214	56,758	30,211	130,246	0	0	3,346	8,824	2,182	14,352	0	0	0	0	40	40	0	0	0	0	0	0	6,066	3,231	141,450	74,783	358,295	583,825
			Total(Average)			21,351	1,432	413	311,267	42,975	963,692	1,319,779	52,785	30,457	186,791	408,416	61,691	740,140	100	49	3,346	8,938	2,182	14,615	0	0	0	55	40	95	0	0	0	0	0	0	54,317	30,919	501,404	460,384	1,027,605	2,074,629
	Total(Average)					42,378	1,432	413	334,130	57,425	1,019,130	1,412,530	90,362	53,794	253,046	670,436	79,832	1,147,470	175,199	204,095	96,239	717,281	7,415	1,200,229	86,374	13,365	5,101	447,475	17,887	570,202	100,533	12,278	5,328	124,369	14,173	256,681	453,900	283,945	693,844	2,016,986	1,138,437	4,587,112
Far Western	Seti	67	Bajura	2	High Mt.	2,188	12	20	2,474	7,967	16,832	27,305	13,333	8,187	34,973	89,884	24,957	171,334	1,187	606	648	795	301	3,537	0	0	0	0	0	0	0	0	0	0	0	0	14,532	8,813	38,095	98,646	42,090	202,176
		68	Bajhang	2	High Mt.	3,422	0	0	22,136	4,561	118,571	145,268	16,390	8,465	17,147	79,911	18,528	140,441	10,687	6,173	13,646	28,708	2,636	61,850	0	0	0	0	0	0	0	0	0	0	0	0	27,077	14,638	52,929	113,180	139,735	347,559
		69	Achham	3	Middle Mt.	1,680	0	0	0	0	0	0	1,597	743	2,359	11,484	305	16,488	37,745	19,507	12,780	76,614	6,089	152,735	0	0	0	0	0	0	0	0	0	0	0	0	39,342	20,250	15,139	88,098	6,394	169,223
		70	Doti	3	Middle Mt.	2,025	0	0	0	0	0	0	31	46	931	5,483	0	6,491	32,397	15,420	8,135	132,090	2,316	190,358	1,035	438	0	7,117	265	8,855	0	0	0	0	0	0	33,463	15,904	9,066	144,690	2,581	205,704
		71	Kailali	5	Terai	3,235	0	0	0	0	0	0	0	0	0	0	0	0	708	264	0	867	8	1,847	5,941	3,425	964	11,742	2,406	24,478	63,018	7,424	3,837	11,280	567	86,126	69,667	11,113	4,801	23,889	2,981	112,451
			Total(Average)			12,550	12	20	24,610	12,528	135,403	172,573	31,351	17,441	55,410	186,762	43,790	334,754	82,724	41,970	35,209	239,074	11,350	410,327	6,976	3,863	964	18,859	2,671	33,333	63,018	7,424	3,837	11,280	567	86,126	184,081	70,718	120,030	468,503	193,781	1,037,113
	Mahakali	72	Kanchanpur	5	Terai	1,610	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99	14	0	19,261	137	19,511	42,212	5,045	9,755	80,802	6,353	144,167	42,311	5,059	9,755	100,063	6,490	163,678
		73	Dadeldhura	3	Middle Mt.	1,538	0	0	0	0	0	0	0	0	0	206	0	206	16,458	7,136	4,851	81,223	139	109,807	2,810	829	0	43,008	1,280	47,927	0	0	0	463	23	486	19,268	7,965	4,851	124,900	1,442	158,426
		74	Baitadi	3	Middle Mt.	1,519	0	0	0	0	0	0	0	0	185	0	0	185	31,485	19,018	19,014	78,721	255	148,493	0	0	0	0	0	0	0	0	0	0	0	0	31,485	19,018	19,199	78,721	255	148,678
		75	Darchula	2	High Mt.	2,322	270	52	29,137	5,354	61,619	96,432	6,191	3,469	22,018	51,792	5,346	88,816	9,592	5,390	10,060	22,392	278	47,712	0	0	0	0	0	0	0	0	0	0	0	0	16,053	8,911	61,215	79,538	67,243	232,960
			Total(Average)			6,989	270	52	29,137	5,354	61,619	96,432	6,191	3,469	22,203	51,998	5,346	89,207	57,535	31,544	33,925	182,336	672	306,012	2,909	843	0	62,269	1,417	67,438	42,212	5,045	9,755	81,265	6,376	144,653	109,117	40,953	95,020	383,222	75,430	703,742
	Total(Average)					19,539	282	72	53,747	17,882	197,022	269,005	37,542	20,910	77,613	238,760	49,136	423,961	140,259	73,514	69,134	421,410	12,022	716,339	9,885	4,706	964	81,128	4,088	100,771	105,230	12,469	13,592	92,545	6,943	230,779	293,198	111,671	215,050	851,725	269,211	1,740,855
Total(Average)						147,181	7,733	1,737	794,396	301,905	3,114,668	4,220,439	244,759	146,683	508,051	1,709,097	244,691	2,853,281	1,232,826	772,413	292,780	2,473,019	60,588	4,831,626	258,893	55,221	20,761	1,352,416	74,271	1,761,562	1,234,309	117,504	49,621	491,387	110,912	2,003,733	2,978,520	1,093,558	1,665,609	6,327,824	3,605,130	15,670,641

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

ATTACHMENT 2

Table 2.2 District Development Profile – Population

Region	Zone		District		Major Land	Area	Population							Population					
							1991 Census							2001 Preliminary Results of Census					
							Male	Female	Total	Density	Households	Ave. HH	Literacy rate 6years >	Male	Female	Total	Density	Households	Ave. HH
						km2				per km2			%				per km2		
Eastern	Mechi	1	Taplejung	2	High Mt.	3,646	58,774	61,279	120,053	33	21,370	5.6	46	66,702	68,838	135,540	37	24,812	5.5
		2	Panchthar	3	Middle Mt.	1,241	86,254	88,952	175,206	141	31,452	5.6	45	99,087	103,521	202,608	163	37,538	5.4
		3	Ilam	3	Middle Mt.	1,703	115,377	113,837	229,214	135	41,450	5.5	53	142,535	140,287	282,822	166	55,619	5.1
		4	Jhapa	5	Terai	1,606	299,946	293,791	593,737	370	110,894	5.4	57	343,675	347,498	691,173	430	139,730	4.9
			Total(Average)			8,196	560,351	557,859	1,118,210	136	205,166	5.5	53	651,999	660,144	1,312,143	160	257,699	5.1
	Koshi	5	Morang	5	Terai	1,855	343,045	331,778	674,823	364	126,557	5.3	48	423,435	420,113	843,548	455	169,415	5.0
		6	**Sunsari**	**5**	**Terai**	**1,257**	**234,217**	**229,264**	**463,481**	**369**	**84,492**	**5.5**	**44**	**315,819**	**312,586**	**628,405**	**500**	**121,983**	**5.2**
		7	Dhankuta	3	Middle Mt.	891	72,080	74,306	146,386	164	27,425	5.3	49	80,594	85,078	165,672	186	32,989	5.0
		8	Bhojpur	3	Middle Mt.	1,507	96,037	102,747	198,784	132	37,058	5.4	43	98,738	106,488	205,226	136	39,687	5.2
		9	Terhathum	3	Middle Mt.	679	50,319	52,551	102,870	152	18,379	5.6	55	55,519	58,609	114,128	168	20,825	5.5
		10	Sankhuwasabha	2	High Mt.	3,480	69,519	72,384	141,903	41	26,902	5.3	48	78,127	81,552	159,679	46	31,144	5.1
			Total(Average)			9,669	865,217	863,030	1,728,247	179	320,813	5.4	44	1,052,232	1,064,426	2,116,658	219	416,043	5.1
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	3,312	47,921	49,279	97,200	29	19,232	5.1	29	52,912	54,970	107,882	33	21,806	4.9
		12	Khotang	3	Middle Mt.	1,591	104,866	111,099	215,965	136	40,183	5.4	40	113,323	118,897	232,220	146	43,024	5.4
		13	Okhaldhunga	3	Middle Mt.	1,074	67,951	71,506	139,457	130	26,362	5.3	37	75,144	81,195	156,339	146	30,205	5.2
		14	Udayapur	4	Siwalik	2,063	109,704	111,552	221,256	107	40,500	5.5	38	143,780	144,384	288,164	140	53,007	5.4
		15	Saptari	5	Terai	1,363	236,368	229,300	465,668	342	85,720	5.4	34	294,217	283,221	577,438	424	103,052	5.6
		16	Siraha	5	Terai	1,188	236,211	224,535	460,746	388	83,716	5.5	29	294,052	278,499	572,551	482	101,492	5.6
			Total(Average)			10,591	803,021	797,271	1,600,292	151	295,713	5.4	34	973,428	961,166	1,934,594	183	352,586	5.5
	Total(Average)					28,456	2,228,589	2,218,160	4,446,749	156	821,692	5.4	42	2,677,659	2,685,736	5,363,395	188	1,026,328	5.2
Central	Janakpur	17	Dhanusa	5	Terai	1,180	281,775	261,897	543,672	461	98,358	5.5	30	358,784	328,202	686,986	582	121,716	5.6
		18	Mahottari	5	Terai	1,002	227,627	212,519	440,146	439	79,640	5.5	26	288,567	265,290	553,857	553	95,199	5.8
		19	Sarlahi	5	Terai	1,259	254,964	237,834	492,798	391	88,141	5.6	26	332,394	309,470	641,864	510	113,216	5.7
		20	Sindhuli	4	Siwalik	2,491	111,409	112,491	223,900	90	38,350	5.8	32	139,282	140,708	279,990	112	48,864	5.7
		21	Ramechhap	3	Middle Mt.	1,546	90,718	97,346	188,064	122	34,766	5.4	30	101,089	111,466	212,555	137	40,557	5.2
		22	Dolakha	2	High Mt.	2,191	84,825	88,411	173,236	79	35,862	4.8	38	100,147	104,597	204,744	93	43,262	4.7
			Total(Average)			9,669	1,051,318	1,010,498	2,061,816	213	375,117	5.5	29	1,320,263	1,259,733	2,579,996	267	462,814	5.6
	BagMati	23	Sindhupalchok	2	High Mt.	2,542	131,523	129,502	261,025	103	51,291	5.1	29	152,096	153,941	306,037	120	60,522	5.1
		24	Kavrepalanchok	3	Middle Mt.	1,396	159,784	164,545	324,329	232	56,633	5.7	39	188,498	196,720	385,218	276	72,055	5.3
		25	Lalitpur	3	Middle Mt.	385	130,326	126,760	257,086	668	25,682	10.0	64	171,822	164,855	336,677	874	70,513	4.8
		26	Bhaktapur	3	Middle Mt.	119	86,818	86,134	172,952	1,453	28,160	6.1	60	115,487	111,373	226,860	1,906	41,882	5.4
		27	Kathmandu	3	Middle Mt.	395	351,316	324,025	675,341	1,710	127,196	5.3	70	581,361	512,053	1,093,414	2,768	245,026	4.5
		28	Nuwakot	3	Middle Mt.	1,121	122,531	122,729	245,260	219	45,657	5.4	32	142,369	145,274	287,643	257	53,297	5.4
		29	Rasuwa	2	High Mt.	1,544	18,985	17,759	36,744	24	7,195	5.1	24	22,960	21,536	44,496	29	8,827	5.0
		30	Dhading	3	Middle Mt.	1,926	138,035	140,033	278,068	144	51,273	5.4	33	164,823	173,690	338,513	176	62,973	5.4
			Total(Average)			9,428	1,139,318	1,111,487	2,250,805	239	393,087	5.7	50	1,539,416	1,479,442	3,018,858	320	615,095	4.9
	Narayani	31	Rautahat	5	Terai	1,126	213,994	200,011	414,005	368	76,219	5.4	25	283,496	263,714	547,210	486	88,532	6.2
		32	Makwanpur	4	Siwalik	2,426	159,562	155,037	314,599	130	56,091	5.6	37	196,192	193,100	389,292	160	72,066	5.4
		33	Bara	5	Terai	1,190	214,872	200,846	415,718	349	68,952	6.0	30	287,389	269,704	557,093	468	89,660	6.2
		34	Parsa	5	Terai	1,353	193,174	179,350	372,524	275	60,630	6.1	33	258,859	236,029	494,888	366	79,939	6.2
		35	Chitawan	4	Siwalik	2,218	175,656	178,832	354,488	160	65,147	5.4	56	233,044	237,669	470,713	212	94,319	5.0
			Total(Average)			8,313	957,258	914,076	1,871,334	225	327,039	5.7	36	1,258,980	1,200,216	2,459,196	296	424,516	5.8
	Total(Average)					27,410	3,147,894	3,036,061	6,183,955	226	1,095,243	5.6	39	4,118,659	3,939,391	8,058,050	294	1,502,425	5.4
Western	Gandaki	36	Gorkha	3	Middle Mt.	3,610	121,327	131,197	252,524	70	49,311	5.1	44	134,681	153,420	288,101	80	59,292	4.9
		37	Lamjung	3	Middle Mt.	1,692	73,061	80,636	153,697	91	30,559	5.0	49	83,225	94,136	177,361	105	36,733	4.8
		38	Tanahu	3	Middle Mt.	1,546	127,312	140,761	268,073	173	49,805	5.4	53	146,637	169,399	316,036	204	63,386	5.0
		39	Syangja	3	Middle Mt.	1,164	136,269	157,257	293,526	252	55,497	5.3	53	143,298	173,609	316,907	272	64,888	4.9
		40	Kaski	3	Middle Mt.	2,017	141,535	151,410	292,945	145	60,403	4.8	58	186,446	195,134	381,580	189	87,689	4.4
		41	Manang	1	High Himalaya	2,246	2,789	2,574	5,363	2	1,272	4.2	47	4,936	4,558	9,494	4	1,778	5.3
			Total(Average)			12,275	602,293	663,835	1,266,128	103	246,847	5.1	52	699,223	790,256	1,489,479	121	313,766	4.7
	Dhawalagiri	42	Mustang	1	High Himalaya	3,573	7,468	6,824	14,292	4	3,209	4.5	45	7,755	6,825	14,580	4	3,276	4.5
		43	Myagdi	3	Middle Mt.	2,297	47,734	52,818	100,552	44	20,696	4.9	43	53,854	61,497	115,351	50	24,660	4.7
		44	Parbat	2	High Mt.	494	66,572	76,975	143,547	291	27,973	5.1	52	73,122	84,905	158,027	320	32,883	4.8
		45	Baglung	2	High Mt.	1,784	108,340	124,146	232,486	130	44,371	5.2	43	123,422	145,063	268,485	150	53,962	5.0
			Total(Average)			8,148	230,114	260,763	490,877	60	96,249	5.1	46	258,153	298,290	556,443	68	114,781	4.8
	Lumbini	46	Gulmi	3	Middle Mt.	1,149	120,795	145,536	266,331	232	50,544	5.3	49	134,583	162,733	297,316	259	59,590	5.0
		47	Palpa	3	Middle Mt.	1,373	110,325	125,988	236,313	172	41,846	5.6	51	124,559	143,314	267,873	195	50,226	5.3
		48	Nawalparasi	4	Siwalik	2,162	217,749	218,468	436,217	202	72,565	6.0	41	277,133	284,957	562,090	260	99,153	5.7
		49	Rupandehi	5	Terai	1,360	264,607	257,543	522,150	384	86,650	6.0	40	357,474	345,049	702,523	517	118,175	5.9
		50	Kapilbastu	5	Terai	1,738	191,444	180,334	371,778	214	60,948	6.1	31	248,553	235,679	484,232	279	73,365	6.6
		51	Arghakhanchi	3	Middle Mt.	1,193	84,172	96,712	180,884	152	34,511	5.2	47	97,056	112,053	209,109	175	40,935	5.1
			Total(Average)			8,975	989,092	1,024,581	2,013,673	224	347,064	5.8	42	1,239,358	1,283,785	2,523,143	281	441,444	5.7
	Total(Average)					29,398	1,821,499	1,949,179	3,770,678	128	690,160	5.5	46	2,196,734	2,372,331	4,569,065	155	869,991	5.3
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	1,309	81,751	93,718	175,469	134	33,323	5.3	35	98,705	113,817	212,522	162	40,307	5.3
		53	Rolpa	3	Middle Mt.	1,879	86,817	92,804	179,621	96	33,070	5.4	30	101,923	108,946	210,869	112	38,562	5.5
		54	Rukum	2	High Mt.	2,877	76,956	78,598	155,554	54	29,290	5.3	31	95,267	92,549	187,816	65	33,543	5.6
		55	Salyan	3	Middle Mt.	1,462	90,168	91,617	181,785	124	31,650	5.7	33	106,624	107,371	213,995	146	38,205	5.6
		56	Dang	4	Siwalik	2,955	175,085	179,328	354,413	120	56,099	6.3	41	228,763	234,133	462,896	157	83,162	5.6
			Total(Average)			10,482	510,777	536,065	1,046,842	100	183,432	5.7	35	631,282	656,816	1,288,098	123	233,779	5.5
	Bheri	57	Banke	5	Terai	2,337	147,786	137,818	285,604	122	49,083	5.8	35	201,416	190,387	391,803	168	71,175	5.5
		58	Bardiya	5	Terai	2,025	146,920	143,393	290,313	143	41,298	7.0	30	193,041	190,679	383,720	189	61,179	6.3
		59	Surkhet	4	Siwalik	2,451	111,843	113,925	225,768	92	39,721	5.7	43	142,886	145,805	288,691	118	54,095	5.3
		60	Dailekh	3	Middle Mt.	1,502	93,577	93,823	187,400	125	33,922	5.5	31	110,661	115,680	226,341	151	41,402	5.5
		61	Jajarkot	2	High Mt.	2,230	57,159	56,799	113,958	51	20,837	5.5	24	68,002	65,768	133,770	60	24,003	5.6
			Total(Average)			10,545	557,285	545,758	1,103,043	105	184,861	6.0	33	716,006	708,319	1,424,325	135	251,854	5.7
	Karnal	62	Dolpa	1	High Himalaya	7,889	12,703	12,310	25,013	3	4,968	5.0	26	14,798	14,855	29,653	4	5,852	5.1
		63	Jumla	2	High Mt.	2,531	38,588	37,376	75,964	30	13,547	5.6	26	45,931	43,547	89,478	35	15,910	5.6
		64	Kalikot	2	High Mt.	1,741	44,679	44,126	88,805	51	16,041	5.5	21	53,270	52,510	105,780	61	18,587	5.7
		65	Mugu	2	Hgih Mt.	3,535	18,562	17,802	36,364	10	6,837	5.3	22	22,352	21,775	44,127	12	8,302	5.3
		66	Humla	1	High Himalaya	5,655	17,698	16,685	34,383	6	6,160	5.6	21	21,016	19,733	40,749	7	6,947	5.9
			Total(Average)			21,351	132,230	128,299	260,529	12	47,553	5.5	23	157,367	152,420	309,787	15	55,598	5.6
	Total(Average)					42,378	1,200,292	1,210,122	2,410,414	57	415,846	5.8	33	1,504,655	1,517,555	3,022,210	71	541,231	5.6
Far Western	Seti	67	Bajura	2	High Mt.	2,188	45,054	46,956	92,010	42	17,542	5.2	27	53,933	54,797	108,730	50	20,477	5.3
		68	Bajhang	2	High Mt.	3,422	66,651	72,441	139,092	41	25,090	5.5	27	80,829	86,552	167,381	49	29,116	5.7
		69	Achham	3	Middle Mt.	1,680	93,108	105,080	198,188	118	38,934	5.1	25	110,540	122,717	233,257	139	44,951	5.2
		70	Doti	3	Middle Mt.	2,025	80,872	86,296	167,168	83	31,557	5.3	30	104,784	104,170	208,954	103	36,686	5.7
		71	Kailali	5	Terai	3,235	210,127	207,764	417,891	129	60,928	6.9	31	312,301	306,830	619,131	191	95,511	6.5
			Total(Average)			12,550	495,812	518,537	1,014,349	81	174,051	5.8	29	662,387	675,066	1,337,453	107	226,741	5.9
	Mahakali	72	Kanchanpur	5	Terai	1,610	130,023	127,883	257,906	160	40,056	6.4	44	192,889	187,902	380,791	237	61,095	6.2
		73	Dadeldhura	3	Middle Mt.	1,538	50,403	54,244	104,647	68	18,501	5.7	39	61,057	65,616	126,673	82	22,281	5.7
		74	Baitadi	3	Middle Mt.	1,519	96,354	104,362	200,716	132	35,300	5.7	38	113,713	121,418	235,131	155	40,593	5.8
		75	Darchula	2	High Mt.	2,322	50,108	51,575	101,683	44	17,617	5.8	42	59,794	62,119	121,913	53	21,062	5.8
			Total(Average)			6,989	326,888	338,064	664,952	95	111,474	6.0	41	427,453	437,055	864,508	124	145,031	6.0
	Total(Average)					19,539	822,700	856,601	1,679,301	86	285,525	5.9	34	1,089,840	1,112,121	2,201,961	113	371,772	5.9
Total(Average)						147,181	9,220,974	9,270,123	18,491,097	126	3,308,466	5.6	40	11,587,547	11,627,134	23,214,681	158	4,311,747	5.4

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

ATTACHMENT 2

Table 2.3 District Development Profile – Agriculture (Land Survey Record)

Region	Zone		District		Major Land	Land Survey Record							
						Total Area	No. of Plot	Average Area of a Plot	No. of Tenants	No. of Land Owners	Average Land per Owners	Discounted	Cultivated
						ha	ha	ha				ha	ha
Eastern	Mechi	1	Taplejung	2	High Mt.	100,948	165,595	0.61	103	44,794	2.25	44,296	56,652
		2	Panchthar	3	Middle Mt.	50,536	170,730	0.30	1,168	47,596	1.06	1,158	49,378
		3	Ilam	3	Middle Mt.	106,407	148,582	0.72	0	42,749	2.49	31,918	74,489
		4	Jhapa	5	Terai	119,113	153,137	0.78	34,711	25,690	4.64	25,161	93,952
			Total(Average)			377,004	638,044	0.59	35,982	160,829	2.34	102,533	274,471
	Koshi	5	Morang	5	Terai	109,238	215,693	0.51	20,836	42,469	2.57	15,624	93,614
		6	**Sunsari**	**5**	**Terai**	**81,269**	**137,795**	**0.59**	**18,172**	**22,765**	**3.57**	**13,288**	**67,981**
		7	Dhankuta	3	Middle Mt.	85,236	137,126	0.62	1,360	31,312	2.72	45,020	40,216
		8	Bhojpur	3	Middle Mt.	137,310	270,860	0.51	1,126	64,706	2.12	77,014	60,296
		9	Terhathum	3	Middle Mt.	59,145	126,468	0.47	1,324	29,122	2.03	27,380	31,765
		10	Sankhuwasabha	2	High Mt.	129,587	261,363	0.50	4,285	45,835	2.83	58,433	71,154
			Total(Average)			601,785	1,149,305	0.52	47,103	236,209	2.55	236,759	365,026
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	127,196	239,153	0.53	15	41,124	3.09	81,511	45,685
		12	Khotang	3	Middle Mt.	157,187	354,831	0.44	231	83,527	1.88	88,923	86,264
		13	Okhaldhunga	3	Middle Mt.	105,945	291,729	0.36	0	55,538	1.91	44,674	61,271
		14	Udayapur	4	Siwalik	69,968	103,385	0.68	172	4,455	15.71	39,275	30,693
		15	Saptari	5	Terai	108,551	348,678	0.31	11,876	41,876	2.59	15,734	92,817
		16	Siraha	5	Terai	95,715	378,254	0.25	49,916	75,431	1.27	14,193	81,516
			Total(Average)			664,562	1,716,030	0.39	62,210	301,951	2.20	284,310	398,246
	Total(Average)					1,643,351	3,503,379	0.47	145,295	698,989	2.35	623,602	1,037,743
Central	Janakpur	17	Dhanusa	5	Terai	79,812	367,199	0.22	16,455	56,536	1.41	12,643	67,169
		18	Mahottari	5	Terai	80,549	293,827	0.27	8,244	70,460	1.14	13,197	67,352
		19	Sarlahi	5	Terai	88,722	271,129	0.33	17,176	54,507	1.63	13,824	74,898
		20	Sindhuli	4	Siwalik	26,923	122,744	0.22	420	14,127	1.91	15,125	11,798
		21	Ramechhap	3	Middle Mt.	67,637	270,131	0.25	146	49,400	1.37	15,974	51,663
		22	Dolakha	2	High Mt.	104,226	438,770	0.24	0	59,402	1.75	57,589	46,637
			Total(Average)			447,869	1,763,800	0.25	42,441	304,432	1.47	128,352	319,517
	BagMati	23	Sindhupalchok	2	High Mt.	138,496	463,895	0.30	658	69,060	2.01	79,345	59,151
		24	Kavrepalanchok	3	Middle Mt.	126,034	392,294	0.32	500	52,000	2.42	65,799	60,235
		25	Lalitpur	3	Middle Mt.	27,376	169,459	0.16	125,753	77,237	0.35	12,939	14,437
		26	Bhaktapur	3	Middle Mt.	11,014	159,370	0.07	16,483	52,283	0.21	2,402	8,612
		27	Kathmandu	3	Middle Mt.	33,544	279,344	0.12	30,867	91,708	0.37	9,841	23,703
		28	Nuwakot	3	Middle Mt.	69,445	253,906	0.27	736	40,424	1.72	25,768	43,677
		29	Rasuwa	2	High Mt.	30,437	47,437	0.64	412	5,753	5.29	21,497	8,940
		30	Dhading	3	Middle Mt.	76,657	311,913	0.25	629	48,810	1.57	26,759	49,898
			Total(Average)			513,003	2,077,618	0.25	176,038	437,275	1.17	244,350	268,653
	Narayani	31	Rautahat	5	Terai	89,528	358,002	0.25	14,609	70,016	1.28	10,986	78,542
		32	Makwanpur	4	Siwalik	58,812	121,414	0.48	1,899	33,884	1.74	22,025	36,787
		33	Bara	5	Terai	69,290	273,704	0.25	17,651	52,951	1.31	8,944	60,346
		34	Parsa	5	Terai	52,176	198,551	0.26	42,122	44,739	1.17	5,426	46,750
		35	Chitawan	4	Siwalik	52,574	80,198	0.66	1,642	23,696	2.22	2,968	49,606
			Total(Average)			322,380	1,031,869	0.31	77,923	225,286	1.43	50,349	272,031
	Total(Average)					1,283,252	4,873,287	0.26	296,402	966,993	1.33	423,051	860,201
Western	Gandaki	36	Gorkha	3	Middle Mt.	310,827	381,606	0.81	140	58,597	5.30	75,182	55,645
		37	Lamjung	3	Middle Mt.	79,925	296,760	0.27	5	48,617	1.64	43,447	36,478
		38	Tanahu	3	Middle Mt.	81,657	289,109	0.28	247	47,166	1.73	33,434	48,223
		39	Syangja	3	Middle Mt.	94,876	687,926	0.14	19	94,598	1.00	28,259	66,617
		40	Kaski	3	Middle Mt.	80,600	354,374	0.23	93	50,150	1.61	42,062	38,583
		41	Manang	1	High Himalaya	15,313	21,122	0.72	0	3,833	4.00	13,182	2,131
			Total(Average)			663,198	2,030,897	0.33	504	302,961	2.19	235,566	247,677
	Dhawalagiri	42	Mustang	1	High Himalaya	11,092	36,470	0.30	0	3,939	2.82	4,536	6,556
		43	Myagdi	3	Middle Mt.	30,632	136,570	0.22	107	25,985	1.18	10,923	19,709
		44	Parbat	2	High Mt.	45,456	331,061	0.14	2	42,713	1.06	16,750	28,706
		45	Baglung	2	High Mt.	105,828	367,181	0.29	52	54,415	1.94	51,218	54,610
			Total(Average)			193,008	871,282	0.22	161	127,052	1.52	83,427	109,581
	Lumbini	46	Gulmi	3	Middle Mt.	105,318	389,221	0.27	2	66,755	1.58	19,615	85,703
		47	Palpa	3	Middle Mt.	128,470	243,686	0.53	587	47,908	2.68	81,090	47,380
		48	Nawalparasi	4	Siwalik	69,610	163,302	0.43	743	19,987	3.48	27,706	41,904
		49	Rupandehi	5	Terai	98,206	473,121	0.21	62,035	40,029	2.45	15,313	82,893
		50	Kapilbastu	5	Terai	91,652	615,604	0.15	7,364	36,536	2.51	10,175	81,477
		51	Arghakhanchi	3	Middle Mt.	97,310	239,392	0.41	0	40,556	2.40	53,070	44,240
			Total(Average)			590,566	2,124,326	0.28	70,731	251,771	2.35	206,969	383,597
	Total(Average)					1,446,772	5,026,505	0.29	71,396	681,784	2.12	525,962	740,855
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	125,312	251,040	0.50	46	41,597	3.01	79,965	45,347
		53	Rolpa	3	Middle Mt.	74,802	354,977	0.21	42,970	18,793	3.98	18,793	56,009
		54	Rukum	2	High Mt.	133,652	321,463	0.42	0	37,241	3.59	98,182	35,470
		55	Salyan	3	Middle Mt.	134,199	242,173	0.55	13	36,845	3.64	94,657	39,542
		56	Dang	4	Siwalik	81,924	256,636	0.32	3,602	21,913	3.74	29,242	52,682
			Total(Average)			549,889	1,426,289	0.39	46,631	156,389	3.52	320,839	229,050
	Bheri	57	Banke	5	Terai	50,785	156,227	0.33	5,067	15,673	3.24	9,313	41,445
		58	Bardiya	5	Terai	53,274	60,755	0.88	11,093	7,347	7.25	1,079	521,965
		59	Surkhet	4	Siwalik	51,268	88,889	0.58	287	21,385	2.40	24,197	27,071
		60	Dailekh	3	Middle Mt.	125,650	266,613	0.47	0	42,475	2.96	78,577	47,073
		61	Jajarkot	2	High Mt.	129,853	173,541	0.75	0	21,079	6.16	104,489	25,364
			Total(Average)			410,830	746,025	0.55	16,447	107,959	3.81	217,655	662,918
	Karnal	62	Dolpa	1	High Himalaya	9,640	124,219	0.08	0	6,470	1.49	1,976	7,664
		63	Jumla	2	High Mt.	47,745	397,234	0.12	15	15,414	3.10	22,514	25,231
		64	Kalikot	2	High Mt.	70,971	199,365	0.36	0	15,679	4.53	52,872	18,099
		65	Mugu	2	Hgih Mt.	17,001	253,033	0.07	0	11,190	1.52	5,654	11,347
		66	Humla	1	High Himalaya	12,129	119,690	0.10	0	12,098	1.00	2,425	9,704
			Total(Average)			157,486	1,093,541	0.14	15	60,851	2.59	85,441	72,045
	Total(Average)					1,118,205	3,265,855	0.34	63,093	325,199	3.44	623,935	964,013
Far Western	Seti	67	Bajura	2	High Mt.	75,597	224,616	0.34	160	16,553	4.57	55,441	20,156
		68	Bajhang	2	High Mt.	131,931	229,344	0.58	0	25,305	5.21	102,674	29,257
		69	Achham	3	Middle Mt.	136,823	373,673	0.37	55	35,057	3.90	96,217	40,606
		70	Doti	3	Middle Mt.	108,753	295,772	0.37	58	30,947	3.51	75,745	33,008
		71	Kailali	5	Terai	73,981	73,897	1.00	4,477	12,768	5.79	24,028	49,953
			Total(Average)			527,085	1,197,302	0.44	4,750	120,630	4.37	354,105	172,980
	Mahakali	72	Kanchanpur	5	Terai	35,383	34,028	1.04	3,694	2,600	13.61	7,836	27,547
		73	Dadeldhura	3	Middle Mt.	15,697	156,977	0.10	141	14,410	1.09	2,330	13,367
		74	Baitadi	3	Middle Mt.	112,821	477,335	0.24	0	39,027	2.89	54,147	58,674
		75	Darchula	2	High Mt.	80,947	144,167	0.56	1	17,146	4.72	57,896	23,051
			Total(Average)			244,848	812,507	0.30	3,836	73,183	3.35	122,209	122,639
	Total(Average)					771,933	2,009,809	0.38	8,586	193,813	3.98	476,314	295,619
Total(Average)						6,263,513	18,678,835	0.34	584,772	2,866,778	2.18	2,672,864	3,898,431

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

ATTACHMENT 2

Table 2.4 District Development Profile Agriculture (Crop Area 1998/99)

Region	Zone		District		Major Land	Crop Area (1998/99)														
						Cereal Crops					Cash Crops					Pulses				
						Paddy	Maize	Millet	Wheat	Barley	Oil seed	Potato	Tobacco	Sugarcane	Jute	Lentil	Chick Pea	Pigeon Pea	Black Gram	Grass Pea
						ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha
Eastern	Mechi	1	Taplejung	2	High Mt.	7,000	10,200	5,631	1,895	216	490	2,725	0	0	0	26	0	0	328	0
		2	Panchthar	3	Middle Mt.	10,375	16,500	5,952	4,091	520	783	3,859	0	61	0	35	25	46	750	0
		3	Ilam	3	Middle Mt.	13,200	22,650	3,680	4,533	9	1,050	4,900	0	20	0	445	75	9	613	0
		4	Jhapa	5	Terai	94,500	20,150	2,800	13,275	50	2,000	5,025	450	100	1,650	50	50	500	800	100
			Total(Average)			125,075	69,500	18,063	23,794	795	4,323	16,509	450	181	1,650	556	150	555	2,491	100
	Koshi	5	Morang	5	Terai	92,800	14,100	1,285	14,950	30	8,700	4,890	100	1,350	8,125	5,600	110	190	420	1,750
		6	**Sunsari**	**5**	**Terai**	**58,600**	**4,970**	**850**	**16,416**	**5**	**2,050**	**1,304**	**120**	**2,585**	**1,550**	**2,102**	**420**	**368**	**526**	**1,577**
		7	Dhankuta	3	Middle Mt.	9,725	17,160	8,100	2,770	22	986	1,640	0	40	0	133	5	3	796	0
		8	Bhojpur	3	Middle Mt.	17,350	18,700	9,500	2,550	77	365	2,500	0	18	0	465	0	0	680	0
		9	Terhathum	3	Middle Mt.	11,500	11,700	3,200	2,603	107	258	1,734	0	20	0	20	0	0	844	0
		10	Sankhuwasabha	2	High Mt.	10,480	10,050	7,100	1,775	276	556	2,631	0	120	0	10	0	0	400	0
			Total(Average)			200,455	76,680	30,035	41,064	517	12,915	14,699	220	4,133	9,675	8,330	535	561	3,666	3,327
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	878	4,120	1,610	2,508	571	106	3,825	0	0	0	12	0	0	85	0
		12	Khotang	3	Middle Mt.	11,300	18,000	12,680	4,050	320	964	2,400	0	10	0	15	0	0	417	0
		13	Okhaldhunga	3	Middle Mt.	6,930	9,200	7,500	2,070	110	120	2,225	10	5	0	10	0	0	615	0
		14	Udayapur	4	Siwalik	11,300	14,800	2,570	5,000	36	3,935	625	25	12	50	570	180	215	510	200
		15	Saptari	5	Terai	70,050	1,200	300	17,000	10	3,700	3,500	100	50	150	5,610	600	145	25	1,070
		16	Siraha	5	Terai	67,100	2,500	180	15,300	10	620	750	815	1,150	150	3,600	600	500	350	100
			Total(Average)			167,558	49,820	24,840	45,928	1,057	9,445	13,325	950	1,227	350	9,817	1,380	860	2,002	1,370
	Total(Average)					493,088	196,000	72,938	110,786	2,369	26,683	44,533	1,620	5,541	11,675	18,703	2,065	1,976	8,159	4,797
Central	Janakpur	17	Dhanusa	5	Terai	61,030	2,050	1,200	24,000	27	3,010	1,250	500	2,300	0	2,300	535	1,750	65	4,000
		18	Mahottari	5	Terai	46,500	3,350	1,700	18,000	80	3,510	2,600	900	2,900	0	5,000	500	1,200	100	2,000
		19	Sarlahi	5	Terai	44,446	8,000	560	22,400	205	5,950	1,100	680	7,900	0	22,500	1,500	2,070	70	1,550
		20	Sindhuli	4	Siwalik	11,600	23,342	10,662	5,691	210	5,530	1,418	0	80	0	166	20	0	418	0
		21	Ramechhap	3	Middle Mt.	6,180	16,000	7,700	2,500	300	260	2,600	0	50	0	0	20	0	380	0
		22	Dolakha	2	High Mt.	2,650	5,300	3,500	4,600	200	265	2,200	0	10	0	580	0	0	210	0
			Total(Average)			172,406	58,042	25,322	77,191	1,022	18,525	11,168	2,080	13,240	0	30,546	2,575	5,020	1,243	7,550
	BagMati	23	Sindhupalchok	2	High Mt.	7,500	17,000	14,619	7,000	500	1,545	3,003	0	30	0	8	0	11	340	0
		24	Kavrepalanchok	3	Middle Mt.	13,900	24,000	1,350	11,350	700	700	4,000	0	60	0	60	50	0	660	0
		25	Lalitpur	3	Middle Mt.	5,250	5,730	1,230	4,416	250	2,250	700	0	0	0	12	15	0	40	0
		26	Bhaktapur	3	Middle Mt.	4,700	2,200	1,300	4,100	25	350	1,100	0	0	0	45	15	0	20	0
		27	Kathmandu	3	Middle Mt.	11,000	5,800	990	7,080	10	70	1,400	0	0	0	400	17	0	35	0
		28	Nuwakot	3	Middle Mt.	17,050	19,190	6,400	6,216	90	575	1,705	0	150	0	12	5	0	152	0
		29	Rasuwa	2	High Mt.	1,400	2,360	1,334	892	285	23	2,375	0	0	0	19	0	0	105	0
		30	Dhading	3	Middle Mt.	14,450	20,020	8,600	4,500	350	650	1,600	0	450	0	10	10	0	650	0
			Total(Average)			75,250	96,300	35,823	45,554	2,210	6,163	15,883	0	690	0	566	112	11	2,002	0
	Narayani	31	Rautahat	5	Terai	42,250	5,000	110	11,700	300	7,400	1,350	95	7,500	0	22,600	430	1,010	55	1,600
		32	Makwanpur	4	Siwalik	11,950	19,600	3,075	4,250	28	1,470	4,200	0	100	0	295	25	0	375	20
		33	Bara	5	Terai	54,400	6,500	100	23,725	109	3,500	3,550	145	3,750	0	13,000	123	300	240	350
		34	Parsa	5	Terai	46,050	5,800	312	19,180	70	5,823	810	150	1,400	0	6,800	110	270	75	1,000
		35	Chitawan	4	Siwalik	32,300	29,200	1,500	10,000	550	22,993	1,500	0	30	0	3,600	75	25	400	80
			Total(Average)			186,950	66,100	5,097	68,855	1,057	41,186	11,410	390	12,780	0	46,295	763	1,605	1,145	3,050
	Total(Average)					434,606	220,442	66,242	191,600	4,289	65,874	38,461	2,470	26,710	0	77,407	3,450	6,636	4,390	10,600
Western	Gandaki	36	Gorkha	3	Middle Mt.	15,900	17,580	12,570	4,060	248	582	1,705	0	90	0	10	1	1	3,310	0
		37	Lamjung	3	Middle Mt.	11,900	11,350	8,603	4,315	202	605	1,405	0	22	0	200	0	0	825	0
		38	Tanahu	3	Middle Mt.	14,400	20,120	6,350	2,700	13	460	555	0	25	0	128	12	10	2,640	0
		39	Syangja	3	Middle Mt.	14,300	28,793	15,500	7,000	90	130	470	0	15	0	10	10	15	100	0
		40	Kaski	3	Middle Mt.	15,450	15,500	10,557	5,563	206	666	860	0	28	0	85	10	0	670	0
		41	Manang	1	High Himalaya	0	500	0	310	275	20	640	0	0	0	0	0	0	0	0
			Total(Average)			71,950	93,843	53,580	23,948	1,034	2,463	5,635	0	180	0	433	33	26	7,545	0
	Dhawalagiri	42	Mustang	1	High Himalaya	0	520	0	478	1,015	50	500	0	0	0	4	0	0	0	0
		43	Myagdi	3	Middle Mt.	3,348	9,000	4,325	3,510	1,500	700	1,300	0	30	0	5	18	0	30	0
		44	Parbat	2	High Mt.	8,800	11,100	9,000	3,300	280	275	1,250	0	16	0	50	15	20	317	0
		45	Baglung	2	High Mt.	5,348	14,600	8,161	6,848	1,218	312	1,040	0	10	0	70	45	10	200	0
			Total(Average)			17,496	35,220	21,486	14,136	4,013	1,337	4,090	0	56	0	129	78	30	547	0
	Lumbini	46	Gulmi	3	Middle Mt.	10,500	21,100	7,610	5,398	682	320	595	0	60	0	15	15	0	300	0
		47	Palpa	3	Middle Mt.	9,360	20,200	3,010	6,054	285	590	625	0	70	0	93	72	17	32	0
		48	Nawalparasi	4	Siwalik	42,600	9,700	4,250	19,000	105	6,850	850	35	7,100	0	6,686	300	500	425	50
		49	Rupandehi	5	Terai	70,250	1,750	60	30,341	70	5,287	2,365	30	3,400	0	2,613	84	2,469	70	300
		50	Kapilbastu	5	Terai	70,200	900	110	23,894	110	3,343	1,615	20	5,287	0	3,709	1,150	1,970	450	300
		51	Arghakhanchi	3	Middle Mt.	7,170	15,530	1,050	6,750	812	630	410	0	0	0	50	18	0	140	0
			Total(Average)			210,080	69,180	16,090	91,437	2,064	17,020	6,460	85	15,917	0	13,166	1,639	4,956	1,417	650
	Total(Average)					299,526	198,243	91,156	129,521	7,111	20,820	16,185	85	16,153	0	13,728	1,750	5,012	9,509	650
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	6,540	12,060	2,290	8,055	148	600	550	0	0	0	66	60	0	300	0
		53	Rolpa	3	Middle Mt.	4,710	11,190	700	8,200	1,223	121	1,450	0	0	0	14	25	0	165	0
		54	Rukum	2	High Mt.	4,750	18,660	1,220	11,100	1,030	92	750	0	0	0	35	5	0	25	0
		55	Salyan	3	Middle Mt.	6,050	19,135	4,000	13,175	1,430	931	950	0	0	0	76	38	0	724	0
		56	Dang	4	Siwalik	38,900	22,300	300	12,400	70	18,180	1,650	5	10	540	20,600	3,050	1,900	500	82
			Total(Average)			60,950	83,345	8,510	52,930	3,901	19,924	5,350	5	10	540	20,791	3,178	1,900	1,714	82
	Bheri	57	Banke	5	Terai	33,500	7,850	0	11,850	30	6,200	1,425	80	100	152	8,450	1,845	1,625	70	100
		58	Bardiya	5	Terai	32,180	8,500	10	15,600	100	12,870	1,430	45	132	314	6,830	1,275	4,225	560	125
		59	Surkhet	4	Siwalik	12,410	15,320	1,425	17,070	900	3,700	525	0	40	10	702	400	7	638	0
		60	Dailekh	3	Middle Mt.	5,750	8,170	2,629	6,400	530	672	410	0	10	0	300	150	0	120	0
		61	Jajarkot	2	High Mt.	3,510	7,800	2,060	6,550	1,644	168	470	0	0	0	175	20	0	158	0
			Total(Average)			87,350	47,640	6,124	57,470	3,204	23,610	4,260	125	282	476	16,457	3,690	5,857	1,546	225
	Karnal	62	Dolpa	1	High Himalaya	260	1,950	700	230	390	22	600	0	0	0	0	0	0	25	0
		63	Jumla	2	High Mt.	1,500	2,122	2,055	1,573	2,743	90	1,300	0	0	0	12	0	0	50	0
		64	Kalikot	2	High Mt.	1,150	1,730	1,100	5,260	1,040	58	680	0	0	0	90	0	0	30	0
		65	Mugu	2	Hgih Mt.	420	160	690	1,260	1,010	10	180	0	0	0	2	0	0	30	0
		66	Humla	1	High Himalaya	390	98	1,956	952	681	40	560	0	0	0	5	0	0	20	0
			Total(Average)			3,720	6,060	6,501	9,275	5,864	220	3,320	0	0	0	109	0	0	155	0
	Total(Average)					152,020	137,045	21,135	119,675	12,969	43,754	12,930	130	292	1,016	37,357	6,868	7,757	3,415	307
Far Western	Seti	67	Bajura	2	High Mt.	3,230	790	1,990	4,630	995	230	230	0	15	0	110	25	3	94	0
		68	Bajhang	2	High Mt.	3,500	1,270	1,500	6,050	1,004	58	325	0	5	0	531	8	1	150	0
		69	Achham	3	Middle Mt.	6,800	5,150	1,784	7,050	154	270	629	58	10	0	17	100	13	116	0
		70	Doti	3	Middle Mt.	6,000	2,500	3,000	9,150	340	550	610	0	10	0	245	105	2	130	0
		71	Kailali	5	Terai	55,000	12,000	70	17,000	150	22,500	1,250	50	2,000	10	22,000	270	270	242	80
			Total(Average)			74,530	21,710	8,344	43,880	2,643	23,608	3,044	108	2,040	10	22,903	508	289	732	80
	Mahakali	72	Kanchanpur	5	Terai	44,270	11,330	45	21,340	12	8,640	840	9	2,940	67	2,580	1,285	1,020	25	115
		73	Dadeldhura	3	Middle Mt.	7,020	4,000	1,540	8,800	350	600	440	0	60	0	616	50	0	522	0
		74	Baitadi	3	Middle Mt.	5,550	7,520	1,350	9,100	1,000	250	610	0	113	0	600	40	0	150	0
		75	Darchula	2	High Mt.	3,600	6,000	1,200	6,100	1,100	200	1,000	0	45	0	700	30	2	471	0
			Total(Average)			60,440	28,850	4,135	45,340	2,462	9,690	2,890	9	3,158	67	4,496	1,405	1,022	1,168	115
	Total(Average)					134,970	50,560	12,479	89,220	5,105	33,298	5,934	117	5,198	77	27,399	1,913	1,311	1,900	195
Total(Average)						1,514,210	802,290	263,950	640,802	31,843	190,429	118,043	4,422	53,894	12,768	174,594	16,046	22,692	27,373	16,549

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

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Table 2.5 District Development Profile – Agriculture (Crop Production 1998/99))

Region	Zone		District		Major Land	Crop Production (1998/99)														
						Cereal Crops					Cash Crops					Pulses				
						Paddy	Maize	Millet	Wheat	Barley	Oil seed	Potato	Tobacco	Sugarcane	Jute	Lentil	Chick Pea	Pigeon Pea	Black Gram	Grass Pea
						t	t	t	t	t	t	t	t	t	t	t	t	t	t	t
Eastern	Mechi	1	Taplejung	2	High Mt.	14,200	14,280	6,350	1,752	259	488	20,982	0	0	0	20	0	0	196	0
		2	Panchthar	3	Middle Mt.	19,712	27,225	7,560	7,268	494	666	36,660	0	1,574	0	39	16	55	487	0
		3	Ilam	3	Middle Mt.	26,995	41,175	3,402	6,332	5	900	46,550	0	400	0	360	60	7	470	0
		4	Jhapa	5	Terai	283,500	34,255	3,000	21,420	60	1,800	34,170	400	2,500	1,650	65	55	500	700	75
			Total(Average)			344,407	116,935	20,312	36,772	818	3,854	138,362	400	4,474	1,650	484	131	562	1,853	75
	Koshi	5	Morang	5	Terai	240,280	26,650	1,157	28,068	30	6,115	59,852	90	59,750	11,445	3,600	66	126	243	950
		6	**Sunsari**	**5**	**Terai**	**159,980**	**8,946**	**1,160**	**28,645**	**5**	**822**	**14,344**	**100**	**81,944**	**1,750**	**1,577**	**189**	**276**	**315**	**1,419**
		7	Dhankuta	3	Middle Mt.	22,830	28,828	8,166	4,245	24	798	16,400	0	720	0	67	3	3	406	0
		8	Bhojpur	3	Middle Mt.	48,620	29,920	10,520	4,648	92	228	20,000	0	160	0	511	0	0	299	0
		9	Terhathum	3	Middle Mt.	22,830	19,890	4,000	4,540	135	130	13,872	0	380	0	13	0	0	297	0
		10	Sankhuwasabha	2	High Mt.	19,600	16,582	7,500	1,760	286	292	14,996	0	1,020	0	6	0	0	235	0
			Total(Average)			514,140	130,816	32,503	71,906	572	8,385	139,464	190	143,974	13,195	5,774	258	405	1,795	2,369
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	1,660	6,674	1,510	3,746	653	78	30,313	0	0	0	10	0	0	60	0
		12	Khotang	3	Middle Mt.	24,860	27,900	13,800	6,751	314	674	20,400	0	200	0	19	0	0	375	0
		13	Okhaldhunga	3	Middle Mt.	17,325	15,640	7,500	2,685	94	67	17,355	10	40	0	9	0	0	272	0
		14	Udayapur	4	Siwalik	27,920	24,420	3,084	7,392	30	2,324	3,585	17	230	50	431	162	215	357	80
		15	Saptari	5	Terai	169,100	2,160	300	23,120	10	2,405	30,300	80	1,500	150	3,030	510	100	20	600
		16	Siraha	5	Terai	150,960	4,350	180	23,355	10	320	5,250	800	40,480	150	1,800	300	200	180	60
			Total(Average)			391,825	81,144	26,374	67,049	1,111	5,868	107,203	907	42,450	350	5,299	972	515	1,264	740
	Total(Average)					1,250,372	328,895	79,189	175,727	2,501	18,107	385,029	1,497	190,898	15,195	11,557	1,361	1,482	4,912	3,184
Central	Janakpur	17	Dhanusa	5	Terai	71,405	4,100	1,437	36,000	23	2,709	12,500	500	78,200	0	2,300	338	1,400	59	1,600
		18	Mahottari	5	Terai	97,880	6,700	1,700	30,600	70	2,071	26,000	600	95,700	0	4,000	500	1,200	60	1,300
		19	Sarlahi	5	Terai	89,025	13,600	620	33,600	266	5,355	8,800	748	276,500	0	18,000	1,350	1,350	36	1,395
		20	Sindhuli	4	Siwalik	25,636	39,313	13,852	9,090	152	4,050	14,180	0	1,780	0	133	15	0	293	0
		21	Ramechhap	3	Middle Mt.	15,450	24,000	7,122	4,020	245	160	22,050	0	780	0	0	10	0	285	0
		22	Dolakha	2	High Mt.	5,830	7,950	3,820	7,060	140	199	19,800	0	150	0	460	0	0	126	0
			Total(Average)			305,226	95,663	28,551	120,370	896	14,544	103,330	1,848	453,110	0	24,893	2,213	3,950	859	4,295
	BagMati	23	Sindhupalchok	2	High Mt.	15,750	28,050	17,390	10,920	600	1,545	29,532	0	540	0	6	0	12	249	0
		24	Kavrepalanchok	3	Middle Mt.	36,395	48,000	1,885	18,728	700	497	54,000	0	1,800	0	30	38	0	462	0
		25	Lalitpur	3	Middle Mt.	25,200	12,033	1,630	7,420	275	1,375	8,540	0	0	0	9	8	0	21	0
		26	Bhaktapur	3	Middle Mt.	23,500	5,500	1,780	8,610	30	219	14,510	0	0	0	60	9	0	20	0
		27	Kathmandu	3	Middle Mt.	54,000	13,340	1,380	12,820	6	48	19,600	0	0	0	330	10	0	28	0
		28	Nuwakot	3	Middle Mt.	40,120	28,785	7,180	10,390	83	345	15,345	0	2,075	0	8	4	0	66	0
		29	Rasuwa	2	High Mt.	2,660	3,300	1,540	1,320	300	15	20,425	0	0	0	12	0	0	65	0
		30	Dhading	3	Middle Mt.	29,500	30,030	9,940	6,300	280	325	15,200	0	12,700	0	7	5	0	325	0
			Total(Average)			227,125	169,038	42,725	76,508	2,274	4,369	177,152	0	17,115	0	462	74	12	1,236	0
	Narayani	31	Rautahat	5	Terai	80,500	9,000	130	28,080	330	6,660	12,150	70	264,900	0	16,800	350	625	33	1,240
		32	Makwanpur	4	Siwalik	27,600	33,320	3,444	7,080	35	1,323	44,100	0	2,800	0	346	20	0	340	10
		33	Bara	5	Terai	159,920	17,650	120	52,800	73	2,076	49,170	130	167,100	0	10,400	126	300	240	190
		34	Parsa	5	Terai	138,150	11,625	312	39,319	91	4,367	8,910	150	56,000	0	6,800	70	305	61	900
		35	Chitawan	4	Siwalik	87,210	64,240	1,425	16,000	605	6,898	15,750	0	960	0	2,700	67	27	380	40
			Total(Average)			493,380	135,835	5,431	143,279	1,134	21,324	130,080	350	491,760	0	37,046	633	1,257	1,054	2,380
	Total(Average)					1,025,731	400,536	76,707	340,157	4,304	40,237	410,562	2,198	961,985	0	62,401	2,920	5,219	3,149	6,675
Western	Gandaki	36	Gorkha	3	Middle Mt.	36,330	29,886	14,960	6,750	315	407	14,198	0	2,040	0	9	1	1	2,125	0
		37	Lamjung	3	Middle Mt.	23,996	17,150	9,131	7,050	184	367	7,660	0	399	0	130	0	0	536	0
		38	Tanahu	3	Middle Mt.	33,722	34,200	7,316	4,833	12	402	4,849	0	438	0	80	10	7	2,152	0
		39	Syangja	3	Middle Mt.	28,650	37,640	15,112	11,900	90	117	3,384	0	250	0	13	10	19	125	0
		40	Kaski	3	Middle Mt.	37,164	24,800	13,812	9,635	206	466	6,450	0	588	0	48	10	0	300	0
		41	Manang	1	High Himalaya	0	500	0	373	320	15	4,650	0	0	0	0	0	0	0	0
			Total(Average)			159,862	144,176	60,331	40,541	1,127	1,774	41,191	0	3,715	0	280	31	27	5,238	0
	Dhawalagiri	42	Mustang	1	High Himalaya	0	624	0	574	1,187	35	3,550	0	0	0	3	0	0	0	0
		43	Myagdi	3	Middle Mt.	7,250	14,400	4,305	5,250	1,300	480	9,750	0	540	0	4	9	0	15	0
		44	Parbat	2	High Mt.	17,600	17,760	9,100	4,440	281	87	9,400	0	160	0	32	8	15	312	0
		45	Baglung	2	High Mt.	12,736	23,652	8,160	9,312	1,620	293	9,360	0	175	0	57	35	7	140	0
			Total(Average)			37,586	56,436	21,565	19,576	4,388	895	32,060	0	875	0	96	52	22	467	0
	Lumbini	46	Gulmi	3	Middle Mt.	24,370	31,650	7,710	7,870	782	230	4,165	0	1,080	0	10	15	0	207	0
		47	Palpa	3	Middle Mt.	22,296	36,279	3,307	10,132	265	359	5,605	0	1,121	0	87	65	14	19	0
		48	Nawalparasi	4	Siwalik	119,280	16,490	4,300	42,750	121	3,425	8,075	28	279,500	0	3,343	220	351	212	25
		49	Rupandehi	5	Terai	189,680	2,975	70	60,683	69	3,700	23,655	20	134,400	0	1,567	66	987	28	180
		50	Kapilbastu	5	Terai	135,580	900	120	35,894	110	2,340	13,727	15	196,200	0	2,411	1,093	1,477	180	150
		51	Arghakhanchi	3	Middle Mt.	15,100	24,848	1,000	10,170	812	570	3,485	0	0	0	35	16	0	80	0
			Total(Average)			506,306	113,142	16,507	167,499	2,159	10,624	58,712	63	612,301	0	7,453	1,475	2,829	726	355
	Total(Average)					703,754	313,754	98,403	227,616	7,674	13,293	131,963	63	616,891	0	7,829	1,558	2,878	6,431	355
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	14,500	17,487	2,500	12,050	148	468	4,400	0	0	0	63	54	0	300	0
		53	Rolpa	3	Middle Mt.	9,200	17,920	700	12,100	1,428	90	12,320	0	0	0	12	18	0	149	0
		54	Rukum	2	High Mt.	10,300	30,789	1,430	15,540	1,000	55	4,935	0	0	0	20	3	0	15	0
		55	Salyan	3	Middle Mt.	11,350	28,700	5,440	19,763	1,312	545	8,550	0	0	0	52	34	0	500	0
		56	Dang	4	Siwalik	110,682	39,700	360	25,048	70	12,726	20,625	4	310	377	16,480	3,050	1,330	500	377
			Total(Average)			156,032	134,596	10,430	84,501	3,958	13,884	50,830	4	310	377	16,627	3,159	1,330	1,464	377
	Bheri	57	Banke	5	Terai	95,200	8,458	0	24,825	30	4,130	18,240	60	3,400	105	8,068	1,416	1,150	40	55
		58	Bardiya	5	Terai	85,280	13,600	10	29,640	106	5,792	14,500	35	3,413	120	6,830	956	5,070	270	63
		59	Surkhet	4	Siwalik	31,400	28,420	1,956	26,159	1,121	3,015	5,408	0	720	3	737	200	7	587	0
		60	Dailekh	3	Middle Mt.	11,500	11,438	3,330	6,868	519	537	3,690	0	210	0	240	111	0	38	0
		61	Jajarkot	2	High Mt.	6,370	12,010	2,600	8,024	1,644	115	3,600	0	0	0	130	10	0	99	0
			Total(Average)			229,750	73,926	7,896	95,516	3,420	13,589	45,438	95	7,743	228	16,005	2,693	6,227	1,034	118
	Karnal	62	Dolpa	1	High Himalaya	500	2,535	700	206	229	14	3,731	0	0	0	0	0	0	15	0
		63	Jumla	2	High Mt.	1,141	2,176	1,470	1,214	2,480	54	9,885	0	0	0	7	0	0	25	0
		64	Kalikot	2	High Mt.	2,500	2,595	1,230	6,838	1,040	35	4,180	0	0	0	50	0	0	15	0
		65	Mugu	2	Hgih Mt.	850	170	690	900	700	8	550	0	0	0	1	0	0	16	0
		66	Humla	1	High Himalaya	715	128	1,081	428	550	28	3,500	0	0	0	2	0	0	10	0
			Total(Average)			5,706	7,604	5,171	9,586	4,999	139	21,846	0	0	0	60	0	0	81	0
	Total(Average)					391,488	216,126	23,497	189,603	12,377	27,612	118,114	99	8,053	605	32,692	5,852	7,557	2,579	495
Far Western	Seti	67	Bajura	2	High Mt.	6,830	1,264	2,500	6,025	1,023	124	2,295	0	380	0	33	15	2	59	0
		68	Bajhang	2	High Mt.	7,000	1,778	1,500	6,500	1,004	37	2,450	0	120	0	175	7	1	100	0
		69	Achham	3	Middle Mt.	16,200	8,034	2,390	10,520	160	116	4,860	6	170	0	8	50	4	81	0
		70	Doti	3	Middle Mt.	14,200	4,342	2,800	12,902	310	410	4,150	0	140	0	145	55	2	60	0
		71	Kailali	5	Terai	145,750	22,800	80	37,400	150	15,750	10,625	40	80,000	1	14,828	250	270	143	40
			Total(Average)			189,980	38,218	9,270	73,347	2,647	16,437	24,380	46	80,810	1	15,189	377	279	443	40
	Mahakali	72	Kanchanpur	5	Terai	115,980	19,549	50	51,216	11	3,450	6,720	8	108,707	15	1,548	643	918	15	60
		73	Dadeldhura	3	Middle Mt.	16,145	6,800	1,500	11,528	350	360	3,755	0	1,200	0	284	45	0	190	0
		74	Baitadi	3	Middle Mt.	10,100	12,032	1,530	10,010	900	125	4,575	0	1,752	0	300	22	0	130	0
		75	Darchula	2	High Mt.	6,220	10,000	1,224	7,320	1,034	110	6,120	0	1,350	0	490	20	2	480	0
			Total(Average)			148,445	48,381	4,304	80,074	2,295	4,045	21,170	8	113,009	15	2,622	730	920	815	60
	Total(Average)					338,425	86,599	13,574	153,421	4,942	20,482	45,550	54	193,819	16	17,811	1,107	1,199	1,258	100
Total(Average)						3,709,770	1,345,910	291,370	1,086,524	31,798	119,731	1,091,218	3,911	1,971,646	15,816	132,290	12,798	18,335	18,329	10,809

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

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Table 2.6 District Development Profile – Agriculture (Livestock 1998/99)

Region	Zone		District		Major Land	Livestock (1998/99)											
						No. of Livestock							Products				
						Cattle	Buffaloes	Sheep	Goat	Pigs	Fowl	Duck	Milk	Meat	Egg	Wool	Fish
													t	t	'000	Kg	Kg
Eastern	Mechi	1	Taplejung	2	High Mt.	76,156	38,473	13,737	95,889	29,636	160,473	1,730	10,747	2,038	3,456	10,294	0
		2	Panchthar	3	Middle Mt.	77,323	35,650	7,456	65,884	36,934	89,143	3,019	10,671	2,235	1,772	5,425	9,404
		3	Ilam	3	Middle Mt.	109,394	29,644	6,776	85,685	13,417	149,901	497	23,978	2,443	3,241	4,957	6,900
		4	Jhapa	5	Terai	219,001	91,899	32	144,217	33,850	567,140	21,750	32,928	6,319	16,105	20	443,000
			Total(Average)			481,874	195,666	28,001	391,675	113,837	966,657	26,996	78,324	13,035	24,574	20,696	459,304
	Koshi	5	Morang	5	Terai	170,763	66,497	191	86,611	23,258	764,872	63,111	22,220	5,007	23,686	130	1,088,350
		6	**Sunsari**	**5**	**Terai**	**139,311**	**48,361**	**6,020**	**130,719**	**22,107**	**187,184**	**56,220**	**16,304**	**3,171**	**9,177**	**4,094**	**593,000**
		7	Dhankuta	3	Middle Mt.	54,040	17,090	2,627	90,928	21,575	146,706	654	5,356	1,575	2,439	2,712	1,850
		8	Bhojpur	3	Middle Mt.	112,513	46,398	18,050	132,040	41,457	175,394	2,908	11,764	2,673	2,825	12,180	380
		9	Terhathum	3	Middle Mt.	78,023	44,883	11,933	74,719	17,602	115,391	1,850	10,928	1,948	2,333	8,746	0
		10	Sankhuwasabha	2	High Mt.	84,310	29,270	13,125	102,395	31,094	231,649	1,960	9,638	2,020	3,751	9,844	1,950
			Total(Average)			638,960	252,499	51,946	617,412	157,093	1,621,196	126,703	76,210	16,394	44,211	37,706	1,685,530
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	44,929	22,746	9,385	50,234	21,454	104,779	1,687	6,320	1,165	2,938	7,039	0
		12	Khotang	3	Middle Mt.	113,325	65,672	9,925	101,733	40,162	282,704	2,317	18,763	3,032	4,549	7,172	0
		13	Okhaldhunga	3	Middle Mt.	75,699	47,282	11,459	90,867	24,719	150,261	302	12,117	2,081	3,531	8,221	455
		14	Udayapur	4	Siwalik	107,282	29,504	1,120	99,219	22,285	241,158	3,016	12,636	1,994	4,397	810	31,001
		15	Saptari	5	Terai	139,946	57,003	3,520	133,178	5,003	228,880	13,835	20,125	2,848	7,775	2,354	1,309,950
		16	Siraha	5	Terai	121,406	51,655	609	83,828	875	50,488	5,892	17,234	2,373	1,811	415	947,600
			Total(Average)			602,587	273,862	36,018	559,059	114,498	1,058,270	27,049	87,195	13,493	25,001	26,011	2,289,006
	Total(Average)					1,723,421	722,027	115,965	1,568,146	385,428	3,646,123	180,748	241,729	42,922	93,786	84,413	4,433,840
Central	Janakpur	17	Dhanusa	5	Terai	114,641	39,836	261	94,328	926	73,432	7,534	14,862	2,797	2,240	177	1,667,860
		18	Mahottari	5	Terai	103,766	43,616	639	119,697	1,638	132,051	6,237	16,795	2,540	3,503	434	1,241,800
		19	Sarlahi	5	Terai	104,163	42,644	791	129,012	4,104	105,402	5,473	14,122	3,120	2,527	545	535,600
		20	Sindhuli	4	Siwalik	110,008	46,655	4,723	145,162	9,989	327,516	4,892	13,643	2,398	7,830	3,306	3,525
		21	Ramechhap	3	Middle Mt.	70,467	51,651	3,886	58,731	13,120	122,524	393	12,269	1,590	2,668	2,720	0
		22	Dolakha	2	High Mt.	79,693	33,042	20,683	119,228	4,097	179,489	2,261	10,967	1,750	5,115	14,478	0
			Total(Average)			582,738	257,444	30,983	666,158	33,874	940,414	26,790	82,658	14,195	23,883	21,660	3,448,785
	BagMati	23	Sindhupalchok	2	High Mt.	81,106	44,563	15,576	124,514	8,371	271,200	373	13,559	2,154	7,330	10,903	900
		24	Kavrepalanchok	3	Middle Mt.	86,775	66,788	3,363	190,152	9,667	370,159	4,177	26,470	3,665	11,585	2,354	3,700
		25	Lalitpur	3	Middle Mt.	25,934	11,868	7,349	38,579	1,690	537,169	3,313	6,513	2,433	17,628	5,144	14,570
		26	Bhaktapur	3	Middle Mt.	14,383	12,709	2,537	16,692	2,073	338,116	3,760	7,606	3,424	12,314	1,776	1,670
		27	Kathmandu	3	Middle Mt.	31,002	29,681	7,052	19,728	30,230	2,145,441	2,314	14,927	11,143	55,779	4,936	16,800
		28	Nuwakot	3	Middle Mt.	125,190	76,795	11,771	91,713	4,020	383,971	2,889	23,123	3,139	10,246	8,240	5,320
		29	Rasuwa	2	High Mt.	24,489	20,206	10,712	27,616	401	49,707	241	4,405	903	1,099	7,498	600
		30	Dhading	3	Middle Mt.	119,107	89,516	3,356	181,756	8,775	439,290	4,005	26,874	3,121	13,340	2,349	918
			Total(Average)			507,986	352,126	61,716	690,750	65,227	4,535,053	21,072	123,477	29,982	129,321	43,200	44,478
	Narayani	31	Rautahat	5	Terai	94,450	45,643	532	103,740	7,590	174,555	9,335	12,212	2,334	5,406	3,362	528,410
		32	Makwanpur	4	Siwalik	86,625	28,645	537	103,037	8,845	362,211	4,615	16,743	2,397	8,829	370	30,500
		33	Bara	5	Terai	100,811	30,415	43	48,253	6,062	159,035	13,269	10,178	2,074	6,069	29	850,475
		34	Parsa	5	Terai	69,373	36,889	71	68,263	5,115	97,850	13,846	20,072	2,508	4,161	49	379,480
		35	Chitawan	4	Siwalik	99,679	86,348	2,827	116,356	6,434	1,845,053	19,663	28,742	5,303	44,076	1,921	216,100
			Total(Average)			450,938	227,940	4,010	439,649	34,046	2,638,704	60,728	87,947	14,616	68,541	5,731	2,004,965
	Total(Average)					1,541,662	837,510	96,709	1,796,557	133,147	8,114,171	108,590	294,082	58,793	221,745	70,591	5,498,228
Western	Gandaki	36	Gorkha	3	Middle Mt.	94,393	76,936	22,585	140,142	7,141	293,263	2,002	16,459	3,712	6,259	15,810	11,300
		37	Lamjung	3	Middle Mt.	61,066	52,653	34,406	84,815	6,335	188,719	3,556	13,880	1,894	3,586	24,428	0
		38	Tanahu	3	Middle Mt.	110,941	65,439	2,351	109,003	9,718	154,144	6,380	19,183	2,522	491	1,646	15,690
		39	Syangja	3	Middle Mt.	132,516	115,900	11,462	131,569	10,022	169,830	557	39,078	3,083	4,191	8,023	2,500
		40	Kaski	3	Middle Mt.	79,057	85,403	20,706	83,615	11,051	307,839	9,214	34,908	4,407	8,141	14,494	49,660
		41	Manang	1	High Himalaya	3,742	76	7,565	9,349	20	4,215	36	151	69	67	5,674	0
			Total(Average)			481,715	396,407	99,075	558,493	44,287	1,118,010	21,745	123,659	15,687	22,735	70,075	79,150
	Dhawalagiri	42	Mustang	1	High Himalaya	5,747	108	11,523	35,730	68	8,814	19	338	148	256	8,642	0
		43	Myagdi	3	Middle Mt.	72,095	39,688	15,570	27,255	1,689	180,161	690	7,356	1,613	3,532	10,899	550
		44	Parbat	2	High Mt.	26,673	36,498	3,296	27,977	2,727	100,868	1,316	11,077	1,191	2,923	2,307	2,500
		45	Baglung	2	High Mt.	68,632	78,533	15,064	59,933	6,880	53,206	1,227	20,749	2,245	1,239	10,545	1,000
			Total(Average)			173,147	154,827	45,453	150,895	11,364	343,049	3,252	39,520	5,197	7,950	32,393	4,050
	Lumbini	46	Gulmi	3	Middle Mt.	84,321	51,235	5,850	56,829	11,273	105,044	852	15,249	1,480	2,474	4,095	6,000
		47	Palpa	3	Middle Mt.	90,197	79,709	2,418	128,500	22,849	443,501	2,043	22,844	2,839	7,423	1,693	4,571
		48	Nawalparasi	4	Siwalik	174,628	71,291	4,961	79,766	2,679	237,021	20,833	19,959	2,925	8,330	3,372	408,660
		49	Rupandehi	5	Terai	150,080	64,429	1,909	83,772	8,446	318,053	24,382	22,595	3,670	9,300	1,299	607,280
		50	Kapilbastu	5	Terai	184,576	63,923	6,116	72,080	5,210	186,471	6,987	19,017	2,913	6,292	4,159	428,900
		51	Arghakhanchi	3	Middle Mt.	86,196	82,793	2,025	62,555	4,374	164,835	333	22,586	2,415	4,070	1,398	3,550
			Total(Average)			769,998	413,380	23,279	483,502	54,831	1,454,925	55,430	122,250	16,242	37,889	16,016	1,458,961
	Total(Average)					1,424,860	964,614	167,807	1,192,890	110,482	2,915,984	80,427	285,429	37,126	68,574	118,484	1,542,161
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	100,560	51,922	10,407	90,603	4,777	84,555	1,411	10,727	1,660	1,721	7,335	0
		53	Rolpa	3	Middle Mt.	106,420	46,125	31,785	118,937	9,879	216,606	200	10,929	2,386	3,492	22,631	0
		54	Rukum	2	High Mt.	102,858	46,219	29,077	64,071	10,056	192,240	286	9,519	1,734	2,351	20,645	0
		55	Salyan	3	Middle Mt.	152,123	29,844	15,354	111,268	9,939	211,040	425	8,008	1,995	4,942	10,901	200
		56	Dang	4	Siwalik	240,270	83,121	34,780	118,387	41,289	435,813	9,601	22,691	5,026	11,313	23,638	111,353
			Total(Average)			702,231	257,231	121,403	503,266	75,940	1,140,254	11,923	61,874	12,801	23,819	85,150	111,553
	Bheri	57	Banke	5	Terai	89,768	70,110	8,614	112,348	17,650	466,977	1,936	12,132	3,644	13,199	5,858	166,500
		58	Bardiya	5	Terai	120,914	55,826	10,544	42,182	13,282	326,427	913	10,801	3,595	8,223	7,170	352,400
		59	Surkhet	4	Siwalik	135,251	34,729	6,469	122,728	26,553	229,070	6,562	33,398	2,433	4,170	4,593	11,200
		60	Dailekh	3	Middle Mt.	100,195	38,641	9,019	100,338	3,231	86,392	1,409	11,125	1,589	2,026	6,403	0
		61	Jajarkot	2	High Mt.	92,885	21,617	27,095	86,685	1,194	43,397	137	7,113	948	717	19,237	0
			Total(Average)			539,013	220,923	61,741	464,281	61,910	1,152,263	10,957	74,569	12,209	28,335	43,261	530,100
	Karnal	62	Dolpa	1	High Himalaya	15,895	2,821	48,018	45,347	230	25,898	47	843	337	368	36,014	0
		63	Jumla	2	High Mt.	58,870	1,682	36,226	40,790	702	21,763	299	1,302	470	293	27,170	0
		64	Kalikot	2	High Mt.	49,202	16,769	36,699	35,100	767	13,735	81	3,492	753	239	27,524	0
		65	Mugu	2	Hgih Mt.	20,584	6,691	46,074	29,381	1,052	33,015	20	1,792	536	513	34,556	0
		66	Humla	1	High Himalaya	25,483	2,184	44,472	28,529	130	13,876	132	945	304	293	33,354	0
			Total(Average)			170,034	30,147	211,489	179,147	2,881	108,287	579	8,374	2,400	1,706	158,618	0
	Total(Average)					1,411,278	508,301	394,633	1,146,694	140,731	2,400,804	23,459	144,817	27,410	53,860	287,029	641,653
Far Western	Seti	67	Bajura	2	High Mt.	68,330	31,167	18,267	55,458	425	28,189	680	7,148	2,026	624	13,700	0
		68	Bajhang	2	High Mt.	97,660	32,384	10,214	36,929	1,962	28,655	360	6,748	1,172	479	7,661	0
		69	Achham	3	Middle Mt.	86,571	52,446	2,366	52,966	806	100,842	468	12,669	1,765	1,582	1,656	0
		70	Doti	3	Middle Mt.	113,052	60,554	136	52,471	458	62,920	255	12,938	2,968	1,500	95	0
		71	Kailali	5	Terai	191,580	97,860	19,287	78,184	34,121	213,417	20,694	27,686	5,102	5,785	13,115	193,100
			Total(Average)			557,193	274,411	50,270	276,008	37,772	434,023	22,457	67,189	13,033	9,970	36,227	193,100
	Mahakali	72	Kanchanpur	5	Terai	139,400	36,872	4,021	54,359	16,021	146,879	4,820	19,332	2,424	4,220	2,731	90,836
		73	Dadeldhura	3	Middle Mt.	53,619	23,697	115	66,371	796	37,452	76	9,816	1,450	917	80	0
		74	Baitadi	3	Middle Mt.	106,004	68,506	145	69,917	52	27,018	40	21,155	1,863	745	102	0
		75	Darchula	2	High Mt.	73,258	34,714	25,404	33,679	649	74,371	807	9,396	1,013	1,356	19,053	0
			Total(Average)			372,281	163,789	29,685	224,326	17,518	285,720	5,743	59,699	6,750	7,238	21,966	90,836
	Total(Average)					929,474	438,200	79,955	500,334	55,290	719,743	28,200	126,888	19,783	17,208	58,193	283,936
Total(Average)						7,030,695	3,470,652	855,069	6,204,621	825,078	17,796,825	421,424	1,092,945	186,034	455,173	618,710	12,399,818

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

ATTACHMENT 2

Table 2.7.1 District Development Profile – Agriculture (Irrigation 1997)

Region	Zone		District		Major Land	Present Level of Irrigation Development (1997)										
						Overall Total	Total Irrigable Area	Developed DOI Scheme		Surface Farmer Managed Irrigation System(FMIS)				Agency Assisted	Private Ground Water	Total Irrigated Area
								Surface	Ground Water	Agency Assisted		Non Assisted	Total Surface			
										Rehabilitation	New					
						ha	ha	ha	ha	ha	ha	ha	ha	Groundwater ha	ha	ha
Eastern	Mechi	1	Taplejung	2	High Mt.	22,102	7,443	0	0	1,219	510	4,821	6,550	9	0	6,559
		2	Panchthar	3	Middle Mt.	32,252	7,241	0	0	1,396	351	5,694	7,441	21	0	7,462
		3	Ilam	3	Middle Mt.	36,405	12,742	0	0	2,259	815	1,874	4,948	108	0	5,056
		4	Jhapa	5	Terai	109,529	109,530	800	150	7,048	2,602	48,456	58,106	10,989	468	70,513
			Total(Average)			200,288	136,956	800	150	11,922	4,278	60,845	77,045	11,127	468	89,590
	Koshi	5	Morang	5	Terai	102,938	99,959	31,500	0	10,230	816	22,160	33,206	11,108	2,293	78,107
		6	**Sunsari**	**5**	**Terai**	**71,757**	**70,629**	**34,500**	**0**	**4,925**	**0**	**3,803**	**8,728**	**20,117**	**5,220**	**68,565**
		7	Dhankuta	3	Middle Mt.	26,797	7,495	0	0	1,428	274	2,786	4,488	33	0	4,521
		8	Bhojpur	3	Middle Mt.	34,676	6,820	0	0	910	200	577	1,687	18	0	1,705
		9	Terhathum	3	Middle Mt.	21,662	6,282	0	0	1,404	325	2,341	4,070	12	0	4,082
		10	Sankhuwasabha	2	High Mt.	25,972	5,170	0	0	1,540	178	4,155	5,873	34	0	5,907
			Total(Average)			283,802	196,355	66,000	0	20,437	1,793	35,822	58,052	31,322	7,513	162,887
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	17,734	2,038	0	0	665	40	3,024	3,729	0	0	3,729
		12	Khotang	3	Middle Mt.	37,950	8,859	200	0	1,015	768	2,499	4,282	3	0	4,485
		13	Okhaldhunga	3	Middle Mt.	24,151	4,478	240	0	981	198	1,517	2,696	4	0	2,940
		14	Udayapur	4	Siwalik	30,773	18,408	390	0	839	497	8,843	10,179	73	0	10,642
		15	Saptari	5	Terai	76,949	76,950	36,425	100	5,162	0	2,366	7,528	7,177	1,425	52,655
		16	Siraha	5	Terai	77,726	77,726	14,815	745	5,461	0	3,875	9,336	7,778	1,188	33,862
			Total(Average)			265,283	188,459	52,070	845	14,123	1,503	22,124	37,750	15,035	2,613	108,313
	Total(Average)					749,373	521,770	118,870	995	46,482	7,574	118,791	172,847	57,484	10,594	360,790
Central	Janakpur	17	Dhanusa	5	Terai	72,925	72,925	14,500	2,890	5,058	2,225	9,099	16,382	4,235	875	38,882
		18	Mahottari	5	Terai	60,649	60,633	0	1,096	3,410	228	22,646	26,284	2,588	3	29,971
		19	Sarlahi	5	Terai	73,710	73,521	15,135	940	3,581	0	17,479	21,060	2,515	1,875	41,525
		20	Sindhuli	4	Siwalik	34,333	20,652	60	0	1,791	792	7,509	10,092	57	0	10,209
		21	Ramechhap	3	Middle Mt.	31,783	15,047	1,172	0	1,820	1,565	1,531	4,916	6	0	6,094
		22	Dolakha	2	High Mt.	24,042	4,911	175	0	942	1,662	2,833	5,437	8	0	5,620
			Total(Average)			297,442	247,689	31,042	4,926	16,602	6,472	61,097	84,171	9,409	2,753	132,301
	BagMati	23	Sindhupalchok	2	High Mt.	33,820	12,276	0	0	2,335	694	3,751	6,780	2	0	6,782
		24	Kavrepalanchok	3	Middle Mt.	29,921	7,958	0	0	2,475	434	760	3,669	1	0	3,670
		25	Lalitpur	3	Middle Mt.	11,068	7,425	1,410	0	2,411	0	52	2,463	8	0	3,881
		26	Bhaktapur	3	Middle Mt.	7,223	6,274	1,205	0	2,163	33	630	2,826	4	0	4,035
		27	Kathmandu	3	Middle Mt.	17,104	14,069	2,130	44	1,240	681	305	2,226	0	0	4,400
		28	Nuwakot	3	Middle Mt.	31,783	15,047	1,172	0	1,820	1,565	1,531	4,916	6	0	6,094
		29	Rasuwa	2	High Mt.	5,201	836	0	0	160	405	926	1,491	0	0	1,491
		30	Dhading	3	Middle Mt.	36,190	10,839	360	0	1,441	751	3,747	5,939	0	0	6,299
			Total(Average)			172,310	74,724	6,277	44	14,045	4,563	11,702	30,310	21	0	36,652
	Narayani	31	Rautahat	5	Terai	56,390	56,141	4,200	0	5,624	2,700	1,943	10,267	10,988	1,860	27,315
		32	Makwanpur	4	Siwalik	35,776	23,502	0	0	1,832	332	483	2,647	72	0	2,719
		33	Bara	5	Terai	61,766	60,390	9,620	2,385	7,979	0	10,643	18,622	14,021	2,073	46,721
		34	Parsa	5	Terai	48,374	48,374	16,080	560	3,852	200	3,496	7,548	1,607	365	26,160
		35	Chitawan	4	Siwalik	44,537	41,963	10,900	0	10,925	1,014	1,627	13,566	1,397	710	26,573
			Total(Average)			246,843	230,370	40,800	2,945	30,212	4,246	18,192	52,650	28,085	5,008	129,488
	Total(Average)					716,595	552,783	78,119	7,915	60,859	15,281	90,991	167,131	37,515	7,761	298,441
Western	Gandaki	36	Gorkha	3	Middle Mt.	33,914	11,027	489	0	1,775	172	1,471	3,418	13	0	3,920
		37	Lamjung	3	Middle Mt.	23,848	11,937	964	0	1,938	261	155	2,354	10	0	3,328
		38	Tanahu	3	Middle Mt.	33,972	14,496	790	0	1,337	20	680	2,037	46	0	2,873
		39	Syangja	3	Middle Mt.	31,018	9,848	1,200	0	2,136	28	353	2,517	6	0	3,723
		40	Kaski	3	Middle Mt.	31,405	15,960	3,740	0	1,725	141	5,198	7,064	27	0	10,831
		41	Manang	1	High Himalaya	718	121	0	0	127	55	80	262	0	0	262
			Total(Average)			154,875	63,389	7,183	0	9,038	677	7,937	17,652	102	0	24,937
	Dhawalagiri	42	Mustang	1	High Himalaya	4,221	159	51	0	1,262	55	16	1,333	1	0	1,385
		43	Myagdi	3	Middle Mt.	15,740	3,685	0	0	984	185	468	1,637	15	0	1,652
		44	Parbat	2	High Mt.	15,231	6,455	425	0	1,243	200	1,618	3,061	8	0	3,494
		45	Baglung	2	High Mt.	26,522	780	0	0	732	253	737	1,722	84	0	1,806
			Total(Average)			61,714	11,079	476	0	4,221	693	2,839	7,753	108	0	8,337
	Lumbini	46	Gulmi	3	Middle Mt.	25,606	4,240	160	0	1,205	111	680	1,996	16	0	2,172
		47	Palpa	3	Middle Mt.	30,354	8,857	1,042	0	1,330	14	2,037	3,381	34	0	4,457
		48	Nawalparasi	4	Siwalik	55,238	50,690	13,830	610	3,463	816	15,527	19,806	5,564	410	40,220
		49	Rupandehi	5	Terai	88,416	87,979	4,650	15,960	12,246	15	23,333	35,594	5,356	2,365	63,925
		50	Kapilbastu	5	Terai	84,785	84,453	6,900	1,802	4,048	337	16,356	20,741	1,310	150	30,903
		51	Arghakhanchi	3	Middle Mt.	20,020	4,799	0	0	1,008	50	1,378	2,436	4	0	2,440
			Total(Average)			304,419	241,018	26,582	18,372	23,300	1,343	59,311	83,954	12,284	2,925	144,117
	Total(Average)					521,008	315,486	34,241	18,372	36,559	2,713	70,087	109,359	12,494	2,925	177,391
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	23,197	7,037	340	0	731	0	3,002	3,733	20	0	4,093
		53	Rolpa	3	Middle Mt.	29,651	3,980	0	0	759	0	166	925	2	0	927
		54	Rukum	2	High Mt.	23,592	4,170	600	0	440	15	945	1,400	4	0	2,004
		55	Salyan	3	Middle Mt.	28,033	5,283	0	0	616	0	2,180	2,796	2	0	2,798
		56	Dang	4	Siwalik	64,522	59,505	2,585	300	7,720	348	23,996	32,064	659	125	35,733
			Total(Average)			168,995	79,975	3,525	300	10,266	363	30,289	40,918	687	125	45,555
	Bheri	57	Banke	5	Terai	49,525	48,550	1,250	260	1,415	0	4,714	6,129	3,864	625	12,128
		58	Bardiya	5	Terai	52,836	52,660	960	360	11,620	0	11,904	23,524	2,311	625	27,780
		59	Surkhet	4	Siwalik	31,231	19,275	387	0	2,083	513	7,779	10,375	24	0	10,786
		60	Dailekh	3	Middle Mt.	28,373	7,075	0	0	274	61	2,523	2,858	2	0	2,860
		61	Jajarkot	2	High Mt.	21,114	4,143	0	0	689	150	610	1,449	2	0	1,451
			Total(Average)			183,079	131,703	2,597	620	16,081	724	27,530	44,335	6,203	1,250	55,005
	Karnal	62	Dolpa	1	High Himalaya	4,996	544	0	0	319	77	761	1,157	0	0	1,157
		63	Jumla	2	High Mt.	12,642	4,765	0	0	274	0	1,320	1,594	3	0	1,597
		64	Kalikot	2	High Mt.	13,126	3,084	0	0	829	0	894	1,723	7	0	1,730
		65	Mugu	2	Hgih Mt.	9,616	2,030	0	0	32	0	938	970	2	0	972
		66	Humla	1	High Himalaya	4,983	969	0	0	238	0	64	302	0	0	302
			Total(Average)			45,363	11,392	0	0	1,692	77	3,977	5,746	12	0	5,758
	Total(Average)					397,437	223,070	6,122	920	28,039	1,164	61,796	90,999	6,902	1,375	106,318
Far Western	Seti	67	Bajura	2	High Mt.	12,181	3,584	280	0	402	0	3,373	3,775	3	0	4,058
		68	Bajhang	2	High Mt.	22,642	7,549	1,354	0	318	0	1,374	1,692	2	0	3,048
		69	Achham	3	Middle Mt.	31,982	10,972	871	0	355	133	2,011	2,499	19	0	3,389
		70	Doti	3	Middle Mt.	27,562	10,468	603	0	802	0	1,721	2,523	4	0	3,130
		71	Kailali	5	Terai	66,723	64,112	7,133	3,176	11,715	0	17,307	29,022	8,408	750	48,489
			Total(Average)			161,090	96,685	10,241	3,176	13,592	133	25,786	39,511	8,436	750	62,114
	Mahakali	72	Kanchanpur	5	Terai	40,970	40,891	6,785	367	2,680	103	2,304	5,087	8,908	650	21,797
		73	Dadeldhura	3	Middle Mt.	16,032	7,266	0	0	1,699	7	935	2,641	11	0	2,652
		74	Baitadi	3	Middle Mt.	25,543	7,450	395	0	1,230	30	153	1,413	14	0	1,822
		75	Darchula	2	High Mt.	13,201	4,239	0	0	685	22	1,513	2,220	10	0	2,230
			Total(Average)			95,746	59,846	7,180	367	6,294	162	4,905	11,361	8,943	650	28,501
	Total(Average)					256,836	156,531	17,421	3,543	19,886	295	30,691	50,872	17,379	1,400	90,615
Total(Average)						2,641,249	1,769,640	254,773	31,745	191,825	27,027	372,356	591,208	131,774	24,055	1,033,555

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

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Table 2.7.2 District Development Profile – Agriculture (Food Balance 1997/98)

Region	Zone		District		Major Land	Food Balance (1997/98)									
						Population	Rice	Wheat	Maize	Millet	Barley	Total Edible (1)	Required per capita (a)	Required (2)	Sur/Def (1) – (2)
							t	t	t	t	t	t	kg	t	
Eastern	Mechi	1	Taplejung	2	High Mt.	133,689	7,050	2,122	10,840	5,210	51	25,273	190	25,401	−128
		2	Panchthar	3	Middle Mt.	202,817	10,078	6,155	21,796	5,728	128	43,885	190	38,535	5,350
		3	Ilam	3	Middle Mt.	274,489	14,306	5,214	33,040	2,779	1	55,340	190	52,153	3,187
		4	Jhapa	5	Terai	703,533	141,142	20,225	14,223	2,873	3	178,466	190	133,671	44,795
			Total(Average)			1,314,528	172,576	33,716	79,899	16,590	183	302,964	190	249,760	53,204
	Koshi	5	Morang	5	Terai	804,289	133,653	23,258	14,953	945	8	172,817	190	152,815	20,002
		6	**Sunsari**	**5**	**Terai**	**562,271**	**90,336**	**27,171**	**3,008**	**794**	**1**	**121,310**	**190**	**106,831**	**14,479**
		7	Dhankuta	3	Middle Mt.	168,896	11,826	3,564	23,163	6,700	7	45,260	190	32,090	13,170
		8	Bhojpur	3	Middle Mt.	223,525	20,001	3,815	22,392	7,930	25	54,163	190	42,470	11,693
		9	Terhathum	3	Middle Mt.	118,255	12,109	3,760	15,004	3,288	29	34,190	190	22,468	11,722
		10	Sankhuwasabha	2	High Mt.	162,428	9,324	1,990	12,322	6,145	77	29,858	190	30,861	−1,003
			Total(Average)			2,039,664	277,249	63,558	90,842	25,802	147	457,598	190	387,536	70,062
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	111,423	775	3,532	4,534	1,234	263	10,338	190	21,170	−10,832
		12	Khotang	3	Middle Mt.	241,831	10,184	5,540	20,573	8,780	86	45,163	190	45,948	−785
		13	Okhaldhunga	3	Middle Mt.	156,171	7,360	2,190	11,203	6,138	26	26,917	190	29,672	−2,755
		14	Udayapur	4	Siwalik	270,503	15,590	7,406	18,801	2,396	10	44,203	190	51,396	−7,193
		15	Saptari	5	Terai	550,970	95,549	18,166	0	246	3	113,964	190	104,684	9,280
		16	Siraha	5	Terai	545,106	87,600	22,300	141	155	3	110,199	190	103,570	6,629
			Total(Average)			1,876,004	217,058	59,134	55,252	18,949	391	350,784	190	356,441	−5,657
	Total(Average)					5,230,196	666,883	156,408	225,993	61,341	721	1,111,346	190	993,737	117,609
Central	Janakpur	17	Dhanusa	5	Terai	647,392	78,449	28,101	0	1,180	6	107,736	190	123,004	−15,268
		18	Mahottari	5	Terai	518,685	64,837	28,692	2,533	1,391	19	97,472	190	98,550	−1,078
		19	Sarlahi	5	Terai	584,543	61,225	23,673	3,887	107	91	88,983	190	111,063	−22,080
		20	Sindhuli	4	Siwalik	264,141	13,544	7,235	30,807	11,370	41	62,997	190	50,187	12,810
		21	Ramechhap	3	Middle Mt.	218,245	6,406	3,439	20,213	5,818	57	35,933	190	41,467	−5,534
		22	Dolakha	2	High Mt.	201,849	2,536	6,416	6,158	3,132	38	18,280	190	38,351	−20,071
			Total(Average)			2,434,855	226,997	97,556	63,598	22,998	252	411,401	190	462,622	−51,221
	BagMati	23	Sindhupalchok	2	High Mt.	299,986	7,283	8,533	21,611	13,094	234	50,755	190	56,997	−6,242
		24	Kavrepalanchok	3	Middle Mt.	369,932	18,299	16,309	31,771	1,553	193	68,125	190	70,287	−2,162
		25	Lalitpur	3	Middle Mt.	307,997	13,220	5,567	8,733	1,341	73	28,934	190	58,519	−29,585
		26	Bhaktapur	3	Middle Mt.	203,112	12,479	7,145	5,058	1,523	11	26,216	190	38,591	−12,375
		27	Kathmandu	3	Middle Mt.	857,751	28,957	10,788	10,414	1,137	3	51,299	190	162,973	−111,674
		28	Nuwakot	3	Middle Mt.	285,600	20,781	8,570	19,466	5,891	23	54,731	190	54,264	467
		29	Rasuwa	2	High Mt.	43,369	1,344	1,337	1,606	1,264	150	5,701	190	8,240	−2,539
		30	Dhading	3	Middle Mt.	224,659	15,939	5,663	22,280	8,160	88	52,130	190	42,685	9,445
			Total(Average)			2,592,406	118,302	63,912	120,939	33,963	775	337,891	190	492,557	−154,666
	Narayani	31	Rautahat	5	Terai	491,941	66,226	23,673	3,887	107	91	93,984	190	93,469	515
		32	Makwanpur	4	Siwalik	377,553	14,623	6,610	28,370	2,825	10	52,438	190	71,735	−19,297
		33	Bara	5	Terai	500,443	95,257	38,014	11,117	99	25	144,512	190	95,084	49,428
		34	Parsa	5	Terai	449,197	72,637	31,624	7,645	255	38	112,199	190	85,347	26,852
		35	Chitawan	4	Siwalik	431,555	48,726	14,732	38,700	1,165	186	103,509	190	81,995	21,514
			Total(Average)			2,250,689	297,469	114,653	89,719	4,451	350	506,642	190	427,631	79,011
	Total(Average)					7,277,950	642,768	276,121	274,256	61,412	1,377	1,255,934	190	1,382,811	−126,877
Western	Gandaki	36	Gorkha	3	Middle Mt.	288,269	19,387	5,441	22,471	12,288	89	59,676	190	54,771	4,905
		37	Lamjung	3	Middle Mt.	171,559	12,543	4,988	13,166	9,043	48	39,788	190	32,596	7,192
		38	Tanahu	3	Middle Mt.	313,837	18,007	3,752	25,942	8,112	3	55,816	190	59,629	−3,813
		39	Syangja	3	Middle Mt.	333,765	16,054	8,781	31,838	10,800	25	67,498	190	63,415	4,083
		40	Kaski	3	Middle Mt.	352,914	18,729	7,112	18,563	9,857	57	54,318	190	67,054	−12,736
		41	Manang	1	High Himalaya	5,553	0	456	357	0	55	868	190	1,055	−187
			Total(Average)			1,465,897	84,720	30,530	112,337	50,100	277	277,964	190	278,520	−556
	Dhawalagiri	42	Mustang	1	High Himalaya	16,421	0	564	535	0	329	1,428	190	3,120	−1,692
		43	Myagdi	3	Middle Mt.	112,826	3,758	4,338	10,036	3,265	442	21,839	190	21,437	402
		44	Parbat	2	High Mt.	164,755	8,980	5,895	14,328	7,366	79	36,648	190	31,303	5,345
		45	Baglung	2	High Mt.	264,190	7,008	6,378	17,432	5,974	173	36,965	190	50,196	−13,231
			Total(Average)			558,192	19,746	17,175	42,331	16,605	1,023	96,880	190	106,056	−9,176
	Lumbini	46	Gulmi	3	Middle Mt.	305,359	13,115	6,331	24,428	6,312	258	50,444	190	58,018	−7,574
		47	Palpa	3	Middle Mt.	269,967	12,165	9,091	25,952	2,712	76	49,996	190	51,294	−1,298
		48	Nawalparasi	4	Siwalik	535,793	62,097	21,153	7,565	3,520	28	94,363	190	101,801	−7,438
		49	Rupandehi	5	Terai	637,285	95,478	23,814	0	57	19	119,368	190	121,084	−1,716
		50	Kapilbastu	5	Terai	453,762	34,767	17,699	0	98	30	52,594	190	86,215	−33,621
		51	Arghakhanchi	3	Middle Mt.	208,438	7,984	6,619	18,809	817	223	34,452	190	39,603	−5,151
			Total(Average)			2,410,604	225,606	84,707	76,754	13,516	634	401,217	190	458,015	−56,798
	Total(Average)					4,434,693	330,072	132,412	231,422	80,221	1,934	776,061	190	842,592	−66,531
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	201,117	7,711	9,172	12,741	2,050	389	32,063	190	38,212	−6,149
		53	Rolpa	3	Middle Mt.	203,869	4,864	9,765	12,664	901	554	28,748	190	38,735	−9,987
		54	Rukum	2	High Mt.	181,405	5,451	12,247	24,090	1,174	187	43,149	190	34,467	8,682
		55	Salyan	3	Middle Mt.	209,829	5,992	16,718	21,514	4,454	363	49,041	190	39,868	9,173
		56	Dang	4	Siwalik	427,832	57,342	20,110	30,379	296	19	108,146	190	81,288	26,858
			Total(Average)			1,224,052	81,360	68,012	101,388	8,875	1,512	261,147	190	232,570	28,577
	Bheri	57	Banke	5	Terai	353,633	54,548	8,529	6,646	0	8	69,731	190	67,190	2,541
		58	Bardiya	5	Terai	360,095	47,393	18,347	9,720	8	29	75,497	190	68,418	7,079
		59	Surkhet	4	Siwalik	273,814	15,211	21,650	20,460	1,547	314	59,182	190	52,025	7,157
		60	Dailekh	3	Middle Mt.	216,429	6,109	6,310	8,001	2,738	223	23,381	190	41,122	−17,741
		61	Jajarkot	2	High Mt.	132,036	3,024	7,453	8,685	2,138	1,035	22,335	190	25,087	−2,752
			Total(Average)			1,336,007	126,285	62,289	53,512	6,431	1,609	250,126	190	253,841	−3,715
	Karnal	62	Dolpa	1	High Himalaya	28,905	243	219	1,752	573	158	2,945	190	5,492	−2,547
		63	Jumla	2	High Mt.	87,114	1,224	1,291	1,428	1,105	710	5,758	190	16,552	−10,794
		64	Kalikot	2	High Mt.	102,076	1,174	5,803	1,108	1,009	397	9,491	190	19,394	−9,903
		65	Mugu	2	Hgih Mt.	40,913	407	543	0	565	270	1,785	190	7,773	−5,988
		66	Humla	1	High Himalaya	40,375	273	408	0	1,231	174	2,086	190	7,671	−5,585
			Total(Average)			299,383	3,321	8,264	4,288	4,483	1,709	22,065	190	56,883	−34,818
	Total(Average)					2,859,442	210,966	138,565	159,188	19,789	4,830	533,338	190	543,294	−9,956
Far Western	Seti	67	Bajura	2	High Mt.	105,644	2,823	3,987	0	2,105	362	9,277	190	20,072	−10,795
		68	Bajhang	2	High Mt.	159,468	3,111	4,292	0	1,228	269	8,900	190	30,299	−21,399
		69	Achham	3	Middle Mt.	223,923	7,762	8,286	3,712	1,641	77	21,478	190	42,545	−21,067
		70	Doti	3	Middle Mt.	190,461	7,578	10,126	670	2,099	117	20,590	190	36,188	−15,598
		71	Kailali	5	Terai	531,578	81,901	25,672	12,252	66	41	119,932	190	101,000	18,932
			Total(Average)			1,211,074	103,175	52,363	16,634	7,139	866	180,177	190	230,104	−49,927
	Mahakali	72	Kanchanpur	5	Terai	322,229	65,005	23,855	12,875	41	3	101,779	190	61,224	40,555
		73	Dadeldhura	3	Middle Mt.	122,351	8,331	9,082	4,625	1,227	96	23,361	190	23,247	114
		74	Baitadi	3	Middle Mt.	230,010	4,995	8,126	7,143	1,256	228	21,748	190	43,702	−21,954
		75	Darchula	2	High Mt.	116,833	3,530	5,244	5,738	935	144	15,591	190	22,198	−6,607
			Total(Average)			791,423	81,861	46,307	30,381	3,459	471	162,479	190	150,370	12,109
	Total(Average)					2,002,497	185,036	98,670	47,015	10,598	1,337	342,656	190	380,474	−37,818
Total(Average)						21,804,778	2,035,725	802,176	937,874	233,361	10,199	4,019,335	190	4,142,908	−123,573

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

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Table 2.8 District Development Profile – Human Development 1996

Region	Zone		District		Major Land	Human Development (1996)								
						Life Expectancy	Adult Literacy %	Means Years of Schooling	Per Capita Income Rs	Per Capita PPP Income US$	Life Expectancy Index	Educational Attainment Index	Income Index	HDI
Eastern	Mechi	1	Taplejung	2	High Mt.	60.7	39.77	2.596	7,337	1,134	0.595	0.323	0.171	0.363
		2	Panchthar	3	Middle Mt.	59.3	40.66	2.193	4,263	659	0.572	0.320	0.092	0.328
		3	Ilam	3	Middle Mt.	61.3	48.63	2.898	6,354	982	0.605	0.389	0.146	0.380
		4	Jhapa	5	Terai	58.5	54.43	3.511	10,950	1,693	0.558	0.441	0.263	0.421
			Total(Average)			59.95	45.87	2.800	7,226	1,117	0.583	0.368	0.168	0.373
	Koshi	5	Morang	5	Terai	66.5	48.45	3.192	7,609	1,176	0.692	0.394	0.178	0.421
		6	**Sunsari**	**5**	**Terai**	**60.5**	**45.18**	**2.834**	**8,130**	**1,257**	**0.592**	**0.364**	**0.191**	**0.382**
		7	Dhankuta	3	Middle Mt.	64.3	44.41	2.643	8,247	1,275	0.655	0.355	0.194	0.401
		8	Bhojpur	3	Middle Mt.	64.3	37.09	2.209	4,573	707	0.655	0.296	0.100	0.351
		9	Terhathum	3	Middle Mt.	61.3	52.57	2.920	6,830	1,056	0.605	0.415	0.158	0.393
		10	Sankhuwasabha	2	High Mt.	61.7	41.32	2.283	6,843	1,058	0.612	0.326	0.158	0.365
			Total(Average)			63.1	44.84	2.680	7,039	1,088	0.635	0.358	0.163	0.386
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	61.7	32.50	1.896	8,101	1,252	0.612	0.259	0.190	0.354
		12	Khotang	3	Middle Mt.	58.3	35.02	2.216	5,209	805	0.555	0.283	0.116	0.318
		13	Okhaldhunga	3	Middle Mt.	64.3	33.63	1.941	4,498	695	0.655	0.267	0.098	0.340
		14	Udayapur	4	Siwalik	61.3	34.24	1.961	8,020	1,240	0.605	0.272	0.188	0.355
		15	Saptari	5	Terai	62.5	33.09	2.521	9,312	1,439	0.625	0.277	0.221	0.374
		16	Siraha	5	Terai	62.5	24.42	1.888	9,257	1,431	0.625	0.205	0.220	0.350
			Total(Average)			61.8	32.15	2.071	7,400	1,144	0.613	0.261	0.172	0.349
	Total(Average)					61.6	40.95	2.517	7,221	1,116	0.610	0.329	0.168	0.369
Central	Janakpur	17	Dhanusa	5	Terai	60.5	28.80	2.019	6,857	1,060	0.592	0.237	0.159	0.329
		18	Mahottari	5	Terai	60.5	24.51	1.620	7,498	1,159	0.592	0.199	0.175	0.322
		19	Sarlahi	5	Terai	60.5	24.53	1.296	8,330	1,288	0.592	0.192	0.196	0.327
		20	Sindhuli	4	Siwalik	56.0	27.14	1.668	6,510	1,006	0.517	0.218	0.150	0.295
		21	Ramechhap	3	Middle Mt.	61.0	24.81	1.504	6,421	992	0.600	0.199	0.147	0.315
		22	Dolakha	2	High Mt.	62.0	25.31	1.354	8,613	1,331	0.617	0.199	0.203	0.340
			Total(Average)			60.1	25.85	1.577	7,372	1,139	0.585	0.207	0.172	0.321
	BagMati	23	Sindhupalchok	2	High Mt.	56.0	21.18	1.039	6,571	1,016	0.517	0.164	0.151	0.277
		24	Kavrepalanchok	3	Middle Mt.	60.0	32.43	2.119	12,103	1,871	0.583	0.263	0.292	0.380
		25	Lalitpur	3	Middle Mt.	63.0	60.37	4.385	17,689	2,734	0.633	0.500	0.435	0.523
		26	Bhaktapur	3	Middle Mt.	56.0	52.20	3.535	9,922	1,534	0.517	0.427	0.237	0.393
		27	Kathmandu	3	Middle Mt.	67.0	70.62	5.354	20,939	3,236	0.700	0.590	0.518	0.603
		28	Nuwakot	3	Middle Mt.	54.0	24.95	1.549	10,520	1,626	0.483	0.201	0.252	0.312
		29	Rasuwa	2	High Mt.	52.0	15.13	0.942	7,111	1,099	0.450	0.122	0.165	0.246
		30	Dhading	3	Middle Mt.	49.0	25.27	1.517	7,435	1,149	0.400	0.202	0.173	0.258
			Total(Average)			57.1	37.77	2.555	11,536	1,783	0.535	0.309	0.278	0.374
	Narayani	31	Rautahat	5	Terai	58.5	22.21	1.284	8,086	1,250	0.558	0.177	0.190	0.308
		32	Makwanpur	4	Siwalik	53.0	34.12	1.957	8,042	1,243	0.467	0.271	0.189	0.309
		33	Bara	5	Terai	58.5	26.42	1.421	6,935	1,072	0.558	0.208	0.161	0.309
		34	Parsa	5	Terai	58.5	32.67	1.679	10,504	1,624	0.558	0.255	0.252	0.355
		35	Chitawan	4	Siwalik	56.5	49.46	2.531	8,414	1,301	0.525	0.386	0.198	0.370
			Total(Average)			57.0	32.98	1.774	8,396	1,298	0.533	0.259	0.198	0.330
	Total(Average)					58.1	32.20	1.969	9,101	1,407	0.551	0.258	0.216	0.342
Western	Gandaki	36	Gorkha	3	Middle Mt.	54.0	34.81	2.104	6,985	1,080	0.483	0.279	0.162	0.308
		37	Lamjung	3	Middle Mt.	58.0	39.70	3.222	9,995	1,545	0.550	0.336	0.239	0.375
		38	Tanahu	3	Middle Mt.	61.0	43.33	2.502	8,828	1,365	0.600	0.344	0.209	0.384
		39	Syangja	3	Middle Mt.	58.0	42.69	2.659	10,064	1,556	0.550	0.344	0.240	0.378
		40	Kaski	3	Middle Mt.	60.0	53.66	3.387	13,761	2,127	0.583	0.433	0.335	0.450
		41	Manang	1	High Himalaya	52.7	36.21	2.488	6,952	1,075	0.462	0.297	0.161	0.306
			Total(Average)			57.3	41.73	2.727	9,431	1,458	0.538	0.339	0.224	0.367
	Dhawalagiri	42	Mustang	1	High Himalaya	52.7	40.78	2.425	6,952	1,075	0.462	0.326	0.161	0.316
		43	Myagdi	3	Middle Mt.	59.0	35.05	1.871	4,022	622	0.567	0.275	0.086	0.309
		44	Parbat	2	High Mt.	58.0	43.64	2.816	7,245	1,120	0.550	0.354	0.168	0.357
		45	Baglung	2	High Mt.	58.0	33.93	1.849	8,290	1,281	0.550	0.267	0.195	0.337
			Total(Average)			56.9	38.35	2.240	6,627	1,025	0.532	0.306	0.153	0.330
	Lumbini	46	Gulmi	3	Middle Mt.	55.0	38.98	2.295	7,163	1,107	0.500	0.311	0.166	0.326
		47	Palpa	3	Middle Mt.	54.0	42.81	2.467	7,988	1,235	0.483	0.340	0.187	0.337
		48	Nawalparasi	4	Siwalik	53.5	38.38	2.102	5,386	833	0.475	0.303	0.121	0.300
		49	Rupandehi	5	Terai	60.5	41.72	2.449	6,807	1,052	0.592	0.333	0.157	0.361
		50	Kapilbastu	5	Terai	53.5	28.84	1.772	6,541	1,011	0.475	0.232	0.150	0.286
		51	Arghakhanchi	3	Middle Mt.	57.0	33.90	2.282	7,857	1,214	0.533	0.277	0.184	0.331
			Total(Average)			55.6	37.44	2.228	6,957	1,075	0.510	0.299	0.161	0.324
	Total(Average)					56.6	39.17	2.398	7,672	1,186	0.527	0.315	0.179	0.340
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	56.0	32.96	1.853	8,141	1,258	0.517	0.261	0.191	0.323
		53	Rolpa	3	Middle Mt.	52.0	29.33	1.451	5,151	796	0.450	0.228	0.115	0.264
		54	Rukum	2	High Mt.	51.0	30.39	1.435	6,220	961	0.433	0.234	0.142	0.270
		55	Salyan	3	Middle Mt.	51.0	30.71	1.647	3,640	563	0.433	0.241	0.076	0.250
		56	Dang	4	Siwalik	49.5	38.21	2.150	7,888	1,219	0.408	0.302	0.185	0.299
			Total(Average)			51.9	32.32	1.707	6,208	959	0.448	0.253	0.142	0.281
	Bheri	57	Banke	5	Terai	55.5	34.70	2.180	6,061	937	0.508	0.280	0.138	0.309
		58	Bardiya	5	Terai	60.5	27.90	1.656	4,424	684	0.592	0.223	0.096	0.304
		59	Surkhet	4	Siwalik	57.0	45.49	2.446	7,719	1,193	0.533	0.358	0.181	0.357
		60	Dailekh	3	Middle Mt.	50.0	32.36	1.475	3,522	549	0.417	0.249	0.074	0.246
		61	Jajarkot	2	High Mt.	46.0	25.57	1.251	3,889	601	0.350	0.198	0.083	0.210
			Total(Average)			53.8	33.20	1.802	5,123	793	0.480	0.262	0.114	0.285
	Karnal	62	Dolpa	1	High Himalaya	48.0	20.57	1.053	4,981	770	0.383	0.161	0.111	0.218
		63	Jumla	2	High Mt.	47.0	23.41	1.141	4,834	747	0.367	0.181	0.107	0.218
		64	Kalikot	2	High Mt.	42.0	17.16	0.850	5,184	801	0.283	0.133	0.116	0.177
		65	Mugu	2	Hgih Mt.	36.0	18.96	0.813	5,065	783	0.183	0.144	0.113	0.147
		66	Humla	1	High Himalaya	54.0	17.57	0.881	5,057	782	0.483	0.137	0.113	0.244
			Total(Average)			45.4	19.53	0.948	5,024	777	0.340	0.151	0.112	0.201
	Total(Average)					50.4	28.35	1.485	5,452	843	0.423	0.222	0.123	0.256
Far Western	Seti	67	Bajura	2	High Mt.	41.0	23.34	1.159	3,428	530	0.267	0.181	0.071	0.173
		68	Bajhang	2	High Mt.	42.0	27.39	1.284	4,930	762	0.283	0.211	0.109	0.201
		69	Achham	3	Middle Mt.	49.0	24.52	1.277	5,035	778	0.400	0.192	0.112	0.235
		70	Doti	3	Middle Mt.	49.0	30.20	1.582	4,959	767	0.400	0.236	0.110	0.249
		71	Kailali	5	Terai	53.0	34.88	1.767	6,824	1,055	0.467	0.272	0.158	0.299
			Total(Average)			46.8	28.07	1.414	5,035	778	0.363	0.218	0.112	0.231
	Mahakali	72	Kanchanpur	5	Terai	54.0	46.84	2.454	6,388	987	0.483	0.367	0.147	0.332
		73	Dadeldhura	3	Middle Mt.	47.0	37.85	1.974	5,881	909	0.367	0.296	0.134	0.265
		74	Baitadi	3	Middle Mt.	46.0	36.36	2.149	5,609	867	0.350	0.290	0.127	0.256
		75	Darchula	2	High Mt.	52.0	38.41	2.032	4,876	754	0.450	0.301	0.108	0.286
			Total(Average)			49.8	39.87	2.152	5,689	879	0.413	0.314	0.129	0.285
	Total(Average)					48.3	33.97	1.783	5,362	829	0.388	0.266	0.121	0.258
Total(Average)						55.0	34.93	2.030	6,962	1,076	0.500	0.278	0.161	0.313

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

ATTACHMENT 2

Table 2.9 District Development Profile – Gender Sensitive Development Index 1996

Region	Zone		District		Major Land	Gender -Sensitive Development Index (GDI) (1996)								
						Life Expectancy		Adult Literacy		Mean Years of Schooling		Proportion of Earned Income		GDI
						Female	Male	Female	Male	Female	Male	Female	Male	
								%	%					
Eastern	Mechi	1	Taplejung	2	High Mt.	58.3	60.7	27.86	52.17	1.907	3.283	0.493	1.521	0.328
		2	Panchthar	3	Middle Mt.	56.2	59.3	21.74	60.59	1.329	3.137	0.660	1.341	0.291
		3	Ilam	3	Middle Mt.	58.1	61.3	34.42	64.09	2.132	3.725	0.244	1.735	0.328
		4	Jhapa	5	Terai	56.4	58.5	36.43	72.64	2.733	3.776	0.485	1.505	0.374
			Total(Average)			57.3	60.0	30.11	62.37	2.025	3.480	0.471	1.526	0.330
	Koshi	5	Morang	5	Terai	64.1	66.5	29.22	67.72	2.237	3.632	0.451	1.522	0.376
		6	**Sunsari**	**5**	**Terai**	**58.3**	**60.5**	**25.73**	**65.01**	**1.874**	**3.331**	**0.510**	**1.472**	**0.338**
		7	Dhankuta	3	Middle Mt.	56.0	52.2							0.393
		8	Bhojpur	3	Middle Mt.	61.0	64.3	21.52	55.11	1.361	3.177	0.347	1.702	0.304
		9	Terhathum	3	Middle Mt.	58.1	61.3	33.08	75.33	1.959	4.009	0.338	1.669	0.339
		10	Sankhuwasabha	2	High Mt.	59.2	61.7	28.82	56.09	1.702	2.865	0.433	1.587	0.328
			Total(Average)			59.5	61.1	27.67	63.85	1.827	3.403	0.416	1.590	0.346
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	59.2	61.7	17.34	47.46	1.172	2.560	0.278	1.730	0.290
		12	Khotang	3	Middle Mt.	55.3	58.3	17.88	54.07	1.243	3.313	0.448	1.581	0.270
		13	Okhaldhunga	3	Middle Mt.	61.0	64.3	18.91	50.66	1.068	2.882	0.457	1.549	0.300
		14	Udayapur	4	Siwalik	58.1	61.3	17.00	51.68	1.084	2.895	0.462	1.534	0.302
		15	Saptari	5	Terai	60.3	62.5	13.31	53.31	1.185	3.363	0.619	1.358	0.325
		16	Siraha	5	Terai	60.3	62.5	9.72	36.82	0.776	2.592	0.645	1.328	0.309
			Total(Average)			59.0	61.8	15.69	49.00	1.088	2.934	0.485	1.513	0.299
	Total(Average)					58.6	60.9	24.49	58.41	1.647	3.272	0.457	1.543	0.325
Central	Janakpur	17	Dhanusa	5	Terai	58.1	60.5	12.91	44.46	1.057	2.955	0.297	1.629	0.272
		18	Mahottari	5	Terai	58.1	60.5	10.99	38.01	0.667	2.552	0.275	1.650	0.262
		19	Sarlahi	5	Terai	58.1	60.5	10.03	38.72	0.525	2.058	0.382	1.552	0.272
		20	Sindhuli	4	Siwalik	45.0	56.0	11.14	43.43	0.891	2.092	0.543	1.451	0.215
		21	Ramechhap	3	Middle Mt.	49.0	61.0	7.71	44.09	0.619	2.096	0.276	1.745	0.209
		22	Dolakha	2	High Mt.	59.5	62.0	9.94	43.21	0.574	2.218	0.357	1.653	0.276
			Total(Average)			54.6	60.1	10.45	41.99	0.722	2.329	0.355	1.613	0.251
	BagMati	23	Sindhupalchok	2	High Mt.	53.8	56.0	7.95	35.18	0.448	1.654	0.241	1.755	0.216
		24	Kavrepalanchok	3	Middle Mt.	48.2	60.0	15.87	50.49	1.250	2.578	0.396	1.616	0.273
		25	Lalitpur	3	Middle Mt.	50.6	63.0	44.64	77.42	3.359	4.634	0.304	1.681	0.392
		26	Bhaktapur	3	Middle Mt.	45.0	56.0	32.74	72.89	2.476	13.321	0.325	1.655	0.305
		27	Kathmandu	3	Middle Mt.	53.8	67.0	57.18	84.99	4.318	5.430	0.292	1.653	0.460
		28	Nuwakot	3	Middle Mt.	43.4	54.0	10.83	39.27	0.858	1.914	0.281	1.714	0.202
		29	Rasuwa	2	High Mt.	49.9	52.0	5.33	24.56	0.379	1.497	0.316	1.617	0.195
		30	Dhading	3	Middle Mt.	39.3	49.0	11.16	40.05	0.852	1.873	0.280	1.722	0.164
			Total(Average)			48.0	57.1	23.21	53.11	1.743	4.113	0.304	1.677	0.276
	Narayani	31	Rautahat	5	Terai	56.2	58.5	9.26	34.94	0.497	2.069	0.232	1.694	0.242
		32	Makwanpur	4	Siwalik	42.6	53.0	18.59	49.45	1.264	2.248	0.473	1.500	0.231
		33	Bara	5	Terai	56.2	58.5	10.19	42.38	0.527	2.313	0.359	1.575	0.253
		34	Parsa	5	Terai	66.2	58.5	15.66	49.08	0.721	2.611	0.426	1.507	0.298
		35	Chitawan	4	Siwalik	54.2	56.5	31.80	68.50	1.599	3.427	0.556	1.450	0.330
			Total(Average)			55.1	57.0	17.10	48.87	0.922	2.534	0.409	1.545	0.271
	Total(Average)					52.6	58.1	16.92	47.99	1.129	2.992	0.356	1.612	0.266
Western	Gandaki	36	Gorkha	3	Middle Mt.	51.8	54.0	25.55	47.85	1.597	2.803	0.349	1.696	0.266
		37	Lamjung	3	Middle Mt.	55.6	58.0	29.61	53.87	1.831	3.267	0.370	1.665	0.320
		38	Tanahu	3	Middle Mt.	58.5	61.0	30.63	59.90	1.924	3.327	0.489	1.581	0.344
		39	Syangja	3	Middle Mt.	55.6	58.0	32.11	59.05	2.129	3.507	0.207	1.899	0.308
		40	Kaski	3	Middle Mt.	57.5	60.0	44.59	67.27	2.799	4.277	0.424	1.661	0.400
		41	Manang	1	High Himalaya	50.4	52.7	23.17	52.26	1.533	3.444	0.433	1.486	0.272
			Total(Average)			54.9	57.3	30.94	56.70	1.969	3.438	0.379	1.665	0.318
	Dhawalagiri	42	Mustang	1	High Himalaya	50.4	52.7	27.82	56.88	1.673	3.204	0.426	1.508	0.283
		43	Myagdi	3	Middle Mt.	56.6	59.0	23.39	49.48	1.289	2.634	0.345	1.803	0.271
		44	Parbat	2	High Mt.	55.6	58.0	31.66	61.13	2.211	3.757	0.353	1.752	0.313
		45	Baglung	2	High Mt.	55.6	58.0	21.64	50.08	1.252	2.664	0.314	1.810	0.280
			Total(Average)			54.6	56.9	26.13	54.39	1.606	3.065	0.360	1.718	0.287
	Lumbini	46	Gulmi	3	Middle Mt.	52.7	55.0	25.97	58.13	1.739	3.168	0.307	1.858	0.273
		47	Palpa	3	Middle Mt.	51.8	54.0	31.79	58.52	1.915	3.295	0.496	1.604	0.301
		48	Nawalparasi	4	Siwalik	51.1	53.5	21.04	57.28	1.259	3.007	0.421	1.575	0.256
		49	Rupandehi	5	Terai	57.8	60.5	25.64	58.84	1.493	3.439	0.450	1.525	0.319
		50	Kapilbastu	5	Terai	51.1	53.5	13.64	43.80	0.865	2.672	0.373	1.585	0.234
		51	Arghakhanchi	3	Middle Mt.	54.6	57.0	20.80	50.94	1.660	3.178	0.328	1.926	0.271
			Total(Average)			53.2	55.6	23.15	54.59	1.489	3.127	0.396	1.679	0.276
	Total(Average)					54.2	56.6	26.74	55.23	1.688	3.210	0.378	1.687	0.294
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	53.9	56.0	15.10	55.74	0.918	2.943	0.186	1.945	0.240
		53	Rolpa	3	Middle Mt.	50.1	52.0	8.72	50.75	0.509	2.449	0.196	1.835	0.190
		54	Rukum	2	High Mt.	49.1	51.0	9.77	50.25	0.511	2.361	0.200	1.804	0.193
		55	Salyan	3	Middle Mt.	49.1	51.0	9.70	50.73	0.621	2.672	2.202	1.784	0.187
		56	Dang	4	Siwalik	47.6	49.5	19.98	58.26	1.273	3.071	0.377	1.633	0.243
			Total(Average)			50.0	51.9	12.65	53.15	0.766	2.699	0.632	1.800	0.211
	Bheri	57	Banke	5	Terai	53.4	55.5	21.14	48.12	1.313	2.995	0.316	1.619	0.265
		58	Bardiya	5	Terai	58.2	60.5	13.98	41.85	0.923	2.380	0.590	1.397	0.272
		59	Surkhet	4	Siwalik	54.9	57.0	24.98	67.12	1.316	3.580	0.201	1.791	0.284
		60	Dailekh	3	Middle Mt.	48.2	50.0	10.26	53.31	0.497	2.434	0.204	1.769	0.182
		61	Jajarkot	2	High Mt.	44.3	46.0	8.86	40.65	0.413	2.057	0.200	1.797	0.153
			Total(Average)			51.8	53.8	15.84	50.21	0.892	2.689	0.302	1.675	0.231
	Karnal	62	Dolpa	1	High Himalaya	46.0	48.0	3.37	36.85	0.063	1.912	0.471	1.504	0.160
		63	Jumla	2	High Mt.	45.1	47.0	4.32	41.56	0.355	2.090	0.348	1.623	0.155
		64	Kalikot	2	High Mt.	40.3	42.0	2.33	32.00	0.037	1.633	0.345	1.637	0.116
		65	Mugu	2	Hgih Mt.	34.5	36.0	2.42	35.12	0.028	1.583	0.600	1.374	0.094
		66	Humla	1	High Himalaya	51.8	54.0	2.22	32.24	0.031	1.694	0.484	1.467	0.190
			Total(Average)			43.5	45.4	2.93	35.55	0.103	1.782	0.450	1.521	0.143
	Total(Average)					48.4	50.4	10.48	46.30	0.587	2.390	0.461	1.665	0.195
Far Western	Seti	67	Bajura	2	High Mt.	39.3	41.0	5.60	41.69	0.329	2.006	0.177	1.848	0.110
		68	Bajhang	2	High Mt.	40.3	42.0	6.12	50.84	0.275	2.357	0.096	1.983	0.114
		69	Achham	3	Middle Mt.	46.2	49.0	5.73	50.11	0.278	2.532	0.304	1.774	0.162
		70	Doti	3	Middle Mt.	46.2	49.0	10.73	55.53	0.576	2.822	0.394	1.626	0.189
		71	Kailali	5	Terai	51.0	53.0	15.27	55.75	0.879	2.686	0.421	1.575	0.244
			Total(Average)			44.6	46.8	8.69	50.78	0.467	2.481	0.278	1.761	0.164
	Mahakali	72	Kanchanpur	5	Terai	52.0	54.0	22.08	73.48	1.377	3.583	0.450	1.576	0.274
		73	Dadeldhura	3	Middle Mt.	44.3	47.0	11.29	72.23	0.696	3.563	0.267	1.807	0.177
		74	Baitadi	3	Middle Mt.	43.4	46.0	12.48	67.73	0.812	3.824	0.191	1.886	0.170
		75	Darchula	2	High Mt.	49.9	52.0	11.93	65.48	0.864	3.249	0.317	1.697	0.212
			Total(Average)			47.4	49.8	14.45	69.73	0.937	3.555	0.306	1.742	0.208
	Total(Average)					46.0	48.3	11.57	60.26	0.702	3.018	0.292	1.751	0.186
Total(Average)						52.0	54.8	18.04	53.64	1.151	2.976	0.389	1.652	0.253

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

ATTACHMENT 2

Table 2.10 District Development Profile – Industry and ADBN Investment

Region	Zone		District		Major Land	Industry	ADB/N Investment 1998/99														
						Census Value Added 1996/97	Cereal	Cash	Sp. Crop	Marketing	Agri. Tools	Irrigation	Bio-gas	Land Development	Agri. Industry	Cottage Industry	Godown	Livestock	Horticulture	Tea/Coffee	Forest	Total
						'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs
Eastern	Mechi	1	Taplejung	2	High Mt.	0	5,562	1,486	955	7,939	491	486	0	0	0	2,384	0	2,823	59	0	0	22,185
		2	Panchthar	3	Middle Mt.		9,385	5,855	1,492	5,435	2,028	1,328	608	0	0	8,129	0	6,098	363	1,684	0	42,405
		3	Ilam	3	Middle Mt.	29,379	2,316	6,510	22,940	11,366	5,309	5,192	1,613	0	0	3,797	0	15,782	13	11,227	0	86,065
		4	Jhapa	5	Terai	199,243	31,805	7,881	14,740	27,001	31,730	6,577	9,366	590	0	27,006	175	33,069	946	59,282	0	250,168
			Total(Average)			228,622	49,068	21,732	40,127	51,741	39,558	13,583	11,587	590	0	41,316	175	57,772	1,381	72,193	0	400,823
	Koshi	5	Morang	5	Terai	1,813,600	32,892	21,827	7,018	86,921	57,680	4,621	9,992	1,314	0	33,178	0	76,591	1,456	0	0	333,490
		6	**Sunsari**	**5**	**Terai**	**753,571**	**21,272**	**34,272**	**746**	**50,168**	**33,731**	**3,721**	**6,745**	**123**	**0**	**39,278**	**281**	**41,512**	**0**	**0**	**0**	**231,849**
		7	Dhankuta	3	Middle Mt.	714	2,008	5,864	262	962	456	137	200	0	0	2,046	0	4,827	147	851	0	17,760
		8	Bhojpur	3	Middle Mt.	1,381	10,593	4,032	1,009	2,604	923	658	19	0	0	3,024	0	4,494	163	0	0	27,519
		9	Terhathum	3	Middle Mt.	1,683	6,308	4,729	1,414	5,831	1,138	353	506	0	0	4,370	0	5,636	91	235	0	30,611
		10	Sankhuwasabha	2	High Mt.	891	2,833	1,804	1,445	2,522	179	572	0	0	0	6,662	0	2,479	51	0	0	18,547
			Total(Average)			2,571,840	75,906	72,528	11,894	149,008	94,107	10,062	17,462	1,437	0	88,558	281	135,539	1,908	1,086	0	659,776
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	7,466	3,061	2,694	9	829	189	15	0	0	0	890	0	3,244	0	0	0	10,931
		12	Khotang	3	Middle Mt.	475	7,648	4,901	1,281	7,602	1,686	498	0	0	0	2,524	0	5,771	153	0	0	32,064
		13	Okhaldhunga	3	Middle Mt.	922	7,523	2,899	1,330	3,223	1,227	76	64	0	0	2,751	0	6,507	37	0	0	25,637
		14	Udayapur	4	Siwalik	214,438	3,522	2,232	1,396	7,040	3,252	943	2,278	67	0	1,973	0	7,415	356	0	0	30,474
		15	Saptari	5	Terai	37,133	10,851	16,196	43	22,908	26,307	3,806	378	0	0	27,037	647	15,055	724	0	10	123,962
		16	Siraha	5	Terai	97,856	5,105	23,422	102	30,351	28,868	2,716	468	0	0	21,715	0	12,770	296	0	0	125,813
			Total(Average)			358,290	37,710	52,344	4,161	71,953	61,529	8,054	3,188	67	0	56,890	647	50,762	1,566	0	10	348,881
	Total(Average)					3,158,752	162,684	146,604	56,182	272,702	195,194	31,699	32,237	2,094	0	186,764	1,103	244,073	4,855	73,279	10	1,409,480
Central	Janakpur	17	Dhanusa	5	Terai	589,522	10,641	24,116	40	33,345	35,639	2,950	367	345	0	9,681	0	17,591	317	0	30	135,062
		18	Mahottari	5	Terai	111,303	7,977	27,342	0	12,705	17,766	428	246	0	13	4,120	0	17,272	128	0	0	87,997
		19	Sarlahi	5	Terai	226,415	8,645	40,456	341	18,062	29,748	1,244	3,962	340	0	8,857	0	8,699	173	0	0	120,527
		20	Sindhuli	4	Siwalik	365	1,100	1,065	882	4,450	867	283	1,106	20	0	4,237	0	7,516	683	0	0	22,209
		21	Ramechhap	3	Middle Mt.	1,027	2,451	1,569	161	1,717	428	146	3,333	122	264	527	231	4,827	10	779	0	16,565
		22	Dolakha	2	High Mt.	11,856	2,395	1,143	82	822	152	969	74	135	0	2,064	0	6,421	627	0	0	14,884
			Total(Average)			940,488	33,209	95,691	1,506	71,101	84,600	6,020	9,088	962	277	29,486	231	62,326	1,938	779	30	397,244
	BagMati	23	Sindhupalchok	2	High Mt.	14,265	6,324	2,771	1,672	6,374	1,294	196	539	126	867	3,085	50	13,979	92	0	0	37,369
		24	Kavrepalanchok	3	Middle Mt.	32,384	5,477	8,102	5,431	7,187	455	1,338	1,893	0	430	21,836	30	14,429	294	3,955	837	71,694
		25	Lalitpur	3	Middle Mt.	2,220,523	2,207	1,884	1,308	4,173	242	92	152	40	0	42,539	0	19,854	164	28	15	72,698
		26	Bhaktapur	3	Middle Mt.	383,980	285	640	160	923	65	206	0	0	12,954	7,246	0	14,499	0	1,046	14,400	52,424
		27	Kathmandu	3	Middle Mt.	5,784,021	161	1,362	5,035	34,455	0	173	97	0	0	69,408	0	51,785	168	0	0	162,644
		28	Nuwakot	3	Middle Mt.	7,961	2,837	2,806	3,152	14,288	405	243	1,794	81	2,454	4,536	0	6,391	317	0	0	39,304
		29	Rasuwa	2	High Mt.	5,083	269	591	35	204	18	0	0	0	0	25	0	1,958	149	0	0	3,249
		30	Dhading	3	Middle Mt.	17,415	6,337	15,512	3,721	8,961	2,548	905	2,748	1,244	3,620	6,956	0	32,396	1,817	1,562	0	88,327
			Total(Average)			8,465,632	23,897	33,668	20,514	76,565	5,027	3,153	7,223	1,491	20,325	155,631	80	155,291	3,001	6,591	15,252	527,709
	Narayani	31	Rautahat	5	Terai	188,207	12,306	10,873	256	15,912	23,639	2,008	1,364	0	1,411	13,365	231	6,681	25	0	0	88,071
		32	Makwanpur	4	Siwalik	1,370,959	2,390	15,582	111	17,575	3,536	1,977	3,533	1,321	10,820	1,320	0	23,502	728	0	85	82,480
		33	Bara	5	Terai	3,661,562	20,329	21,027	574	18,237	45,965	5,303	1,540	0	6,168	7,701	2,000	18,327	69	0	0	147,240
		34	Parsa	5	Terai	812,974	13,542	5,767	110	9,965	23,085	749	145	250	189	11,993	0	21,338	53	0	0	87,186
		35	Chitawan	4	Siwalik	849,368	31,835	13,916	1,963	20,542	30,029	8,671	13,367	1,266	12,442	45,559	0	130,944	659	0	0	311,193
			Total(Average)			6,883,070	80,402	67,165	3,014	82,231	126,254	18,708	19,949	2,837	31,030	79,938	2,231	200,792	1,534	0	85	716,170
	Total(Average)					16,289,190	137,508	196,524	25,034	229,897	215,881	27,881	36,260	5,290	51,632	265,055	2,542	418,409	6,473	7,370	15,367	1,641,123
Western	Gandaki	36	Gorkha	3	Middle Mt.	270,451	3,433	5,013	1,596	14,651	868	275	1,867	518	113	7,062	0	13,927	1,189	8	0	50,520
		37	Lamjung	3	Middle Mt.	0	4,846	3,314	589	16,201	3,802	159	4,554	29	1,070	8,752	0	12,998	536	0	0	56,850
		38	Tanahu	3	Middle Mt.	41,894	2,634	3,347	2,126	17,150	5,745	776	6,579	249	7,666	4,157	660	12,610	1,473	0	0	65,172
		39	Syangja	3	Middle Mt.	3,957	3,132	5,270	5,351	20,657	5,241	329	3,377	110	420	8,330	0	12,821	1,027	0	0	66,065
		40	Kaski	3	Middle Mt.	254,981	8,170	7,998	3,755	53,993	2,236	1,110	9,768	736	52,187	39,644	10	43,955	1,469	0	0	225,031
		41	Manang	1	High Himalaya	0	30	98	0	1,490	1,300	0	0	0	0	753	106	1,017	120	0	0	4,914
			Total(Average)			571,283	22,245	25,040	13,417	124,142	19,192	2,649	26,145	1,642	61,456	68,698	776	97,328	5,814	8	0	468,552
	Dhawalagiri	42	Mustang	1	High Himalaya	2,651	610	2,542	0	1,000	644	0	0	0	0	110	0	550	0	0	0	5,456
		43	Myagdi	3	Middle Mt.	3,741	2,956	1,579	232	8,790	3,757	337	210	213	144	3,105	0	4,818	505	0	0	26,646
		44	Parbat	2	High Mt.	5,930	3,235	3,734	320	14,182	1,265	1,134	1,267	634	322	9,492	0	7,557	240	0	0	43,382
		45	Baglung	2	High Mt.	3,814	6,230	5,308	410	33,206	2,005	135	301	592	190	11,804	0	10,363	175	38	0	70,757
			Total(Average)			16,136	13,031	13,163	962	57,178	7,671	1,606	1,778	1,439	656	24,511	0	23,288	920	38	0	146,241
	Lumbini	46	Gulmi	3	Middle Mt.	3,747	6,136	4,468	3,828	5,000	3,138	910	1,560	78	100	4,952	502	7,407	597	25	0	38,701
		47	Palpa	3	Middle Mt.	19,582	4,062	3,786	6,260	4,768	4,102	931	3,743	413	0	5,973	591	6,227	535	10	17	41,418
		48	Nawalparasi	4	Siwalik	782,486	25,585	22,740	3,094	29,140	32,578	4,477	2,955	750	0	35,046	0	46,186	1,489	0	0	204,040
		49	Rupandehi	5	Terai	424,898	55,768	17,427	0	74,851	45,439	2,957	3,021	617	4,504	44,869	125	42,044	1,904	30	0	293,556
		50	Kapilbastu	5	Terai	33,069	26,201	10,683	0	9,825	25,334	2,344	965	803	0	15,633	0	11,746	288	0	0	103,822
		51	Arghakhanchi	3	Middle Mt.	635	3,327	3,042	6,094	9,941	1,275	436	574	951	0	5,455	0	10,424	345	8	946	42,818
			Total(Average)			1,264,417	121,079	62,146	19,276	133,525	111,866	12,055	12,818	3,612	4,604	111,928	1,218	124,034	5,158	73	963	724,355
	Total(Average)					1,851,836	156,355	100,349	33,655	314,845	138,729	16,310	40,741	6,693	66,716	205,137	1,994	244,650	11,892	119	963	1,339,148
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	0	2,669	2,840	864	5,797	734	122	390	138	209	1,592	0	4,165	120	0	0	19,640
		53	Rolpa	3	Middle Mt.	0	542	439	650	2,061	328	520	0	0	0	988	0	987	17	0	0	6,532
		54	Rukum	2	High Mt.	1,513	1,344	1,460	801	1,522	249	613	0	0	131	95	0	1,004	10	0	0	7,229
		55	Salyan	3	Middle Mt.	0	1,007	1,258	9,026	6,199	347	378	0	281	0	785	244	1,386	187	0	0	21,098
		56	Dang	4	Siwalik	35,563	84,432	24,302	5,288	36,262	24,780	5,043	4,698	2,226	0	39,880	1,156	14,874	917	0	0	243,858
			Total(Average)			37,076	89,994	30,299	16,629	51,841	26,438	6,676	5,088	2,645	340	43,340	1,400	22,416	1,251	0	0	298,357
	Bheri	57	Banke	5	Terai	336,120	6,137	4,335	471	26,991	16,734	1,404	1,662	149	3,033	11,054	0	14,169	1,032	0	0	87,171
		58	Bardiya	5	Terai	34,216	24,618	12,007	457	15,649	13,745	1,643	4,244	140	90	9,608	0	7,325	442	0	0	89,968
		59	Surkhet	4	Siwalik	3,177	857	2,752	4,140	18,394	2,957	736	2,188	299	0	9,030	0	12,376	221	0	0	53,950
		60	Dailekh	3	Middle Mt.	133	256	1,369	0	2,469	140	517	93	163	633	2,521	0	3,610	77	0	0	11,848
		61	Jajarkot	2	High Mt.	2,759	96	46	112	1,673	1,088	0	0	0	0	276	0	1,308	20	0	0	4,619
			Total(Average)			376,405	31,964	20,509	5,180	65,176	34,664	4,300	8,187	751	3,756	32,489	0	38,788	1,792	0	0	247,556
	Karnal	62	Dolpa	1	High Himalaya		0	15	0	225	15	0	0	0	0	9	0	226	0	0	0	490
		63	Jumla	2	High Mt.		181	146	0	913	821	45	759	130	0	420	15	2,520	148	0	0	6,098
		64	Kalikot	2	High Mt.		0	0	0	202	40	0	0	0	0	111	0	503	0	0	0	856
		65	Mugu	2	Hgih Mt.		68	18	0	150	330	0	0	0	0	159	0	879	25	0	0	1,629
		66	Humla	1	High Himalaya		0	0	0	245	0	0	0	0	0	7	0	348	0	0	0	600
			Total(Average)			0	249	179	0	1,735	1,206	45	759	130	0	706	15	4,476	173	0	0	9,673
	Total(Average)					413,481	122,207	50,987	21,809	118,752	62,308	11,021	14,034	3,526	4,096	76,535	1,415	65,680	3,216	0	0	555,586
Far Western	Seti	67	Bajura	2	High Mt.	0	566	575	0	1,506	226	0	4	62	0	943	0	1,467	0	0	0	5,349
		68	Bajhang	2	High Mt.		1,103	796	36	393	156	0	0	0	0	279	0	901	18	0	0	3,682
		69	Achham	3	Middle Mt.	242	495	943	0	1,166	930	567	0	0	0	326	0	3,269	213	0	0	7,909
		70	Doti	3	Middle Mt.	0	3,044	2,449	120	1,339	1,570	196	40	0	0	669	0	3,462	266	0	0	13,155
		71	Kailali	5	Terai	115,411	78,173	46,798	1,256	32,296	52,566	14,766	6,013	0	200	11,320	464	17,323	950	181	0	262,306
			Total(Average)			115,653	83,381	51,561	1,412	36,700	55,448	15,529	6,057	62	200	13,537	464	26,422	1,447	181	0	292,401
	Mahakali	72	Kanchanpur	5	Terai	38,494	32,887	35,592	213	15,163	32,311	9,290	2,265	0	1,423	16,056	0	14,365	4,050	0	200	163,815
		73	Dadeldhura	3	Middle Mt.		1,433	1,777	118	1,914	783	197	0	47	0	721	0	2,224	262	0	0	9,476
		74	Baitadi	3	Middle Mt.		4,788	8,849	455	1,704	1,168	113	0	30	0	2,144	0	4,596	369	0	0	24,216
		75	Darchula	2	High Mt.	0	905	1,927	36	116	744	1,477	0	0	0	1,572	0	1,543	266	0	0	8,586
			Total(Average)			38,494	40,013	48,145	822	18,897	35,006	11,077	2,265	77	1,423	20,493	0	22,728	4,947	0	200	206,093
	Total(Average)					154,147	123,394	99,706	2,234	55,597	90,454	26,606	8,322	139	1,623	34,030	464	49,150	6,394	181	200	498,494
Total(Average)						21,867,406	702,148	594,170	138,914	991,793	702,566	113,517	131,594	17,742	124,067	767,521	7,518	1,021,962	32,830	80,949	16,540	5,443,831

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

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Table 2.11 District Development Profile – Health 1998/99

Region	Zone		District		Major Land	Health Manpower (1998/99)						
						Total Beds	Dcotor	Nursing	Paramedics Profession Allied to Medicine	Public Health	Traditional Health	Administrative Non-specific
Eastern	Mechi	1	Taplejung	2	High Mt.	21	4	66	130	2	6	100
		2	Panchthar	3	Middle Mt.	21	5	59	119	2	12	105
		3	Ilam	3	Middle Mt.	18	6	666	129	2	8	102
		4	Jhapa	5	Terai	109	21	95	156	3	12	143
			Total(Average)			169	36	886	534	9	38	450
	Koshi	5	Morang	5	Terai	138	60	167	246	4	4	212
		6	**Sunsari**	**5**	**Terai**	**46**	**9**	**78**	**151**	**3**	**10**	**116**
		7	Dhankuta	3	Middle Mt.	18	6	53	119	8	6	126
		8	Bhojpur	3	Middle Mt.	21	5	78	158	2	2	114
		9	Terhathum	3	Middle Mt.	18	4	46	91	2	4	80
		10	Sankhuwasabha	2	High Mt.	18	4	50	104	2	6	94
			Total(Average)			259	88	472	869	21	32	742
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	15	4	44	94	1	4	79
		12	Khotang	3	Middle Mt.	21	5	89	180	2	6	125
		13	Okhaldhunga	3	Middle Mt.	3	2	65	135	2	6	95
		14	Udayapur	4	Siwalik	18	5	60	124	2	7	98
		15	Saptari	5	Terai	56	20	161	294	3	8	209
		16	Siraha	5	Terai	21	9	133	278	2	10	190
			Total(Average)			134	45	552	1,105	12	41	796
	Total(Average)					562	169	1,910	2,508	42	111	1,988
Central	Janakpur	17	Dhanusa	5	Terai	104	34	155	288	4	14	216
		18	Mahottari	5	Terai	31	7	95	193	2	10	131
		19	Sarlahi	5	Terai	24	8	124	255	2	8	168
		20	Sindhuli	4	Siwalik	21	5	69	143	2	12	117
		21	Ramechhap	3	Middle Mt.	18	3	65	139	2	2	103
		22	Dolakha	2	High Mt.	25	3	64	136	2	4	102
			Total(Average)			223	60	572	1,154	14	50	837
	BagMati	23	Sindhupalchok	2	High Mt.	18	5	93	189	2	10	139
		24	Kavrepalanchok	3	Middle Mt.	6	4	110	218	2	12	148
		25	Lalitpur	3	Middle Mt.	282	16	83	136	9	8	187
		26	Bhaktapur	3	Middle Mt.	50	22	58	95	3	8	127
		27	Kathmandu	3	Middle Mt.	2,140	274	598	486	38	61	1,626
		28	Nuwakot	3	Middle Mt.	34	6	85	164	2	18	137
		29	Rasuwa	2	High Mt.	15	2	23	57	1	6	55
		30	Dhading	3	Middle Mt.	18	5	66	140	2	12	124
			Total(Average)			2,563	334	1,116	1,485	59	135	2,543
	Narayani	31	Rautahat	5	Terai	28	6	114	237	2	8	155
		32	Makwanpur	4	Siwalik	31	11	74	178	3	6	128
		33	Bara	5	Terai	28	6	118	254	2	2	166
		34	Parsa	5	Terai	236	41	148	231	4	6	187
		35	Chitawan	4	Siwalik	103	32	86	131	3	14	130
			Total(Average)			426	96	540	1,031	14	36	766
	Total(Average)					3,212	490	2,228	3,670	87	221	4,146
Western	Gandaki	36	Gorkha	3	Middle Mt.	21	6	87	172	2	12	130
		37	Lamjung	3	Middle Mt.	18	4	71	148	2	18	121
		38	Tanahu	3	Middle Mt.	21	4	62	128	2	22	122
		39	Syangja	3	Middle Mt.	24	7	89	176	2	14	133
		40	Kaski	3	Middle Mt.	173	53	136	185	10	12	210
		41	Manang	1	High Himalaya	15	2	17	44	1	6	49
			Total(Average)			272	76	462	853	19	84	765
	Dhawalagiri	42	Mustang	1	High Himalaya	15	3	24	55	1	2	51
		43	Myagdi	3	Middle Mt.	18	3	49	102	2	8	85
		44	Parbat	2	High Mt.	18	3	64	135	2	8	104
		45	Baglung	2	High Mt.	21	9	86	158	2	10	123
			Total(Average)			72	18	223	450	7	28	363
	Lumbini	46	Gulmi	3	Middle Mt.	21	6	97	196	2	6	144
		47	Palpa	3	Middle Mt.	39	6	83	164	2	14	129
		48	Nawalparasi	4	Siwalik	36	8	99	204	2	16	147
		49	Rupandehi	5	Terai	96	38	127	242	4	8	183
		50	Kapilbastu	5	Terai	46	7	96	207	2	2	134
		51	Arghakhanchi	3	Middle Mt.	15	5	55	112	2	4	90
			Total(Average)			253	70	557	1,125	14	50	827
	Total(Average)					597	164	1,242	2,428	40	162	1,955
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	21	5	64	130	2	8	108
		53	Rolpa	3	Middle Mt.	15	2	62	129	2	4	94
		54	Rukum	2	High Mt.	15	3	53	109	2	4	85
		55	Salyan	3	Middle Mt.	18	4	58	121	2	4	94
		56	Dang	4	Siwalik	24	10	72	134	2	14	118
			Total(Average)			93	24	309	623	10	34	499
	Bheri	57	Banke	5	Terai	76	31	89	185	4	10	149
		58	Bardiya	5	Terai	21	6	51	112	2	4	87
		59	Surkhet	4	Siwalik	21	10	77	151	8	8	146
		60	Dailekh	3	Middle Mt.	18	4	72	145	2	4	103
		61	Jajarkot	2	High Mt.	18	3	44	87	2	6	78
			Total(Average)			154	54	333	680	18	32	563
	Karnal	62	Dolpa	1	High Himalaya	15	1	28	67	1	2	54
		63	Jumla	2	High Mt.	15	3	38	84	2	6	76
		64	Kalikot	2	High Mt.	18	2	40	85	2	2	68
		65	Mugu	2	Hgih Mt.	15	1	30	70	1	2	56
		66	Humla	1	High Himalaya	15	3	35	79	1	4	67
			Total(Average)			78	10	171	385	7	16	321
	Total(Average)					325	88	813	1,688	35	82	1,383
Far Western	Seti	67	Bajura	2	High Mt.	15	2	32	77	1	2	65
		68	Bajhang	2	High Mt.	21	4	60	124	2	10	100
		69	Achham	3	Middle Mt.	33	3	86	180	2	8	132
		70	Doti	3	Middle Mt.	18	6	67	138	8	16	140
		71	Kailali	5	Terai	82	22	88	191	3	10	153
			Total(Average)			169	37	333	710	16	46	590
	Mahakali	72	Kanchanpur	5	Terai	56	18	56	90	2	6	100
		73	Dadeldhura	3	Middle Mt.	18	3	38	80	2	10	78
		74	Baitadi	3	Middle Mt.	18	5	82	166	2	8	123
		75	Darchula	2	High Mt.	33	3	52	110	2	6	93
			Total(Average)			125	29	228	446	8	30	394
	Total(Average)					294	66	561	1,156	24	76	984
Total(Average)						4,990	977	6,754	11,450	228	652	10,456

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

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Table 2.12 District Development Profile – Development Program (1997/98)

Region	Zone		District		Major Land	Development Program (1997/98)														
						Ministry														
						Agriculture	Forestry and Soil Conservation	Water Resources	Science & Technology	Physical Planning & Construction	Industry	Education & Sports	Health	Women, Children & Social Welfare	Supply	Culture	Housing	Local Development	Population &Environment	Total	Budget per capita
						'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs			'000 Rs	'000 Rs	'000 Rs	Rs
Eastern	Mechi	1	Taplejung	2	High Mt.	17,090	3,396	18,650	1,412	7,600	1,991	2,107	2,854	1,535	1,335	0	0	34,499	0	92,468	#REF!
		2	Panchthar	3	Middle Mt.	13,644	3,462	17,480	1,231	11,050	1,576	2,072	4,341	1,361	2,241	0	0	30,150	0	88,608	#REF!
		3	Ilam	3	Middle Mt.	13,845	7,088	49,877	3,043	26,039	3,697	40,577	3,566	1,407	63	0	0	38,850	300	188,352	#REF!
		4	Jhapa	5	Terai	14,771	4,751	48,695	25,591	47,327	2,824	16,197	5,253	0	0	0	0	37,400	0	202,809	#REF!
			Total(Average)			59,350	18,696	134,702	31,277	92,016	10,088	60,953	16,014	4,303	3,639	0	0	140,899	300	572,237	#REF!
	Koshi	5	Morang	5	Terai	17,596	3,791	791,349	20,172	356,878	3,471	17,236	9,550	1,659	0	0	0	46,950	0	1,268,652	#REF!
		6	**Sunsari**	**5**	**Terai**	**13,873**	**3,780**	**76,702**	**10,265**	**71,700**	**3,413**	**17,755**	**357,397**	**1,486**	**0**	**0**	**0**	**33,800**	**0**	**590,151**	**#REF!**
		7	Dhankuta	3	Middle Mt.	13,667	7,245	22,750	4,345	12,420	3,030	10,435	2,390	1,668	267	0	0	24,900	0	103,117	#REF!
		8	Bhojpur	3	Middle Mt.	21,066	6,057	15,780	821	14,350	1,429	14,305	3,975	1,038	2,303	0	0	41,645	0	122,768	#REF!
		9	Terhathum	3	Middle Mt.	17,552	5,683	26,130	11,327	37,300	1,633	0	2,208	1,197	616	0	0	26,750	0	130,395	#REF!
		10	Sankhuwasabha	2	High Mt.	11,063	6,993	14,530	940	6,250	1,232	2,043	2,536	1,233	5,819	0	0	39,186	0	91,825	#REF!
			Total(Average)			94,817	33,529	947,241	47,871	498,898	14,206	61,774	378,057	8,281	9,005	0	0	213,231	0	2,306,909	#REF!
	Sagarmatha	11	Solukhumbu	2	Hgih Mt.	11,379	2,301	12,880	752	12,650	1,486	1,819	2,172	1,285	11,364	0	0	29,522	0	87,609	#REF!
		12	Khotang	3	Middle Mt.	13,171	3,745	22,300	752	12,291	1,669	13,754	6,225	1,252	6,722	0	0	45,400	0	127,281	#REF!
		13	Okhaldhunga	3	Middle Mt.	13,698	9,717	13,100	872	14,150	1,840	19,096	4,943	1,392	3,908	0	0	40,588	0	123,303	#REF!
		14	Udayapur	4	Siwalik	13,827	9,318	30,508	7,966	39,484	3,396	9,110	3,011	1,303	0	0	0	44,146	0	162,068	#REF!
		15	Saptari	5	Terai	16,186	6,311	52,996	668	28,434	3,045	38,786	9,615	1,612	0	0	0	79,189	0	236,841	#REF!
		16	Siraha	5	Terai	16,699	6,361	44,419	958	53,130	2,922	6,348	8,006	1,574	0	0	0	73,197	0	213,613	#REF!
			Total(Average)			84,960	37,753	176,203	11,968	160,139	14,355	88,913	33,970	8,418	21,994	0	0	312,042	0	950,715	#REF!
	Total(Average)					239,127	89,977	1,258,146	91,117	751,053	38,648	211,640	428,041	21,002	34,638	0	0	666,172	300	3,829,861	#REF!
Central	Janakpur	17	Dhanusa	5	Terai	16,723	7,502	33,533	1,078	65,006	3,476	15,458	12,711	1,490	0	0	0	81,692	0	238,668	#REF!
		18	Mahottari	5	Terai	15,907	6,268	50,071	548	23,900	2,673	6,349	8,388	1,281	0	0	0	46,800	0	162,184	#REF!
		19	Sarlahi	5	Terai	16,767	6,911	39,650	8,360	26,722	2,679	9,714	10,534	1,320	0	0	0	59,850	0	182,506	#REF!
		20	Sindhuli	4	Siwalik	12,575	14,956	17,400	5,644	25,106	1,514	13,348	3,935	1,275	0	0	0	40,389	0	136,143	#REF!
		21	Ramechhap	3	Middle Mt.	10,429	13,354	16,400	4,380	53,834	1,384	2,107	6,300	1,259	0	0	0	56,634	0	166,080	#REF!
		22	Dolakha	2	High Mt.	10,568	11,380	13,200	940	20,834	2,796	2,078	3,658	1,355	0	0	0	55,023	0	121,832	#REF!
			Total(Average)			82,969	60,370	170,254	20,951	215,402	14,519	49,054	45,527	7,980	0	0	0	340,388	0	1,007,413	#REF!
	BagMati	23	Sindhupalchok	2	High Mt.	12,270	14,224	26,092	1,420	66,780	46,378	14,555	4,303	1,472	145	0	0	72,224	0	259,863	#REF!
		24	Kavrepalanchok	3	Middle Mt.	14,491	20,481	51,850	7,374	61,168	3,055	29,339	3,933	1,860	0	17,200	0	139,934	0	350,685	#REF!
		25	Lalitpur	3	Middle Mt.	11,844	12,126	37,770	1,601	20,397	5,014	2,029	3,076	4,697	0	0	0	26,450	0	125,004	#REF!
		26	Bhaktapur	3	Middle Mt.	11,071	1,458	67,925	120	42,371	5,003	1,987	5,213	2,052	0	1,300	0	12,600	0	151,100	#REF!
		27	Kathmandu	3	Middle Mt.	12,702	9,449	404,444	633	167,794	6,076	3,630	646,820	0	120,000	84,561	52,600	50,500	0	1,559,209	#REF!
		28	Nuwakot	3	Middle Mt.	11,464	4,913	21,561	5,680	43,918	3,001	9,201	4,777	0	0	0	0	48,950	0	153,464	#REF!
		29	Rasuwa	2	High Mt.	11,750	3,660	14,500	786	8,800	13,347	1,645	1,969	0	283	0	0	18,309	0	75,049	#REF!
		30	Dhading	3	Middle Mt.	15,205	8,912	59,431	7,651	222,240	1,599	10,394	3,143	1,806	1,200	0	0	49,997	0	381,578	#REF!
			Total(Average)			100,797	75,223	683,573	25,265	633,468	83,470	72,780	673,234	11,887	121,628	103,061	52,600	418,964	0	3,055,952	#REF!
	Narayani	31	Rautahat	5	Terai	15,029	9,224	750,398	2,857	34,855	2,825	7,804	5,426	1,274	0	0	0	55,300	0	884,992	#REF!
		32	Makwanpur	4	Siwalik	11,676	17,169	361,892	22,962	61,168	3,055	2,387	5,642	1,538	0	0	0	55,702	0	543,190	#REF!
		33	Bara	5	Terai	14,486	5,820	38,281	5,517	36,816	3,030	32,671	8,935	1,387	0	0	0	57,450	0	204,392	#REF!
		34	Parsa	5	Terai	14,272	2,505	42,477	2,711	46,348	3,371	8,435	4,787	1,277	243,851	0	0	48,550	0	418,583	#REF!
		35	Chitawan	4	Siwalik	16,269	8,309	90,341	34,492	83,658	3,011	15,514	15,235	1,755	0	1,000	0	80,300	0	349,884	#REF!
			Total(Average)			71,732	43,026	1,283,389	68,539	262,845	15,290	66,811	40,026	7,231	243,851	1,000	0	297,302	0	2,401,041	#REF!
	Total(Average)					255,498	178,620	2,137,216	114,755	1,111,715	113,279	188,645	758,787	27,098	365,479	104,061	52,600	1,056,654	0	6,464,406	#REF!
Western	Gandaki	36	Gorkha	3	Middle Mt.	14,731	6,859	27,350	8,880	22,283	2,073	13,176	5,810	1,764	4,120	8,000	0	56,016	0	171,061	#REF!
		37	Lamjung	3	Middle Mt.	14,075	4,295	1,666,396	12,820	17,735	1,637	6,974	3,545	1,379	0	0	0	45,650	0	1,774,506	#REF!
		38	Tanahu	3	Middle Mt.	17,608	7,691	32,038	24,226	73,467	2,955	14,181	5,889	1,879	0	0	0	192,453	0	372,386	#REF!
		39	Syangja	3	Middle Mt.	14,273	9,728	31,700	11,362	26,367	1,385	23,906	4,122	1,655	0	0	0	54,750	0	179,247	#REF!
		40	Kaski	3	Middle Mt.	12,893	10,036	35,200	29,072	38,258	3,788	17,223	3,694	1,709	0	0	0	47,500	0	199,372	#REF!
		41	Manang	1	High Himalaya	9,399	846	9,500	752	3,600	1,086	938	1,524	0	4,502	0	0	12,675	0	44,822	#REF!
			Total(Average)			82,979	39,454	1,802,184	87,113	181,710	12,921	76,398	24,583	8,386	8,622	8,000	0	409,044	0	2,741,394	#REF!
	Dhawalagiri	42	Mustang	1	High Himalaya	9,617	2,491	20,070	752	3,600	1,221	5,570	3,269	1,238	5,242	0	0	17,535	0	70,604	#REF!
		43	Myagdi	3	Middle Mt.	10,441	6,385	15,250	1,009	19,016	1,387	1,324	2,262	1,426	520	0	0	29,630	0	88,650	#REF!
		44	Parbat	2	High Mt.	12,608	9,916	122,430	3,524	29,389	1,499	9,070	5,302	1,523	0	0	0	46,287	0	241,548	#REF!
		45	Baglung	2	High Mt.	10,491	6,366	27,600	1,300	21,874	2,542	10,914	4,810	1,638	0	0	0	183,894	0	271,429	#REF!
			Total(Average)			43,157	25,158	185,350	6,586	73,879	6,648	26,878	15,643	5,825	5,762	0	0	277,346	0	672,232	#REF!
	Lumbini	46	Gulmi	3	Middle Mt.	11,263	3,857	25,960	4,602	25,986	1,147	13,315	3,657	1,190	0	0	0	265,645	0	356,621	#REF!
		47	Palpa	3	Middle Mt.	16,306	4,506	26,892	8,623	20,400	2,992	1,954	7,080	1,630	0	0	0	90,230	0	180,613	#REF!
		48	Nawalparasi	4	Siwalik	17,288	6,458	60,293	19,610	48,792	4,414	10,493	8,263	1,675	0	0	0	98,301	0	275,586	#REF!
		49	Rupandehi	5	Terai	19,681	7,797	95,113	9,497	65,200	3,555	45,772	5,747	1,595	6,000	0	0	65,200	0	325,156	#REF!
		50	Kapilbastu	5	Terai	14,679	4,652	52,642	5,390	53,672	3,676	12,072	3,730	1,727	0	0	0	73,500	0	225,739	#REF!
		51	Arghakhanchi	3	Middle Mt.	12,397	5,297	24,039	2,275	24,969	1,183	1,516	2,585	1,231	0	0	0	194,170	0	269,661	#REF!
			Total(Average)			91,614	32,566	284,939	49,998	239,019	16,964	85,122	31,061	9,048	6,000	0	0	787,046	0	1,633,377	#REF!
	Total(Average)					217,750	97,178	2,272,473	143,697	494,608	36,533	188,398	71,288	23,259	20,384	8,000	0	1,473,437	0	5,047,003	#REF!
Mid Western	Napati	52	Pyuthan	3	Middle Mt.	11,201	2,784	24,403	2,742	27,300	2,311	7,117	2,719	1,836	122	0	0	39,031	0	121,565	#REF!
		53	Rolpa	3	Middle Mt.	11,572	2,552	12,635	716	22,100	1,200	15,057	3,343	1,448	1,736	0	0	36,212	0	108,571	#REF!
		54	Rukum	2	High Mt.	10,851	2,525	36,242	716	9,770	1,247	12,620	2,347	1,407	6,024	0	0	35,232	0	118,981	#REF!
		55	Salyan	3	Middle Mt.	11,508	3,398	19,116	716	6,620	1,464	7,662	2,808	1,814	0	0	0	44,090	0	99,196	#REF!
		56	Dang	4	Siwalik	12,963	5,156	168,221	10,138	84,650	2,978	11,895	6,430	1,819	0	0	0	44,600	0	348,849	#REF!
			Total(Average)			58,095	16,415	260,617	15,029	150,440	9,198	54,351	17,647	8,324	7,882	0	0	199,165	0	797,162	#REF!
	Bheri	57	Banke	5	Terai	14,080	5,896	99,851	4,456	20,200	3,276	10,963	5,761	1,582	0	0	0	50,144	0	216,209	#REF!
		58	Bardiya	5	Terai	14,340	3,784	134,393	9,874	29,700	2,646	41,558	4,973	1,283	0	0	0	36,950	0	279,500	#REF!
		59	Surkhet	4	Siwalik	12,080	6,195	37,436	3,594	32,450	3,016	28,594	3,996	1,518	0	0	0	52,587	2,500	183,965	#REF!
		60	Dailekh	3	Middle Mt.	12,800	3,487	19,111	819	26,800	1,572	6,768	6,262	1,237	1,051	0	0	50,397	0	130,304	#REF!
		61	Jajarkot	2	High Mt.	11,212	1,310	12,136	716	8,240	1,556	14,260	2,043	0	5,450	0	0	25,238	0	82,161	#REF!
			Total(Average)			64,512	20,671	302,927	19,460	117,390	12,064	102,143	23,035	5,620	6,501	0	0	215,317	2,500	892,139	#REF!
	Karnal	62	Dolpa	1	High Himalaya	13,950	1,255	13,338	716	4,275	1,335	15,458	1,843	0	37,254	0	0	23,079	0	112,503	#REF!
		63	Jumla	2	High Mt.	12,140	4,078	8,116	716	5,830	2,219	13,659	2,596	1,192	35,538	0	0	36,781	0	122,865	#REF!
		64	Kalikot	2	High Mt.	9,608	1,154	40,042	716	18,013	1,336	10,409	2,610	0	20,465	0	0	36,696	0	141,049	#REF!
		65	Mugu	2	Hgih Mt.	10,906	1,048	56,684	752	7,050	1,458	8,524	3,055	0	29,813	0	0	37,828	0	157,117	#REF!
		66	Humla	1	High Himalaya	11,414	1,134	53,627	752	4,300	1,603	12,316	3,233	0	36,756	0	0	44,722	0	169,856	#REF!
			Total(Average)			58,018	8,667	171,807	3,654	39,468	7,949	60,366	13,337	1,192	159,826	0	0	179,106	0	703,390	#REF!
	Total(Average)					180,625	45,753	735,351	38,142	307,298	29,210	216,860	54,019	15,136	174,209	0	0	593,588	2,500	2,392,690	#REF!
Far Western	Seti	67	Bajura	2	High Mt.	10,404	1,680	19,405	716	4,800	1,156	6,868	2,465	1,368	15,452	0	0	71,709	0	136,022	#REF!
		68	Bajhang	2	High Mt.	11,749	1,591	24,940	716	13,000	1,418	13,083	4,662	1,356	10,241	0	0	66,789	0	149,544	#REF!
		69	Achham	3	Middle Mt.	12,315	1,667	179,735	819	76,900	1,263	14,235	4,316	1,459	4,396	0	0	114,930	0	412,035	#REF!
		70	Doti	3	Middle Mt.	10,697	3,680	18,400	784	9,700	1,960	15,785	3,217	1,320	0	0	0	49,997	0	115,540	#REF!
		71	Kailali	5	Terai	16,443	6,585	45,695	14,165	21,100	2,706	17,463	6,181	1,534	0	0	0	25,934	700	158,505	#REF!
			Total(Average)			61,608	15,202	288,175	17,202	125,500	8,501	67,434	20,841	7,037	30,089	0	0	329,359	700	971,647	#REF!
	Mahakali	72	Kanchanpur	5	Terai	13,988	2,894	149,056	9,018	69,750	2,641	10,625	5,382	1,388	0	0	0	43,481	0	308,223	#REF!
		73	Dadeldhura	3	Middle Mt.	10,937	4,875	43,580	726	8,900	1,168	21,594	4,507	1,367	0	0	0	36,387	0	134,041	#REF!
		74	Baitadi	3	Middle Mt.	10,522	4,098	57,105	750	31,200	2,688	7,392	3,408	1,441	0	0	0	57,348	0	175,952	#REF!
		75	Darchula	2	High Mt.	10,864	4,239	215,303	716	15,350	1,168	13,047	15,701	1,305	3,710	0	0	47,633	0	329,035	#REF!
			Total(Average)			46,311	16,106	465,044	11,211	125,200	7,663	52,658	28,998	5,501	3,710	0	0	184,849	0	947,251	#REF!
	Total(Average)					107,919	31,308	753,219	28,413	250,700	16,164	120,092	49,839	12,538	33,799	0	0	514,208	700	1,918,898	#REF!
Total(Average)						1,000,919	442,836	7,156,405	416,124	2,915,374	233,833	925,634	1,361,973	99,033	628,509	112,061	52,600	4,304,058	3,500	19,652,859	#REF!

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

Table 2.13 District Development Profile – Population by Region

Major Land	Area		Population																	
			1991 Census									2001 Preliminary Results of Census								
			Male	Female	Total		Population Density	Households	Ave. HH	Literacy rate 6years >	Annual Growth Rate	Male	Female	Total		Population Density	Households	Ave. HH	Annual Growth Rate
	km2	%			No.	%	per km2			%	%			No	%	per km2			%
High Himalaya	19,363	13.2	40,658	38,393	79,051	0.4	4	15,609	5.1	29	2.4	48,505	45,971	94,476	0.4	17	17,853	5.3	1.8
High Mt.	39,839	27.1	984,216	1,025,408	2,009,624	10.9	50	380,997	5.3	35	1.0	1,148,866	1,195,019	2,343,885	10.1	59	448,218	5.2	1.6
Middle Mt.	44,529	30.3	3,307,992	3,480,829	6,788,821	36.7	152	1,241,105	5.5	46	1.5	4,042,735	4,234,536	8,277,271	35.7	186	1,636,576	5.1	2.0
Siwalik	16,766	11.4	1,061,008	1,069,633	2,130,641	11.5	127	368,473	5.8	42	3.0	1,361,080	1,380,756	2,741,836	11.8	164	504,666	5.4	2.0
Terai	26,684	18.1	3,827,100	3,655,860	7,482,960	40.5	280	1,302,282	5.7	36	2.7	4,986,361	4,770,852	9,757,213	42.0	366	1,704,434	5.7	2.7
Total	147,181	100.0	9,220,974	9,270,123	18,491,097	100.0	126	3,308,466	5.6	40	2.1	11,587,547	11,627,134	23,214,681	100.0	158	4,311,747	5.4	2.3

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

Table 2.14 District Development Profile – Development Program 1997/98 by Region

Major Land	Development Program (1997/98) Total Budget														
	Ministry														
	Agriculture	Forestry and Soil Conservation	Water Resources	Science & Technology	Physical Planning & Construction	Industry	Education & Sports	Health	Women, Children & Social Welfare	Supply	Culture	Housing	Local Development	Population &Environment	Total	%
	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs	'000 Rs			'000 Rs	'000 Rs	'000 Rs	
High Himalaya	44,380	5,725	96,535	2,973	15,775	5,243	34,282	9,869	1,238	83,754	0	0	98,011	0	397,786	2.0
High Mt.	184,953	75,859	662,750	16,842	256,230	82,824	136,701	63,081	16,669	145,639	0	0	836,850	0	2,478,398	12.6
Middle Mt.	409,388	198,883	3,085,708	160,776	1,217,323	72,165	348,104	770,134	46,774	149,265	111,061	52,600	2,037,785	300	8,660,266	44.1
Siwalik	96,678	67,561	766,091	104,407	375,308	21,381	91,341	46,512	10,883	0	1,000	0	416,025	2,500	1,999,685	10.2
Terai	265,520	94,809	2,545,321	131,125	1,050,738	52,221	315,206	472,377	23,469	249,851	0	0	915,387	700	6,116,724	31.1
National	1,000,919	442,836	7,156,405	416,124	2,915,374	233,833	925,634	1,361,973	99,033	628,509	112,061	52,600	4,304,058	3,500	19,652,859	100.0

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

Table 2.15 District Development Profile – Development Program 1997/98 Budget/Capita by Region

Major Land	Development Program (1997/98) Budget/capita														
	Ministry														
	Agriculture	Forestry and Soil Conservation	Water Resources	Science & Technology	Physical Planning & Construction	Industry	Education & Sports	Health	Women, Children & Social Welfare	Supply	Culture	Housing	Local Development	Population &Environment	Total
	Rs/capita	Rs/capita	Rs/capita	Rs/capita	Rs/capita	Rs/capita	Rs/capita	Rs/capita	Rs/capita	Rs/capita	Rs/capita	Rs/capita	Rs/capita	Rs/capita	Rs/capita
High Himalaya	470	61	1,022	31	167	55	363	104	13	887	0	0	1,037	0	4,210
High Mt.	79	32	283	7	109	35	58	27	7	62	0	0	357	0	1,057
Middle Mt.	49	24	373	19	147	9	42	93	6	18	13	6	246	0	1,046
Siwalik	35	25	279	38	137	8	33	17	4	0	0	0	152	1	729
Terai	27	10	261	13	108	5	32	48	2	26	0	0	94	0	627
National	43	19	308	18	126	10	40	59	4	27	5	2	185	0	847

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

Table 2.16 District Development Profile – Crop Prodcution (1998/99) by Region

Major Land	Crop Production (1998/99)														
	Cereal Crops								Cash Crops					Pulses	
	Paddy		Maize		Millet		Wheat		Oil seed			Sugarcane		Lentil	
	t	%	t	%	t	%	t	%	t	%	%	t	%	t	%
High Himalaya	1,215	0.8	33,673	0.4	16,741	0.1	1,581	1,258.4	499	8,928.2	0.0	2,040	0.0	14	0.0
High Mt.	131,247	89.2	179,030	1.9	68,014	0.4	92,671	73,762.0	3,535	63,249.0	0.0	3,895	0.0	1,509	0.0
Middle Mt.	739,410	502.4	679,986	7.4	167,748	0.9	274,088	218,162.0	12,074	216,030.5	0.1	28,717	0.2	2,973	0.0
Siwalik	429,728	292.0	245,903	2.7	28,421	0.2	133,519	106,275.3	33,761	604,058.9	0.0	286,300	2.5	24,170	0.1
Terai	2,408,170	1,636.2	207,318	2.2	10,446	0.1	584,665	465,367.6	69,862	1,249,985.6	0.0	1,650,694	14.2	103,624	0.4
National	3,709,770	2,520.5	1,345,910	14.6	291,370	1.6	1,086,524	864,825.3	119,731	2,142,252.3	0.1	1,971,646	17.0	132,290	0.6

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

Table 2.17 District Development Profile – Irrigation 1997 by Region

Major Land	Present Level of Irrigation Development (1997)													Total
	Overall Total	Total Irrigable Area	Developed DOI Scheme		Surface Farmer Managed Irrigation System(FMIS)				Agency Assisted Groundwater	Private Ground Water	Irrigated Ratio			
			Surface	Ground Water	Agency Assisted		Non Assisted	Total Surface			Surface	Groundwater	Total	
					Rehabilitation	New								
	ha	ha	ha	ha	ha	ha	ha	ha	ha	ha	%	%	%	ha
High Himalaya	48,832	12,820	540	0	3,721	359	2,392	6,472	14	0	55	0	55	4,510
High Mt.	298,738	73,473	2,834	0	12,505	4,129	32,832	49,466	178	0	71	0	71	25,637
Middle Mt.	801,301	263,929	17,994	44	40,892	9,001	49,484	99,377	456	0	44	0	45	78,292
Siwalik	296,410	233,995	28,152	910	28,653	4,312	65,764	98,729	7,846	1,245	54	4	58	85,858
Terai	1,195,968	1,185,423	205,253	30,791	106,054	9,226	221,884	337,164	123,280	22,810	46	15	61	614,300
National	2,641,249	1,769,640	254,773	31,745	191,825	27,027	372,356	591,208	131,774	24,055	48	11	58	808,596

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

Table 2.18 District Development Profile – Food Balance by Region

Major Land	Food Balance (1997/98)									
	Population (1)	Rice t	Wheat t	Maize t	Millet t	Barley t	Total Edible (2) t	Required (3) t	Sur/Def (a) (2) – (3) t	Sur/Def per capita (a)/(1) kg/capita
High Himalaya	91,254	516	1,647	2,644	1,804	716	7,327	17,338	-10,011	-109.7
High Mt.	2,307,178	65,044	77,063	129,880	53,678	4,439	330,104	438,364	-108,260	-46.9
Middle Mt.	7,808,203	377,029	221,757	527,381	146,338	4,018	1,276,523	1,483,559	-207,036	-26.5
Siwalik	2,581,191	227,133	98,896	175,082	23,119	608	524,838	490,426	34,412	13.3
Terai	9,016,952	1,366,003	402,813	102,887	8,422	418	1,880,543	1,713,221	167,322	18.6
National	21,804,778	2,035,725	802,176	937,874	233,361	10,199	4,019,335	4,142,908	-123,573	-5.7

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

Table 2.19 Estimation of Gross Regional Dovemstic Production of Agriculture, Livestock and Industry

(1/2) Gross Production (Unit: 000 Rs)

Distrct	Population	Agriculture	Livestock	Agri + Livestock	Industry	Total	Agri+ Livestock share
Jhapa	688,109	3,465,715	1,743,672	5,209,387	199,243	5,408,630	96%
Morang	843,220	3,601,711	1,459,568	5,061,279	1,813,600	6,874,879	74%
Sunsari	625,633	2,140,136	933,798	3,073,934	753,571	3,827,505	80%
Saptari	570,282	2,148,245	1,066,586	3,214,831	37,133	3,251,964	99%
Siraha	572,399	1,786,565	860,377	2,646,942	97,856	2,744,798	96%
Total	3,299,643	13,142,372	6,064,001	19,206,373	2,901,403	22,107,776	87%

(2/2) Production per capita

District	Population	Agriculture	Livestock	Agri + Livestock	Industry	Total	Agriculture share
Jhapa	688,109	5,037	2,534	7,571	290	7,860	96%
Morang	843,220	4,271	1,731	6,002	2,151	8,153	74%
Sunsari	625,633	3,421	1,493	4,913	1,204	6,118	80%
Saptari	570,282	3,767	1,870	5,637	65	5,702	99%
Siraha	572,399	3,121	1,503	4,624	171	4,795	96%
Eastern Terai	3,299,643	3,983	1,838	5,821	879	6,700	87%

Source: Estimated with prices obtained from Study team survey and quantity from District Development Profile of Nepal

ATTACHMENT 3

Table 3.1 Position of Sunsari District – Demography

	District	Major Land	Area	Annual Population Growth Rate				District	Major Land	
				1991 Population	2001 Population					
				Total	Total	growth rate 1991–2001				Density
			km2			%				per km2
1	Manang	High Himalaya	2,246	5,363	9,494	5.9	1	Kathmandu	Middle Mt.	2,768
2	Kathmandu	Middle Mt.	395	675,341	1,093,414	4.9	2	Bhaktapur	Middle Mt.	1,906
3	Kailali	Terai	3,235	417,891	619,131	4.0	3	Lalitpur	Middle Mt.	874
4	Kanchanpur	Terai	1,610	257,906	380,791	4.0	4	Dhanusa	Terai	582
5	Banke	Terai	2,337	285,604	391,803	3.2	5	Mahottari	Terai	553
6	**Sunsari**	**Terai**	**1,257**	**463,481**	**628,405**	**3.1**	6	Rupandehi	Terai	517
7	Rupandehi	Terai	1,360	522,150	702,523	3.0	7	Sarlahi	Terai	510
8	Bara	Terai	1,190	415,718	557,093	3.0	**8**	**Sunsari**	**Terai**	**500**
9	Parsa	Terai	1,353	372,524	494,888	2.9	9	Rautahat	Terai	486
10	Chitawan	Siwalik	2,218	354,488	470,713	2.9	10	Siraha	Terai	482
11	Rautahat	Terai	1,126	414,005	547,210	2.8	11	Bara	Terai	468
12	Bardiya	Terai	2,025	290,313	383,720	2.8	12	Morang	Terai	455
13	Bhaktapur	Middle Mt.	119	172,952	226,860	2.8	13	Jhapa	Terai	430
14	Lalitpur	Middle Mt.	385	257,086	336,677	2.7	14	Saptari	Terai	424
15	Dang	Siwalik	2,955	354,413	462,896	2.7	15	Parsa	Terai	366
16	Kaski	Middle Mt.	2,017	292,945	381,580	2.7	16	Parbat	High Mt.	320
17	Sarlahi	Terai	1,259	492,798	641,864	2.7	17	Kapilbastu	Terai	279
18	Kapilbastu	Terai	1,738	371,778	484,232	2.7	18	Kavrepalanchok	Middle Mt.	276
19	Udayapur	Siwalik	2,063	221,256	288,164	2.7	19	Syangja	Middle Mt.	272
20	Nawalparasi	Siwalik	2,162	436,217	562,090	2.6	20	Nawalparasi	Siwalik	260
21	Surkhet	Siwalik	2,451	225,768	288,691	2.5	21	Gulmi	Middle Mt.	259
22	Dhanusa	Terai	1,180	543,672	686,986	2.4	22	Nuwakot	Middle Mt.	257
23	Mahottari	Terai	1,002	440,146	553,857	2.3	23	Kanchanpur	Terai	237
24	Sindhuli	Siwalik	2,491	223,900	279,990	2.3	24	Chitawan	Siwalik	212
25	Morang	Terai	1,855	674,823	843,548	2.3	25	Tanahu	Middle Mt.	204
26	Doti	Middle Mt.	2,025	167,168	208,954	2.3	26	Palpa	Middle Mt.	195
27	Siraha	Terai	1,188	460,746	572,551	2.2	27	Kailali	Terai	191
28	Saptari	Terai	1,363	465,668	577,438	2.2	28	Bardiya	Terai	189
29	Makwanpur	Siwalik	2,426	314,599	389,292	2.2	29	Kaski	Middle Mt.	189
30	Ilam	Middle Mt.	1,703	229,214	282,822	2.1	30	Dhankuta	Middle Mt.	186
31	Dhading	Middle Mt.	1,926	278,068	338,513	2.0	31	Dhading	Middle Mt.	176
32	Mugu	Hgih Mt.	3,535	36,364	44,127	2.0	32	Arghakhanchi	Middle Mt.	175
33	Pyuthan	Middle Mt.	1,309	175,469	212,522	1.9	33	Terhathum	Middle Mt.	168
34	Rasuwa	High Mt.	1,544	36,744	44,496	1.9	34	Banke	Terai	168
35	Dadeldhura	Middle Mt.	1,538	104,647	126,673	1.9	35	Ilam	Middle Mt.	166
36	Dailekh	Middle Mt.	1,502	187,400	226,341	1.9	36	Panchthar	Middle Mt.	163
37	Rukum	High Mt.	2,877	155,554	187,816	1.9	37	Pyuthan	Middle Mt.	162
38	Bajhang	High Mt.	3,422	139,092	167,381	1.9	38	Makwanpur	Siwalik	160
39	Darchula	High Mt.	2,322	101,683	121,913	1.8	39	Dang	Siwalik	157
40	Kalikot	High Mt.	1,741	88,805	105,780	1.8	40	Baitadi	Middle Mt.	155
41	Kavrepalanchok	Middle Mt.	1,396	324,329	385,218	1.7	41	Dailekh	Middle Mt.	151
42	Dolpa	High Himalaya	7,889	25,013	29,653	1.7	42	Baglung	High Mt.	150
43	Humla	High Himalaya	5,655	34,383	40,749	1.7	43	Salyan	Middle Mt.	146
44	Dolakha	High Mt.	2,191	173,236	204,744	1.7	44	Khotang	Middle Mt.	146
45	Bajura	High Mt.	2,188	92,010	108,730	1.7	45	Okhaldhunga	Middle Mt.	146
46	Tanahu	Middle Mt.	1,546	268,073	316,036	1.7	46	Udayapur	Siwalik	140
47	Jumla	High Mt.	2,531	75,964	89,478	1.7	47	Achham	Middle Mt.	139
48	Salyan	Middle Mt.	1,462	181,785	213,995	1.6	48	Ramechhap	Middle Mt.	137
49	Achham	Middle Mt.	1,680	198,188	233,257	1.6	49	Bhojpur	Middle Mt.	136
50	Rolpa	Middle Mt.	1,879	179,621	210,869	1.6	50	Sindhupalchok	High Mt.	120
51	Jajarkot	High Mt.	2,230	113,958	133,770	1.6	51	Surkhet	Siwalik	118
52	Nuwakot	Middle Mt.	1,121	245,260	287,643	1.6	52	Sindhuli	Siwalik	112
53	Sindhupalchok	High Mt.	2,542	261,025	306,037	1.6	53	Rolpa	Middle Mt.	112
54	Baitadi	Middle Mt.	1,519	200,716	235,131	1.6	54	Lamjung	Middle Mt.	105
55	Jhapa	Terai	1,606	593,737	691,173	1.5	55	Doti	Middle Mt.	103
56	Panchthar	Middle Mt.	1,241	175,206	202,608	1.5	56	Dolakha	High Mt.	93
57	Arghakhanchi	Middle Mt.	1,193	180,884	209,109	1.5	57	Dadeldhura	Middle Mt.	82
58	Baglung	High Mt.	1,784	232,486	268,485	1.5	58	Gorkha	High Himalaya	80
59	Lamjung	Middle Mt.	1,692	153,697	177,361	1.4	59	Rukum	High Mt.	65
60	Myagdi	Middle Mt.	2,297	100,552	115,351	1.4	60	Kalikot	High Mt.	61
61	Gorkha	High Himalaya	3,610	252,524	288,101	1.3	61	Jajarkot	High Mt.	60
62	Palpa	Middle Mt.	1,373	236,313	267,873	1.3	62	Darchula	High Mt.	53
63	Dhankuta	Middle Mt.	891	146,386	165,672	1.2	63	Myagdi	Middle Mt.	50
64	Ramechhap	Middle Mt.	1,546	188,064	212,555	1.2	64	Bajura	High Mt.	50
65	Taplejung	High Mt.	3,646	120,053	135,540	1.2	65	Bajhang	High Mt.	49
66	Sankhuwasabha	High Mt.	3,480	141,903	159,679	1.2	66	Sankhuwasabha	High Mt.	46
67	Okhaldhunga	Middle Mt.	1,074	139,457	156,339	1.1	67	Taplejung	High Mt.	37
68	Gulmi	Middle Mt.	1,149	266,331	297,316	1.1	68	Jumla	High Mt.	35
69	Solukhumbu	Hgih Mt.	3,312	97,200	107,882	1.0	69	Solukhumbu	Hgih Mt.	33
70	Terhathum	Middle Mt.	679	102,870	114,128	1.0	70	Rasuwa	High Mt.	29
71	Parbat	High Mt.	494	143,547	158,027	1.0	71	Mugu	Hgih Mt.	12
72	Syangja	Middle Mt.	1,164	293,526	316,907	0.8	72	Humla	High Himalaya	7
73	Khotang	Middle Mt.	1,591	215,965	232,220	0.7	73	Manang	High Himalaya	4
74	Bhojpur	Middle Mt.	1,507	198,784	205,226	0.3	74	Mustang	High Himalaya	4
75	Mustang	High Himalaya	3,573	14,292	14,580	0.2	75	Dolpa	High Himalaya	4
National			147,181	18,491,097	23,214,681	2.3	National			158

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

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Table 3.2 Position of Sunsari District – Crop Production 1998/99

	Crop Production (1998/99)															
	Ceral Crops						Cash Crops						Puluses			
	Paddy		Wheat		Oil seed		Potato		Sugarcane		Jute		Lentil		Grass Pea	
	District	t	District	t	District	t	District	t	District	t	District	t	District	t	District	t
1	Jhapa	283,500	Rupandehi	60,683	Kailali	15,750	Morang	59,852	Nawalparasi	279,500	Morang	11,445	Sarlahi	18,000	Dhanusa	1,600
2	Morang	240,280	Bara	52,800	Dang	12,726	Kavrepalanchok	54,000	Sarlahi	276,500	**Sunsari**	**1,750**	Rautahat	16,800	**Sunsari**	**1,419**
3	Rupandehi	189,680	Kanchanpur	51,216	Chitawan	6,898	Bara	49,170	Rautahat	264,900	Jhapa	1,650	Dang	16,480	Sarlahi	1,395
4	Saptari	169,100	Nawalparasi	42,750	Rautahat	6,660	Ilam	46,550	Kapilbastu	196,200	Dang	377	Kailali	14,828	Mahottari	1,300
5	**Sunsari**	**159,980**	Parsa	39,319	Morang	6,115	Makwanpur	44,100	Bara	167,100	Saptari	150	Bara	10,400	Rautahat	1,240
6	Bara	159,920	Kailali	37,400	Bardiya	5,792	Panchthar	36,660	Rupandehi	134,400	Siraha	150	Banke	8,068	Morang	950
7	Siraha	150,960	Dhanusa	36,000	Sarlahi	5,355	Jhapa	34,170	Kanchanpur	108,707	Bardiya	120	Bardiya	6,830	Parsa	900
8	Kailali	145,750	Kapilbastu	35,894	Parsa	4,367	Solukhumbu	30,313	Mahottari	95,700	Banke	105	Parsa	6,800	Saptari	600
9	Parsa	138,150	Sarlahi	33,600	Banke	4,130	Saptari	30,300	**Sunsari**	**81,944**	Udayapur	50	Mahottari	4,000	Dang	377
10	Kapilbastu	135,580	Mahottari	30,600	Sindhuli	4,050	Sindhupalchok	29,532	Kailali	80,000	Kanchanpur	15	Morang	3,600	Bara	190
11	Nawalparasi	119,280	Bardiya	29,640	Rupandehi	3,700	Mahottari	26,000	Dhanusa	78,200	Surkhet	3	Nawalparasi	3,343	Rupandehi	180
12	Kanchanpur	115,980	**Sunsari**	**28,645**	Kanchanpur	3,450	Rupandehi	23,655	Morang	59,750	Kailali	1	Saptari	3,030	Kapilbastu	150
13	Dang	110,682	Rautahat	28,080	Nawalparasi	3,425	Ramechhap	22,050	Parsa	56,000	Taplejung	0	Chitawan	2,700	Udayapur	80
14	Mahottari	97,880	Morang	28,068	Surkhet	3,015	Taplejung	20,982	Siraha	40,480	Panchthar	0	Kapilbastu	2,411	Jhapa	75
15	Banke	95,200	Surkhet	26,159	Dhanusa	2,709	Dang	20,625	Dhading	12,700	Ilam	0	Dhanusa	2,300	Bardiya	63
16	Sarlahi	89,025	Dang	25,048	Saptari	2,405	Rasuwa	20,425	Bardiya	3,413	Dhankuta	0	Siraha	1,800	Siraha	60
17	Chitawan	87,210	Banke	24,825	Kapilbastu	2,340	Khotang	20,400	Banke	3,400	Bhojpur	0	**Sunsari**	**1,577**	Kanchanpur	60
18	Bardiya	85,280	Siraha	23,355	Udayapur	2,324	Bhojpur	20,000	Makwanpur	2,800	Terhathum	0	Rupandehi	1,567	Banke	55
19	Rautahat	80,500	Saptari	23,120	Bara	2,076	Dolakha	19,800	Jhapa	2,500	Sankhuwasabha	0	Kanchanpur	1,548	Chitawan	40
20	Dhanusa	71,405	Jhapa	21,420	Mahottari	2,071	Kathmandu	19,600	Nuwakot	2,075	Solukhumbu	0	Surkhet	737	Kailali	40
21	Kathmandu	54,000	Salyan	19,763	Jhapa	1,800	Banke	18,240	Gorkha	2,040	Khotang	0	Bhojpur	511	Nawalparasi	25
22	Bhojpur	48,620	Kavrepalanchok	18,728	Sindhupalchok	1,545	Okhaldhunga	17,355	Kavrepalanchok	1,800	Okhaldhunga	0	Darchula	490	Makwanpur	10
23	Nuwakot	40,120	Chitawan	16,000	Lalitpur	1,375	Dhankuta	16,400	Sindhuli	1,780	Dhanusa	0	Dolakha	460	Taplejung	0
24	Kaski	37,164	Rukum	15,540	Makwanpur	1,323	Chitawan	15,750	Baitadi	1,752	Mahottari	0	Udayapur	431	Panchthar	0
25	Kavrepalanchok	36,395	Doti	12,902	Ilam	900	Nuwakot	15,345	Panchthar	1,574	Sarlahi	0	Ilam	360	Ilam	0
26	Gorkha	36,330	Kathmandu	12,820	**Sunsari**	**822**	Dhading	15,200	Saptari	1,500	Sindhuli	0	Makwanpur	346	Dhankuta	0
27	Tanahu	33,722	Rolpa	12,100	Dhankuta	798	Sankhuwasabha	14,996	Darchula	1,350	Ramechhap	0	Kathmandu	330	Bhojpur	0
28	Surkhet	31,400	Pyuthan	12,050	Khotang	674	Bhaktapur	14,510	Dadeldhura	1,200	Dolakha	0	Baitadi	300	Terhathum	0
29	Dhading	29,500	Syangja	11,900	Panchthar	666	Bardiya	14,500	Palpa	1,121	Sindhupalchok	0	Dadeldhura	284	Sankhuwasabha	0
30	Syangja	28,650	Dadeldhura	11,528	Arghakhanchi	570	**Sunsari**	**14,344**	Gulmi	1,080	Kavrepalanchok	0	Dailekh	240	Solukhumbu	0
31	Udayapur	27,920	Sindhupalchok	10,920	Salyan	545	Gorkha	14,198	Sankhuwasabha	1,020	Lalitpur	0	Bajhang	175	Khotang	0
32	Makwanpur	27,600	Achham	10,520	Dailekh	537	Sindhuli	14,180	Chitawan	960	Bhaktapur	0	Doti	145	Okhaldhunga	0
33	Ilam	26,995	Nuwakot	10,390	Kavrepalanchok	497	Terhathum	13,872	Ramechhap	780	Kathmandu	0	Sindhuli	133	Sindhuli	0
34	Sindhuli	25,636	Arghakhanchi	10,170	Taplejung	488	Kapilbastu	13,727	Dhankuta	720	Nuwakot	0	Lamjung	130	Ramechhap	0
35	Lalitpur	25,200	Palpa	10,132	Myagdi	480	Dhanusa	12,500	Surkhet	720	Rasuwa	0	Jajarkot	130	Dolakha	0
36	Khotang	24,860	Baitadi	10,010	Pyuthan	468	Rolpa	12,320	Kaski	588	Dhading	0	Palpa	87	Sindhupalchok	0
37	Gulmi	24,370	Kaski	9,635	Kaski	466	Rautahat	12,150	Sindhupalchok	540	Rautahat	0	Tanahu	80	Kavrepalanchok	0
38	Lamjung	23,996	Baglung	9,312	Doti	410	Kailali	10,625	Myagdi	540	Makwanpur	0	Dhankuta	67	Lalitpur	0
39	Bhaktapur	23,500	Sindhuli	9,090	Gorkha	407	Jumla	9,885	Tanahu	438	Bara	0	Jhapa	65	Bhaktapur	0
40	Dhankuta	22,830	Bhaktapur	8,610	Tanahu	402	Myagdi	9,750	Ilam	400	Parsa	0	Pyuthan	63	Kathmandu	0
41	Terhathum	22,830	Jajarkot	8,024	Lamjung	367	Parbat	9,400	Lamjung	399	Chitawan	0	Bhaktapur	60	Nuwakot	0
42	Palpa	22,296	Gulmi	7,870	Dadeldhura	360	Baglung	9,360	Terhathum	380	Gorkha	0	Baglung	57	Rasuwa	0
43	Panchthar	19,712	Lalitpur	7,420	Palpa	359	Parsa	8,910	Bajura	380	Lamjung	0	Salyan	52	Dhading	0
44	Sankhuwasabha	19,600	Udayapur	7,392	Nuwakot	345	Sarlahi	8,800	Dang	310	Tanahu	0	Kalikot	50	Gorkha	0
45	Parbat	17,600	Darchula	7,320	Dhading	325	Salyan	8,550	Syangja	250	Syangja	0	Kaski	48	Lamjung	0
46	Okhaldhunga	17,325	Panchthar	7,268	Siraha	320	Lalitpur	8,540	Udayapur	230	Kaski	0	Panchthar	39	Tanahu	0
47	Achham	16,200	Makwanpur	7,080	Baglung	293	Nawalparasi	8,075	Dailekh	210	Manang	0	Arghakhanchi	35	Syangja	0
48	Dadeldhura	16,145	Dolakha	7,060	Sankhuwasabha	292	Lamjung	7,660	Khotang	200	Mustang	0	Bajura	33	Kaski	0
49	Sindhupalchok	15,750	Lamjung	7,050	Gulmi	230	Kanchanpur	6,720	Baglung	175	Myagdi	0	Parbat	32	Manang	0
50	Ramechhap	15,450	Dailekh	6,868	Bhojpur	228	Kaski	6,450	Achham	170	Parbat	0	Kavrepalanchok	30	Mustang	0
51	Arghakhanchi	15,100	Kalikot	6,838	Bhaktapur	219	Darchula	6,120	Bhojpur	160	Baglung	0	Taplejung	20	Myagdi	0
52	Pyuthan	14,500	Khotang	6,751	Dolakha	199	Palpa	5,605	Parbat	160	Gulmi	0	Rukum	20	Parbat	0
53	Taplejung	14,200	Gorkha	6,750	Ramechhap	160	Surkhet	5,408	Dolakha	150	Palpa	0	Khotang	19	Baglung	0
54	Doti	14,200	Bajhang	6,500	Terhathum	130	Siraha	5,250	Doti	140	Nawalparasi	0	Terhathum	13	Gulmi	0
55	Baglung	12,736	Ilam	6,332	Baitadi	125	Rukum	4,935	Bajhang	120	Rupandehi	0	Syangja	13	Palpa	0
56	Dailekh	11,500	Dhading	6,300	Bajura	124	Achham	4,860	Okhaldhunga	40	Kapilbastu	0	Rasuwa	12	Arghakhanchi	0
57	Salyan	11,350	Bajura	6,025	Syangja	117	Tanahu	4,849	Taplejung	0	Arghakhanchi	0	Rolpa	12	Pyuthan	0
58	Rukum	10,300	Myagdi	5,250	Achham	116	Manang	4,650	Solukhumbu	0	Pyuthan	0	Solukhumbu	10	Rolpa	0
59	Baitadi	10,100	Tanahu	4,833	Jajarkot	115	Baitadi	4,575	Lalitpur	0	Rolpa	0	Gulmi	10	Rukum	0
60	Rolpa	9,200	Bhojpur	4,648	Darchula	110	Pyuthan	4,400	Bhaktapur	0	Rukum	0	Okhaldhunga	9	Salyan	0
61	Myagdi	7,250	Terhathum	4,540	Rolpa	90	Kalikot	4,180	Kathmandu	0	Salyan	0	Lalitpur	9	Surkhet	0
62	Bajhang	7,000	Parbat	4,440	Parbat	87	Gulmi	4,165	Rasuwa	0	Dailekh	0	Gorkha	9	Dailekh	0
63	Bajura	6,830	Dhankuta	4,245	Solukhumbu	78	Doti	4,150	Manang	0	Jajarkot	0	Nuwakot	8	Jajarkot	0
64	Jajarkot	6,370	Ramechhap	4,020	Okhaldhunga	67	Dadeldhura	3,755	Mustang	0	Dolpa	0	Achham	8	Dolpa	0
65	Darchula	6,220	Solukhumbu	3,746	Rukum	55	Dolpa	3,731	Arghakhanchi	0	Jumla	0	Dhading	7	Jumla	0
66	Dolakha	5,830	Okhaldhunga	2,685	Jumla	54	Dailekh	3,690	Pyuthan	0	Kalikot	0	Jumla	7	Kalikot	0
67	Rasuwa	2,660	Sankhuwasabha	1,760	Kathmandu	48	Jajarkot	3,600	Rolpa	0	Mugu	0	Sankhuwasabha	6	Mugu	0
68	Kalikot	2,500	Taplejung	1,752	Bajhang	37	Udayapur	3,585	Rukum	0	Humla	0	Sindhupalchok	6	Humla	0
69	Solukhumbu	1,660	Rasuwa	1,320	Mustang	35	Mustang	3,550	Salyan	0	Bajura	0	Myagdi	4	Bajura	0
70	Jumla	1,141	Jumla	1,214	Kalikot	35	Humla	3,500	Jajarkot	0	Bajhang	0	Mustang	3	Bajhang	0
71	Mugu	850	Mugu	900	Humla	28	Arghakhanchi	3,485	Dolpa	0	Achham	0	Humla	2	Achham	0
72	Humla	715	Mustang	574	Rasuwa	15	Syangja	3,384	Jumla	0	Doti	0	Mugu	1	Doti	0
73	Dolpa	500	Humla	428	Manang	15	Bajhang	2,450	Kalikot	0	Dadeldhura	0	Ramechhap	0	Dadeldhura	0
74	Manang	0	Manang	373	Dolpa	14	Bajura	2,295	Mugu	0	Baitadi	0	Manang	0	Baitadi	0
75	Mustang	0	Dolpa	206	Mugu	8	Mugu	550	Humla	0	Darchula	0	Dolpa	0	Darchula	0

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

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Table 3.3 Position of Sunsari District – Crop Production per Capita 1998/99

Crop Production per Capita (1998/99)												
	Paddy			Wheat			Sugarcane			Lentil		
	District	Region	kg/capita	District	Region	kg/capita	District	Region	kg/capita	District	Region	kg/capita
1	Jhapa	Terai	410.2	Kanchanpur	Terai	134.5	Nawalparasi	Siwalik	497.3	Dang	Siwalik	35.6
2	Kanchanpur	Terai	304.6	Bara	Terai	94.8	Rautahat	Terai	484.1	Rautahat	Terai	30.7
3	Saptari	Terai	292.8	Salyan	Middle Mt.	92.4	Sarlahi	Terai	430.8	Sarlahi	Terai	28.0
4	Bara	Terai	287.1	Dadeldhura	Middle Mt.	91.0	Kapilbastu	Terai	405.2	Kailali	Terai	23.9
5	Morang	Terai	284.8	Surkhet	Siwalik	90.6	Bara	Terai	299.9	Banke	Terai	20.6
6	Kapilbastu	Terai	280.0	Rupandehi	Terai	86.4	Kanchanpur	Terai	285.5	Bara	Terai	18.7
7	Parsa	Terai	279.2	Rukum	High Mt.	82.7	Rupandehi	Terai	191.3	Bardiya	Terai	17.8
8	Rupandehi	Terai	270.0	Parsa	Terai	79.5	Mahottari	Terai	172.8	Parsa	Terai	13.7
9	Siraha	Terai	263.7	Bardiya	Terai	77.2	**Sunsari**	**Terai**	**130.4**	Mahottari	Terai	7.2
10	**Sunsari**	**Terai**	**254.6**	Nawalparasi	Siwalik	76.1	Kailali	Terai	129.2	Nawalparasi	Siwalik	5.9
11	Banke	Terai	243.0	Kapilbastu	Terai	74.1	Dhanusa	Terai	113.8	Chitawan	Siwalik	5.7
12	Dang	Siwalik	239.1	Kalikot	High Mt.	64.6	Parsa	Terai	113.2	Saptari	Terai	5.2
13	Bhojpur	Middle Mt.	236.9	Banke	Terai	63.4	Morang	Terai	70.8	Kapilbastu	Terai	5.0
14	Kailali	Terai	235.4	Doti	Middle Mt.	61.7	Siraha	Terai	70.7	Morang	Terai	4.3
15	Bardiya	Terai	222.2	Kailali	Terai	60.4	Dhading	Middle Mt.	37.5	Kanchanpur	Terai	4.1
16	Nawalparasi	Siwalik	212.2	Darchula	High Mt.	60.0	Darchula	High Mt.	11.1	Darchula	High Mt.	4.0
17	Terhathum	Middle Mt.	200.0	Jajarkot	High Mt.	60.0	Dadeldhura	Middle Mt.	9.5	Dhanusa	Terai	3.3
18	Chitawan	Siwalik	185.3	Rolpa	Middle Mt.	57.4	Bardiya	Terai	8.9	Siraha	Terai	3.1
19	Mahottari	Terai	176.7	Pyuthan	Middle Mt.	56.7	Banke	Terai	8.7	Surkhet	Siwalik	2.6
20	Rautahat	Terai	147.1	Bajura	High Mt.	55.4	Panchthar	Middle Mt.	7.8	**Sunsari**	**Terai**	**2.5**
21	Nuwakot	Middle Mt.	139.5	Mahottari	Terai	55.2	Baitadi	Middle Mt.	7.5	Bhojpur	Middle Mt.	2.5
22	Sarlahi	Terai	138.7	Dang	Siwalik	54.1	Nuwakot	Middle Mt.	7.2	Dolakha	High Mt.	2.2
23	Dhankuta	Middle Mt.	137.8	Dhanusa	Terai	52.4	Makwanpur	Siwalik	7.2	Dadeldhura	Middle Mt.	2.2
24	Lamjung	Middle Mt.	135.3	Sarlahi	Terai	52.3	Gorkha	High Himalaya	7.1	Rupandehi	Terai	2.2
25	Dadeldhura	Middle Mt.	127.5	Rautahat	Terai	51.3	Sankhuwasabha	High Mt.	6.4	Udayapur	Siwalik	1.5
26	Gorkha	High Himalaya	126.1	Arghakhanchi	Middle Mt.	48.6	Sindhuli	Siwalik	6.4	Baitadi	Middle Mt.	1.3
27	Sankhuwasabha	High Mt.	122.7	Kavrepalanchok	Middle Mt.	48.6	Myagdi	Middle Mt.	4.7	Ilam	Middle Mt.	1.3
28	Parbat	High Mt.	111.4	**Sunsari**	**Terai**	**45.6**	Kavrepalanchok	Middle Mt.	4.7	Dailekh	Middle Mt.	1.1
29	Okhaldhunga	Middle Mt.	110.8	Myagdi	Middle Mt.	45.5	Dhankuta	Middle Mt.	4.3	Bajhang	High Mt.	1.0
30	Surkhet	Siwalik	108.8	Achham	Middle Mt.	45.1	Palpa	Middle Mt.	4.2	Jajarkot	High Mt.	1.0
31	Khotang	Middle Mt.	107.1	Baitadi	Middle Mt.	42.6	Ramechhap	Middle Mt.	3.7	Makwanpur	Siwalik	0.9
32	Tanahu	Middle Mt.	106.7	Siraha	Terai	40.8	Gulmi	Middle Mt.	3.6	Lamjung	Middle Mt.	0.7
33	Taplejung	High Mt.	104.8	Saptari	Terai	40.0	Jhapa	Terai	3.6	Doti	Middle Mt.	0.7
34	Dhanusa	Terai	103.9	Terhathum	Middle Mt.	39.8	Bajura	High Mt.	3.5	Sindhuli	Siwalik	0.5
35	Bhaktapur	Middle Mt.	103.6	Lamjung	Middle Mt.	39.7	Terhathum	Middle Mt.	3.3	Kalikot	High Mt.	0.5
36	Kaski	Middle Mt.	97.4	Mustang	High Himalaya	39.4	Saptari	Terai	2.6	Dhankuta	Middle Mt.	0.4
37	Panchthar	Middle Mt.	97.3	Manang	High Himalaya	39.3	Surkhet	Siwalik	2.5	Palpa	Middle Mt.	0.3
38	Udayapur	Siwalik	96.9	Bajhang	High Mt.	38.8	Lamjung	Middle Mt.	2.2	Bajura	High Mt.	0.3
39	Ilam	Middle Mt.	95.4	Bhaktapur	Middle Mt.	38.0	Chitawan	Siwalik	2.0	Kathmandu	Middle Mt.	0.3
40	Kavrepalanchok	Middle Mt.	94.5	Palpa	Middle Mt.	37.8	Sindhupalchok	High Mt.	1.8	Pyuthan	Middle Mt.	0.3
41	Sindhuli	Siwalik	91.6	Syangja	Middle Mt.	37.6	Kaski	Middle Mt.	1.5	Rasuwa	High Mt.	0.3
42	Syangja	Middle Mt.	90.4	Nuwakot	Middle Mt.	36.1	Ilam	Middle Mt.	1.4	Bhaktapur	Middle Mt.	0.3
43	Dhading	Middle Mt.	87.1	Panchthar	Middle Mt.	35.9	Tanahu	Middle Mt.	1.4	Tanahu	Middle Mt.	0.3
44	Palpa	Middle Mt.	83.2	Sindhupalchok	High Mt.	35.7	Parbat	High Mt.	1.0	Salyan	Middle Mt.	0.2
45	Gulmi	Middle Mt.	82.0	Solukhumbu	Hgih Mt.	34.7	Dailekh	Middle Mt.	0.9	Baglung	High Mt.	0.2
46	Lalitpur	Middle Mt.	74.8	Baglung	High Mt.	34.7	Khotang	Middle Mt.	0.9	Mustang	High Himalaya	0.2
47	Ramechhap	Middle Mt.	72.7	Dolakha	High Mt.	34.5	Udayapur	Siwalik	0.8	Parbat	High Mt.	0.2
48	Arghakhanchi	Middle Mt.	72.2	Chitawan	Siwalik	34.0	Syangja	Middle Mt.	0.8	Panchthar	Middle Mt.	0.2
49	Makwanpur	Siwalik	70.9	Morang	Terai	33.3	Bhojpur	Middle Mt.	0.8	Arghakhanchi	Middle Mt.	0.2
50	Achham	Middle Mt.	69.5	Sindhuli	Siwalik	32.5	Dolakha	High Mt.	0.7	Taplejung	High Mt.	0.1
51	Pyuthan	Middle Mt.	68.2	Jhapa	Terai	31.0	Achham	Middle Mt.	0.7	Kaski	Middle Mt.	0.1
52	Doti	Middle Mt.	68.0	Dailekh	Middle Mt.	30.3	Bajhang	High Mt.	0.7	Terhathum	Middle Mt.	0.1
53	Myagdi	Middle Mt.	62.9	Rasuwa	High Mt.	29.7	Doti	Middle Mt.	0.7	Rukum	High Mt.	0.1
54	Bajura	High Mt.	62.8	Khotang	Middle Mt.	29.1	Dang	Siwalik	0.7	Jhapa	Terai	0.1
55	Rasuwa	High Mt.	59.8	Parbat	High Mt.	28.1	Baglung	High Mt.	0.7	Solukhumbu	Hgih Mt.	0.1
56	Rukum	High Mt.	54.8	Gulmi	Middle Mt.	26.5	Okhaldhunga	Middle Mt.	0.3	Khotang	Middle Mt.	0.1
57	Salyan	Middle Mt.	53.0	Udayapur	Siwalik	25.7	Taplejung	High Mt.	0.0	Jumla	High Mt.	0.1
58	Sindhupalchok	High Mt.	51.5	Dhankuta	Middle Mt.	25.6	Solukhumbu	Hgih Mt.	0.0	Kavrepalanchok	Middle Mt.	0.1
59	Darchula	High Mt.	51.0	Kaski	Middle Mt.	25.3	Lalitpur	Middle Mt.	0.0	Okhaldhunga	Middle Mt.	0.1
60	Dailekh	Middle Mt.	50.8	Gorkha	High Himalaya	23.4	Bhaktapur	Middle Mt.	0.0	Rolpa	Middle Mt.	0.1
61	Kathmandu	Middle Mt.	49.4	Bhojpur	Middle Mt.	22.6	Kathmandu	Middle Mt.	0.0	Humla	High Himalaya	0.0
62	Jajarkot	High Mt.	47.6	Ilam	Middle Mt.	22.4	Rasuwa	High Mt.	0.0	Syangja	Middle Mt.	0.0
63	Baglung	High Mt.	47.4	Lalitpur	Middle Mt.	22.0	Manang	High Himalaya	0.0	Sankhuwasabha	High Mt.	0.0
64	Rolpa	Middle Mt.	43.6	Mugu	Hgih Mt.	20.4	Mustang	High Himalaya	0.0	Myagdi	Middle Mt.	0.0
65	Baitadi	Middle Mt.	43.0	Ramechhap	Middle Mt.	18.9	Arghakhanchi	Middle Mt.	0.0	Achham	Middle Mt.	0.0
66	Bajhang	High Mt.	41.8	Dhading	Middle Mt.	18.6	Pyuthan	Middle Mt.	0.0	Gulmi	Middle Mt.	0.0
67	Dolakha	High Mt.	28.5	Makwanpur	Siwalik	18.2	Rolpa	Middle Mt.	0.0	Gorkha	High Himalaya	0.0
68	Kalikot	High Mt.	23.6	Okhaldhunga	Middle Mt.	17.2	Rukum	High Mt.	0.0	Nuwakot	Middle Mt.	0.0
69	Mugu	Hgih Mt.	19.3	Tanahu	Middle Mt.	15.3	Salyan	Middle Mt.	0.0	Lalitpur	Middle Mt.	0.0
70	Humla	High Himalaya	17.5	Jumla	High Mt.	13.6	Jajarkot	High Mt.	0.0	Mugu	Hgih Mt.	0.0
71	Dolpa	High Himalaya	16.9	Taplejung	High Mt.	12.9	Dolpa	High Himalaya	0.0	Dhading	Middle Mt.	0.0
72	Solukhumbu	Hgih Mt.	15.4	Kathmandu	Middle Mt.	11.7	Jumla	High Mt.	0.0	Sindhupalchok	High Mt.	0.0
73	Jumla	High Mt.	12.8	Sankhuwasabha	High Mt.	11.0	Kalikot	High Mt.	0.0	Ramechhap	Middle Mt.	0.0
74	Manang	High Himalaya	0.0	Humla	High Himalaya	10.5	Mugu	Hgih Mt.	0.0	Manang	High Himalaya	0.0
75	Mustang	High Himalaya	0.0	Dolpa	High Himalaya	6.9	Humla	High Himalaya	0.0	Dolpa	High Himalaya	0.0

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

ATTACHMENT 3

Table 3.4 Position of Sunsari District – Food Balance (1997/98)

	District	Major Land	Food Balance (1997/98)										
			Population (1)	Rice t	Wheat t	Maize t	Millet t	Barley t	Total Edible (2) t	Required per capita kg	Required (3)	Sur/Def (b) (2) – (3)	Sur/Def per capita (b)/(1)
1	Bara	Terai	500,443	95,257	38,014	11,117	99	25	144,512	190	95,084	49,428	99
2	Jhapa	Terai	703,533	141,142	20,225	14,223	2,873	3	178,466	190	133,671	44,795	64
3	Kanchanpur	Terai	322,229	65,005	23,855	12,875	41	3	101,779	190	61,224	40,555	126
4	Dang	Siwalik	427,832	57,342	20,110	30,379	296	19	108,146	190	81,288	26,858	63
5	Parsa	Terai	449,197	72,637	31,624	7,645	255	38	112,199	190	85,347	26,852	60
6	Chitawan	Siwalik	431,555	48,726	14,732	38,700	1,165	186	103,509	190	81,995	21,514	50
7	Morang	Terai	804,289	133,653	23,258	14,953	945	8	172,817	190	152,815	20,002	25
8	Kailali	Terai	531,578	81,901	25,672	12,252	66	41	119,932	190	101,000	18,932	36
9	**Sunsari**	**Terai**	**562,271**	**90,336**	**27,171**	**3,008**	**794**	**1**	**121,310**	**190**	**106,831**	**14,479**	**26**
10	Dhankuta	Middle Mt.	168,896	11,826	3,564	23,163	6,700	7	45,260	190	32,090	13,170	78
11	Sindhuli	Siwalik	264,141	13,544	7,235	30,807	11,370	41	62,997	190	50,187	12,810	48
12	Terhathum	Middle Mt.	118,255	12,109	3,760	15,004	3,288	29	34,190	190	22,468	11,722	99
13	Bhojpur	Middle Mt.	223,525	20,001	3,815	22,392	7,930	25	54,163	190	42,470	11,693	52
14	Dhading	Middle Mt.	224,659	15,939	5,663	22,280	8,160	88	52,130	190	42,685	9,445	42
15	Saptari	Terai	550,970	95,549	18,166	0	246	3	113,964	190	104,684	9,280	17
16	Salyan	Middle Mt.	209,829	5,992	16,718	21,514	4,454	363	49,041	190	39,868	9,173	44
17	Rukum	High Mt.	181,405	5,451	12,247	24,090	1,174	187	43,149	190	34,467	8,682	48
18	Lamjung	Middle Mt.	171,559	12,543	4,988	13,166	9,043	48	39,788	190	32,596	7,192	42
19	Surkhet	Siwalik	273,814	15,211	21,650	20,460	1,547	314	59,182	190	52,025	7,157	26
20	Bardiya	Terai	360,095	47,393	18,347	9,720	8	29	75,497	190	68,418	7,079	20
21	Siraha	Terai	545,106	87,600	22,300	141	155	3	110,199	190	103,570	6,629	12
22	Panchthar	Middle Mt.	202,817	10,078	6,155	21,796	5,728	128	43,885	190	38,535	5,350	26
23	Parbat	High Mt.	164,755	8,980	5,895	14,328	7,366	79	36,648	190	31,303	5,345	32
24	Gorkha	High Himalaya	288,269	19,387	5,441	22,471	12,288	89	59,676	190	54,771	4,905	17
25	Syangja	Middle Mt.	333,765	16,054	8,781	31,838	10,800	25	67,498	190	63,415	4,083	12
26	Ilam	Middle Mt.	274,489	14,306	5,214	33,040	2,779	1	55,340	190	52,153	3,187	12
27	Banke	Terai	353,633	54,548	8,529	6,646	0	8	69,731	190	67,190	2,541	7
28	Rautahat	Terai	491,941	66,226	23,673	3,887	107	91	93,984	190	93,469	515	1
29	Nuwakot	Middle Mt.	285,600	20,781	8,570	19,466	5,891	23	54,731	190	54,264	467	2
30	Myagdi	Middle Mt.	112,826	3,758	4,338	10,036	3,265	442	21,839	190	21,437	402	4
31	Dadeldhura	Middle Mt.	122,351	8,331	9,082	4,625	1,227	96	23,361	190	23,247	114	1
32	Taplejung	High Mt.	133,689	7,050	2,122	10,840	5,210	51	25,273	190	25,401	−128	−1
33	Manang	High Himalaya	5,553	0	456	357	0	55	868	190	1,055	−187	−34
34	Khotang	Middle Mt.	241,831	10,184	5,540	20,573	8,780	86	45,163	190	45,948	−785	−3
35	Sankhuwasabha	High Mt.	162,428	9,324	1,990	12,322	6,145	77	29,858	190	30,861	−1,003	−6
36	Mahottari	Terai	518,685	64,837	28,692	2,533	1,391	19	97,472	190	98,550	−1,078	−2
37	Palpa	Middle Mt.	269,967	12,165	9,091	25,952	2,712	76	49,996	190	51,294	−1,298	−5
38	Mustang	High Himalaya	16,421	0	564	535	0	329	1,428	190	3,120	−1,692	−103
39	Rupandehi	Terai	637,285	95,478	23,814	0	57	19	119,368	190	121,084	−1,716	−3
40	Kavrepalanchok	Middle Mt.	369,932	18,299	16,309	31,771	1,553	193	68,125	190	70,287	−2,162	−6
41	Rasuwa	High Mt.	43,369	1,344	1,337	1,606	1,264	150	5,701	190	8,240	−2,539	−59
42	Dolpa	High Himalaya	28,905	243	219	1,752	573	158	2,945	190	5,492	−2,547	−88
43	Jajarkot	High Mt.	132,036	3,024	7,453	8,685	2,138	1,035	22,335	190	25,087	−2,752	−21
44	Okhaldhunga	Middle Mt.	156,171	7,360	2,190	11,203	6,138	26	26,917	190	29,672	−2,755	−18
45	Tanahu	Middle Mt.	313,837	18,007	3,752	25,942	8,112	3	55,816	190	59,629	−3,813	−12
46	Arghakhanchi	Middle Mt.	208,438	7,984	6,619	18,809	817	223	34,452	190	39,603	−5,151	−25
47	Ramechhap	Middle Mt.	218,245	6,406	3,439	20,213	5,818	57	35,933	190	41,467	−5,534	−25
48	Humla	High Himalaya	40,375	273	408	0	1,231	174	2,086	190	7,671	−5,585	−138
49	Mugu	Hgih Mt.	40,913	407	543	0	565	270	1,785	190	7,773	−5,988	−146
50	Pyuthan	Middle Mt.	201,117	7,711	9,172	12,741	2,050	389	32,063	190	38,212	−6,149	−31
51	Sindhupalchok	High Mt.	299,986	7,283	8,533	21,611	13,094	234	50,755	190	56,997	−6,242	−21
52	Darchula	High Mt.	116,833	3,530	5,244	5,738	935	144	15,591	190	22,198	−6,607	−57
53	Udayapur	Siwalik	270,503	15,590	7,406	18,801	2,396	10	44,203	190	51,396	−7,193	−27
54	Nawalparasi	Siwalik	535,793	62,097	21,153	7,565	3,520	28	94,363	190	101,801	−7,438	−14
55	Gulmi	Middle Mt.	305,359	13,115	6,331	24,428	6,312	258	50,444	190	58,018	−7,574	−25
56	Kalikot	High Mt.	102,076	1,174	5,803	1,108	1,009	397	9,491	190	19,394	−9,903	−97
57	Rolpa	Middle Mt.	203,869	4,864	9,765	12,664	901	554	28,748	190	38,735	−9,987	−49
58	Jumla	High Mt.	87,114	1,224	1,291	1,428	1,105	710	5,758	190	16,552	−10,794	−124
59	Bajura	High Mt.	105,644	2,823	3,987	0	2,105	362	9,277	190	20,072	−10,795	−102
60	Solukhumbu	Hgih Mt.	111,423	775	3,532	4,534	1,234	263	10,338	190	21,170	−10,832	−97
61	Bhaktapur	Middle Mt.	203,112	12,479	7,145	5,058	1,523	11	26,216	190	38,591	−12,375	−61
62	Kaski	Middle Mt.	352,914	18,729	7,112	18,563	9,857	57	54,318	190	67,054	−12,736	−36
63	Baglung	High Mt.	264,190	7,008	6,378	17,432	5,974	173	36,965	190	50,196	−13,231	−50
64	Dhanusa	Terai	647,392	78,449	28,101	0	1,180	6	107,736	190	123,004	−15,268	−24
65	Doti	Middle Mt.	190,461	7,578	10,126	670	2,099	117	20,590	190	36,188	−15,598	−82
66	Dailekh	Middle Mt.	216,429	6,109	6,310	8,001	2,738	223	23,381	190	41,122	−17,741	−82
67	Makwanpur	Siwalik	377,553	14,623	6,610	28,370	2,825	10	52,438	190	71,735	−19,297	−51
68	Dolakha	High Mt.	201,849	2,536	6,416	6,158	3,132	38	18,280	190	38,351	−20,071	−99
69	Achham	Middle Mt.	223,923	7,762	8,286	3,712	1,641	77	21,478	190	42,545	−21,067	−94
70	Bajhang	High Mt.	159,468	3,111	4,292	0	1,228	269	8,900	190	30,299	−21,399	−134
71	Baitadi	Middle Mt.	230,010	4,995	8,126	7,143	1,256	228	21,748	190	43,702	−21,954	−95
72	Sarlahi	Terai	584,543	61,225	23,673	3,887	107	91	88,983	190	111,063	−22,080	−38
73	Lalitpur	Middle Mt.	307,997	13,220	5,567	8,733	1,341	73	28,934	190	58,519	−29,585	−96
74	Kapilbastu	Terai	453,762	34,767	17,699	0	98	30	52,594	190	86,215	−33,621	−74
75	Kathmandu	Middle Mt.	857,751	28,957	10,788	10,414	1,137	3	51,299	190	162,973	−111,674	−130
National			21,804,778	2,035,725	802,176	937,874	233,361	10,199	4,019,335	190	4,142,908	−123,573	−5.7

Source: District Development Profile of Nepal (Informal Sector Reseasrch & Study Center), 2001

ATTACHMENT 4

Table 4.1 Demography of the Study Area by VDC

VDC/Municipality	Area (ha)		1991 Census					2001 Preliminary Results of Census					Population	Annual Growth Rate
	Gross	Taxable	No. of HH	Male	Female	Total	Ave. HH	No. of HH	Male	Female	Total	Ave. HH	Density (p/km2)	1991-2001 (%)
Sahebganj	1,346.3	1,242.6	842	2,337	2,242	4,579	5.4	641	1,757	1,643	3,400	5.3	253	-2.9
Kaptanganj	1,469.0	1,362.4	1,034	3,109	2,975	6,084	5.9	1,328	4,331	3,865	8,196	6.2	558	3.0
Dewanganj	373.9	333.9	774	2,267	2,105	4,372	5.6	1,101	3,387	2,992	6,379	5.8	1,706	3.9
Ghuski	1,450.5	1,299.3	1,325	4,033	3,931	7,964	6.0	1,482	4,823	4,701	9,524	6.4	657	1.8
Rajganj Sinuwari	1,969.1	1,852.7	1,147	3,531	3,228	6,759	5.9	1,435	4,298	4,184	8,482	5.9	431	2.3
Madhya Harsahi	627.5	589.0	674	2,045	1,941	3,986	5.9	824	2,607	2,323	4,930	6.0	786	2.1
Basantapur	983.0	793.8	879	2,912	2,654	5,566	6.3	744	2,420	2,237	4,657	6.3	474	-1.8
Harinagara	1,089.9	988.8	1,020	2,897	2,953	5,850	5.7	1,142	3,633	3,391	7,024	6.2	644	1.8
Ramnagar Bhutaha	1,317.0	877.0	1,325	4,142	3,861	8,003	6.0	1,703	5,692	5,387	11,079	6.5	841	3.3
Jalpapur	599.9	543.2	663	2,291	1,965	4,256	6.4	1,093	3,029	2,781	5,810	5.3	968	3.2
Narsinmha	3,548.9	767.2	1,799	5,342	5,126	10,468	5.8	2,770	8,908	8,502	17,410	6.3	491	5.2
Gautampur	817.6	768.3	545	1,647	1,546	3,193	5.9	700	2,051	1,846	3,897	5.6	477	2.0
Babiya	1,226.2	1,112.2	888	2,827	2,719	5,546	6.2	1,224	3,755	3,468	7,223	5.9	589	2.7
Total	16,818.8	12,530.4	12,915	39,380	37,246	**76,626**	5.9	16,187	50,691	47,320	**98,011**	6.1	583	2.5
Inarwa Municipality	1,392.9	1,274.8	3,382	9,521	9,026	18,547	5.5	4,586	11,783	11,375	23,158	5.0	1,663	2.2
Biratnagar	5,990.4		24,043	69,012	60,376	129,388	5.4	29,924	85,892	75,144	161,036	5.4	2,688	2.2
Sunsari District	125,700.0		84,492	234,217	229,264	463,481	5.5	121,983	315,819	312,586	628,405	5.2	500	3.1

Source: District Development Profile of Nepal (Informal Sector Research & Study Center)
Inarwa Census Office
Data of 2001 is preliminary result of 2001 Census except for Biratnagar, whose data is projection.

ATTACHMENT 5

Table 5.1 Sample of Local Governance Program Household Survey 1998

VDC		Total Population		Total Household	Average Family	Sample Population		Sample Household	Average Family	% of Sample population	% of Sample Household
001 Sahebgunj	Women	1,643				403					
	Men	1,757	3,400	641	5.30	492	895	156	5.74	26	24
002 Kaptanganj	Women	3,865				586					
	Men	4,331	8,196	1,328	6.17	660	1,246	195	6.39	15	15
003 Dewangunj	Women	2,992				767					
	Men	3,387	6,379	1,101	5.79	867	1,634	310	5.27	26	28
004 Ghuski	Women	4,701				1,306					
	Men	4,823	9,524	1,482	6.43	1,390	2,696	390	6.91	28	26
005 Rajganj Sinuwari	Women	4,184				966					
	Men	4,298	8,482	1,435	5.91	1,095	2,061	354	5.82	24	25
006 Madhya Harsahi	Women	2,323				619					
	Men	2,607	4,930	824	5.98	742	1,361	222	6.13	28	27
007 Basantapur	Women	2,237				526					
	Men	2,420	4,657	744	6.26	608	1,134	183	6.20	24	25
008 Harinagara	Women	3,391				764					
	Men	3,633	7,024	1,142	6.15	940	1,704	293	5.82	24	26
009 Ramnagar Bhutaha	Women	5,387				1,275					
	Men	5,692	11,079	1,703	6.51	1,395	2,670	434	6.15	24	25
010 Jalpapur	Women	2,781				571					
	Men	3,029	5,810	1,093	5.32	686	1,257	269	4.67	22	25
011Narsimha	Women	8,502				1,634					
	Men	8,908	17,410	2,770	6.29	1,950	3,584	669	5.36	21	24
012 Gautampur	Women	1,846				476					
	Men	2,051	3,897	700	5.57	516	992	171	5.80	25	24
013 Babiya	Women	3,468				921					
	Men	3,755	7,223	1,224	5.90	1,018	1,939	322	6.02	27	26
Study Area Total	Women	47,320				10,814					
	Men	50,691	98,011	16,187	6.05	12,359	23,173	3,968	5.84	24	25
Sunsari District Total	Women	301,990									
	Men	305,958	607,948	110,737	5.49						

Source: Household Survey Data Tabulation of Sunsari District, Local Governance Program, 1998

Table 5.2 Local Governance Program Household Survey 1998 Data (1)

(Unit: No.)

VDC/Municipality	No. of Sample Household	Type of Roof					Toilet		Source of Drinking Water								Fuel Used for Cooking					
		Cemented	Plainsheet	Tile	Straw	Other	Yes	No	Pipe	Well	Tube-well	Spring	Source Origin	River	Canal	Others	Firewood	Kerosene	Gas	Dried Cowdung	Bio-gas	Other
Sahebganj	156	2	32	15	107			156		3	150	2	1				51	6		98		
Kaptanganj	195		33	6	158		1	196		5	187	2				2	190			5		
Dewanganj	310	1	61	8	240		4	306		1	307	1					28			281		
Ghuski	390	2	29	1	358		2	388		3	390						49			344		
Rajganj Sinwari	354		67	19	242	29	1	356		19	338						84	1		355		
Madhay Harsahi	222	1	43	14	168		7	219			226						2	8		225		
Basantapur	183	1	15		168	1	2	183		4	176	1					4	1		169		5
Harinagara	293	4	49	16	224		14	279		3	288						6	8	1	277	1	
Ramnagar Bhutaha	434	4	79	10	341		10	424	1	5	427	1					27	17	1	424		340
Jallpapur	269	2	45	15	207		3	266		3	265		1				171	1		97		
Narsimha	675	2	47	3	623		1	674		1	674						670	10		663		
Gautampur	171	2	48	11	110		5	166		7	164						1			170		
Babiya	322	5	62	21	236		15	309	1	7	316						61	7	2	312		2
Study Area Total	3,974	26	610	139	3,182	30	65	3,922	2	61	3,908	7	2	0	0	2	1,344	59	4	3,420	1	347
District Total	19,808	359	3,759	531	15,720	179	1,704	18,244	688	730	17,939	325	28	38	36	13	10,030	567	53	10,841	62	351

Table 5.3 Local Governance Program Household Survey 1998 Share fo Data (1) (%)

(Unit: %)

VDC/Municipality	No. of Sample Household	Type of Roof					Toilet		Source of Drinking Water								Fuel Used for Cooking					
		Cemented	Plainsheet	Tile	Straw	Other	Yes	No	Pipe	Well	Tube-well	Spring	Source Origin	River	Canal	Others	Firewood	Kerosene	Gas	Dried Cowdung	Bio-gas	Other
Sahebganj	156	1	21	10	69	0	0	100	0	2	96	1	1	0	0	0	33	4	0	63	0	0
Kaptanganj	195	0	17	3	81	0	1	101	0	3	96	1	0	0	0	1	97	0	0	3	0	0
Dewanganj	310	0	20	3	77	0	1	99	0	0	99	0	0	0	0	0	9	0	0	91	0	0
Ghuski	390	1	7	0	92	0	1	99	0	1	100	0	0	0	0	0	13	0	0	88	0	0
Rajganj Sinwari	354	0	19	5	68	8	0	101	0	5	95	0	0	0	0	0	24	0	0	100	0	0
Madhay Harsahi	222	0	19	6	76	0	3	99	0	0	102	0	0	0	0	0	1	4	0	101	0	0
Basantapur	183	1	8	0	92	1	1	100	0	2	96	1	0	0	0	0	2	1	0	92	0	3
Harinagara	293	1	17	5	76	0	5	95	0	1	98	0	0	0	0	0	2	3	0	95	0	0
Ramnagar Bhutaha	434	1	18	2	79	0	2	98	0	1	98	0	0	0	0	0	6	4	0	98	0	78
Jallpapur	269	1	17	6	77	0	1	99	0	1	99	0	0	0	0	0	64	0	0	36	0	0
Narsimha	675	0	7	0	92	0	0	100	0	0	100	0	0	0	0	0	99	1	0	98	0	0
Gautampur	171	1	28	6	64	0	3	97	0	4	96	0	0	0	0	0	1	0	0	99	0	0
Babiya	322	2	19	7	73	0	5	96	0	2	98	0	0	0	0	0	19	2	1	97	0	1
Study Area Total	3,974	1	15	3	80	1	2	99	0	2	98	0	0	0	0	0	34	1	0	86	0	9
District Total	19,808	2	19	3	79	1	9	92	3	4	91	2	0	0	0	0	51	3	0	55	0	2

Table 5.4 Local Governance Program Household Survey 1998 Data (2)

(Unit: No.)

VDC/Municipality	No. of Sample Household	Main Source of Light				Assets												
		Electricity	Kerosene	Generator	Others	Radio/ Cassetes	Camera	Fan	T.V.	Petromax	Sewing Machine	Bicyle/ Tricycle	Motorbike/ Scooter	Car	Refrigerator	Tractor/ Truck	Thresers	Other
Sahebganj	156		155		1	30			9	7	3	92	3			1	14	1
Kaptanganj	195		194		2	43		1	1	2		83	1			2	4	21
Dewanganj	310	2	306		1	62			10	2	10	97	4	1			2	
Ghuski	390		393			67	1		1	1	4	164	3			1	6	4
Rajganj Sinwari	354		357			38	1		3			113	4			1	17	22
Madhay Harsahi	222		226			52	1		3	5		114				2	6	3
Basantapur	183		181			50			2			92	3			1	1	10
Harinagara	293		291			56	3	1	13	14	5	43	6				1	4
Ramnagar Bhutaha	434		434			147	3	1	9	10	6	203	4			1	4	
Jallpapur	269	1	268			61	1		5			137	5			1	5	1
Narsimha	675		674	1		148	2		3		2	296	2			5	17	3
Gautampur	171		170	1		52			3	1	1	87					7	1
Babiya	322	16	307	1		100	3	11	21	5	5	182	4		2	1	6	14
Study Area Total	3,974	19	3,956	3	4	906	15	14	83	47	36	1,703	39	1	2	16	90	84
District Total	19,808	1,685	18,075	21	18	6,482	220	717	1,188	189	285	8,698	239	27	46	67	240	268

Table 5.5 Local Governance Program Household Survey 1998 Share of Data (2) (%)

(Unit: %)

VDC/Municipality	No. of Sample Household	Main Source of Light				Assets												
		Electricity	Kerosene	Generator	Others	Radio/ Cassetes	Camera	Fan	T.V.	Petromax	Sewing Machine	Bicyle/ Tricycle	Motorbike/ Scooter	Car	Refrigerator	Tractor/ Truck	Thresers	Other
Sahebganj	156	0	99	0	1	19	0	0	6	4	2	59	2	0	0	1	9	1
Kaptanganj	195	0	99	0	1	22	0	1	1	1	0	43	1	0	0	1	2	11
Dewanganj	310	1	99	0	0	20	0	0	3	1	3	31	1	0	0	0	1	0
Ghuski	390	0	101	0	0	17	0	0	0	0	1	42	1	0	0	0	2	1
Rajganj Sinwari	354	0	101	0	0	11	0	0	1	0	0	32	1	0	0	0	5	6
Madhay Harsahi	222	0	102	0	0	23	0	0	1	2	0	51	0	0	0	1	3	1
Basantapur	183	0	99	0	0	27	0	0	1	0	0	50	2	0	0	1	1	5
Harinagara	293	0	99	0	0	19	1	0	4	5	2	15	2	0	0	0	0	1
Ramnagar Bhutaha	434	0	100	0	0	34	1	0	2	2	1	47	1	0	0	0	1	0
Jallpapur	269	0	100	0	0	23	0	0	2	0	0	51	2	0	0	0	2	0
Narsimha	675	0	100	0	0	22	0	0	0	0	0	44	0	0	0	1	3	0
Gautampur	171	0	99	1	0	30	0	0	2	1	1	51	0	0	0	0	4	1
Babiya	322	5	95	0	0	31	1	3	7	2	2	57	1	0	1	0	2	4
Study Area Total	3,974	0	100	0	0	23	0	0	2	1	1	43	1	0	0	0	2	2
District Total	19,808	9	91	0	0	33	1	4	6	1	1	44	1	0	0	0	1	1

Table 5.6 Local Governance Program Household Survey 1998 Data (3)

(Unit: No.)

VDC/Municipality	No. of Sample	Educational Status																														
		Illiterate			Literate			Pre-Primary			Primary			Lower Secondary			Secondary			Higher Secondary			Diploma			Degree			Total		
	Household	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
Sahebganj	156	28	20	48	249	183	432	9	19	28	24	27	51	20	58	78	22	77	99	0	1	1	0	9	9	0	1	1	352	395	747
Kaptanganj	195	346	280	626	64	111	175			0	42	80	122	18	29	47	8	44	52	5	14	19	3	7	10			0	486	565	1,051
Dewanganj	310	500	403	903	11	46	57	1		1	73	122	195	41	100	141	25	82	107	1	13	14			0			0	652	766	1,418
Ghuski	390	823	626	1,449	110	134	244			0	141	226	367	12	98	110	7	61	68	0	9	9	0	4	4			0	1,093	1,158	2,251
Rajganj Sinwari	354	666	500	1,166	45	201	246			0	68	127	195	22	37	59	16	60	76	3	22	25	0	7	7			0	820	954	1,774
Madhay Harsahi	222	346	292	638	31	25	56	41	52	93	63	138	201	19	59	78	17	50	67	1	14	15	0	2	2			0	518	632	1,150
Basantapur	183	278	199	477	93	104	197	1	2	3	69	108	177	19	64	83	14	46	60	4	11	15	0	4	4	0	3	3	478	541	1,019
Harinagara	293	495	462	957	6	3	9			0	60	117	177	27	64	91	39	101	140	6	25	31	1	8	9	0	1	1	634	781	1,415
Ramnagar Bhutaha	434	656	544	1,200	180	136	316	22	68	90	119	243	362	33	94	127	20	77	97	2	16	18	1	4	5	0	2	2	1,033	1,184	2,217
Jallpapur	269	443	435	878	21	68	89			0	12	43	55	3	31	34	3	16	19	0	1	1	0	1	1			0	482	595	1,077
Narsimha	675	1,088	984	2,072	146	119	265	17	29	46	140	275	415	42	120	162	23	105	128	1	9	10	1	9	10	0	2	2	1,458	1,652	3,110
Gautampur	171	260	139	399	37	54	91	6	10	16	86	85	171	18	70	88	15	62	77	0	6	6	0	6	6	0	1	1	422	433	855
Babiya	322	546	421	967	67	47	114			0	79	165	244	34	101	135	32	100	132	2	6	8	2	6	8			0	762	846	1,608
Study Area Total	3,974	6,475	5,305	11,780	1,060	1,231	2,291	97	180	277	976	1,756	2,732	308	925	1,233	241	881	1,122	25	147	172	8	67	75	0	10	10	9,190	10,502	19,692
District Total	19,808	27,391	18,659	46,050	6,921	8,435	15,356	514	1,067	1,581	5,833	9,042	14,875	2,753	5,386	8,139	2,730	6,350	9,080	474	1,647	2,121	93	505	598	12	155	167	46,721	51,246	97,967

Table 5.7 Local Governance Program Household Survey 1998 Share of Data (3) (%)

(Unit: %)

VDC/Municipality	No. of Sample	Educational Status																														
		Illiterate			Literate			Pre-Primary			Primary			Lower Secondary			Secondary			Higher Secondary			Diploma			Degree			Total		
	Household	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
Sahebganj	156	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Kaptanganj	195	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Dewanganj	310	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Ghuski	390	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Rajganj Sinwari	354	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Madhay Harsahi	222	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Basantapur	183	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Harinagara	293	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Ramnagar Bhutaha	434	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Jallpapur	269	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Narsimha	675	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Gautampur	171	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Babiya	322	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Study Area Total	3,974	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	100	100	100
District Total	19,808	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!

Table 5.8 Local Governance Program Household Survey 1998 Data (4)

(Unit: No.)

VDC/Municipality	No. of Sample Household	No. of Families having inadequate food					Use of Advanced Technology in Agriculture							Loan Burrowed			
		Up to 3 months	Up to 6 months	Up to 9 months	More than 9 months	Total	Yes	No	Chemical Fertilizer	Insecticides	Advanced Equipment	Higher Class Cattle	Other	Total Amount	Amount per HH	Merchant	Banks
Sahebganj	156	25	68	16	38	147	70	86	62	6	3	16	70	1,163,600	21,548	30	24
Kaptanganj	195	21	43	4	81	149	107	76	106	170	15			1,544,700	44,134	7	28
Dewanganj	310	13	45	17	194	269	135	174	131	108	354	8	135	1,776,700	10,513	150	19
Ghuski	390	12	86	67	216	381	200	192	197	2		4	200	4,334,500	12,244	301	53
Rajganj Sinwari	354	11	84	9	169	273	144	69	119	4		540		2,844,349	12,530	200	27
Madhay Harsahi	222	25	77	62	16	180	156	24	155	276	6		99	2,715,000	22,625	21	99
Basantapur	183	9	30	20	85	144	109	41	105	6	3	24	13	3,027,402	30,580	68	31
Harinagara	293	28	77	28	82	215	106	187	105	196	6	4	106	1,119,400	17,768	42	21
Ramnagar Bhutaha	434	43	84	37	245	409	205	25	204	404			6	1,914,720	12,765	97	53
Jallpapur	269	5	40	3	187	235	105	164	102	2			105	724,625	15,096	15	33
Narsimha	675	113	169	35	156	473	349	51	349	582	213	200		585,000	25,435	4	19
Gautampur	171	22	31	9	47	109	113	21	111	204		12		1,664,600	14,863	70	42
Babiya	322	1	17	13	170	201	159	19	159	246	3	4		2,407,400	15,432	70	86
Study Area Total	3,974	328	851	320	1,686	3,185	1,958	1,129	1,905	2,206	603	812	734	25,821,996	255,534	1,075	535
District Total	19,808	1,533	3,938	1,409	8,029	14,909	6,327	9,228	6,021	5,680	1,203	2,132	2,689			4,805	3,185

Table 5.9 Local Governance Program Household Survey 1998 Share of Data (4) (%)

(Unit: %)

VDC/Municipality	No. of Sample Household	No. of Families having inadequate food					Use of Advanced Technology in Agriculture							Loan Burrowed			
		Up to 3 months	Up to 6 months	Up to 9 months	More than 9 months	Total	Yes	No	Chemical Fertilizer	Insecticides	Advanced Equipment	Higher Class Cattle	Other	Total Amount	Amount per HH	Merchant	Banks
Sahebganj	156	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			30	24
Kaptanganj	195	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			7	28
Dewanganj	310	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!	#REF!
Ghuski	390	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!	#REF!
Rajganj Sinwari	354	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!	#REF!
Madhay Harsahi	222	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!	#REF!
Basantapur	183	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!	#REF!
Harinagara	293	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!	#REF!
Ramnagar Bhutaha	434	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!	#REF!
Jallpapur	269	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!	#REF!
Narsimha	675	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!	#REF!
Gautampur	171	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!	#REF!
Babiya	322	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!	#REF!
Study Area Total	3,974	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!	#REF!
District Total	19,808	8	20	7	41	75	32	47	30	29	6	11	14			60	40

ATTACHMENT 5

Table 5.10 Local Governance Program Household Survey 1998 Data (5) Food Adequacy in Sunsari District

VDC/Municipality	Total Household	No. of Families having inadequate food				No. of Families having inadequate food (%)			
		Upto 3 months	Upto 6 months	Upto 9 months	More than 9 months	Upto 3 months	Upto 6 months	Upto 9 months	More than 9 months
Amaduwa	329	33	131	31	134	10	40	9	41
Amahi Belha	192	15	34	9	134	8	18	5	70
Aurabani	295	57	102	24	112	19	35	8	38
Babiya	201	1	17	13	170	0	8	6	85
Baklauri	410	37	113	25	235	9	28	6	57
Barahachetra	270	11	26	14	219	4	10	5	81
Basantapur	144	9	30	20	85	6	21	14	59
Bhadgaun Sinwari	241	39	140	21	41	16	58	9	17
Bhaluwa	166	21	34	14	97	13	20	8	58
Bharaul	477	41	120	47	269	9	25	10	56
Jhokraha	550	33	138	33	346	6	25	6	63
Bishnupaduka	225	26	75	50	74	12	33	22	33
Kaptanganj	149	21	43	4	81	14	29	3	54
Chandbela	172	3	68	47	54	2	40	27	31
Chimdi	214	19	42	22	131	9	20	10	61
Chitaha	321	27	93	23	178	8	29	7	55
Dewanganj	269	13	45	17	194	5	17	6	72
Dumraha	417	37	252	21	107	9	60	5	26
Duhabi	395	13	27	2	353	3	7	1	89
Gautampur	109	22	31	9	47	20	28	8	43
Ghuski	381	12	86	67	216	3	23	18	57
Hansposa	441	87	165	38	151	20	37	9	34
Harinagara	215	28	77	28	82	13	36	13	38
Haripur	286	24	14	18	230	8	5	6	80
Jallpapur	235	5	40	3	187	2	17	1	80
Khanar	257	15	23	15	204	6	9	6	79
Laukahi	156	6	24	23	103	4	15	15	66
Madhesa	198	11	55	10	122	6	28	5	62
Madheli	251	36	94	36	85	14	37	14	34
Madhuban	301	13	43	18	227	4	14	6	75
Madhay Harsahi	180	25	77	62	16	14	43	34	9
Mahendra Nagar	775	131	167	168	309	17	22	22	40
Narsimha	473	113	169	35	156	24	36	7	33
Paschim Kusaha	340	39	118	32	151	11	35	9	44
Pakali	214	18	18	13	165	8	8	6	77
Panchakanya	286	40	72	27	147	14	25	9	51
Prakashpur	1,027	74	325	157	471	7	32	15	46
Purba Kusaha	285	33	70	3	179	12	25	1	63
Rajganj Sinwari	273	11	84	9	169	4	31	3	62
Ramganj Belgachia	267	7	36	14	210	3	13	5	79
Ramnagar Bhutaha	409	43	84	37	245	11	21	9	60
Sahebganj	147	25	68	16	38	17	46	11	26
Satterjhora	345	92	110	14	129	27	32	4	37
Shripur Jabdi	377	54	109	34	180	14	29	9	48
Simaria	175	5	1	0	169	3	1	0	97
Singia	300	47	64	31	158	16	21	10	53
Sonapur	275	24	40	24	187	9	15	9	68
Tanmuna	243	18	42	4	179	7	17	2	74
Ekamba	251	19	102	27	103	8	41	11	41
Total	**14,909**	**1,533**	**3,938**	**1,409**	**8,029**	**10**	**26**	**9**	**54**

= VDC in the Study area

Table 5.11 Local Governance Program Household Survey 1998 Data (6)

(Unit: No.)

VDC/Municipality	No. of Sample Household	Occupation										Annual Income											
		Agriculture	Employee	Business	Industry	Sewing	Mason		99	Other	Total	Employment	Business	Industry	Penson	Saving	Rent	Other	Agricultural Crops	Livestocks	Total	Households	Income per Family
Sahebganj	156	392	9	8	3			49		434	895	235,900	41,725		100			63,600	368,575	46,164	756,064	156	4,847
Kaptanganj	195	127	7	8	2			1		1,101	1,246	172,000	172,000	10,000				751,800	1,414,665	200,875	2,721,340	152	17,904
Dewanganj	310	241	11	33			1	64		1,284	1,634	285,605	399,200					2,564,290	419,700	442,566	4,111,361	309	13,305
Ghuski	390	492	8	31				2	9	2,154	2,696	40,400	276,000					4,212,400	366,400	632,850	5,528,050	386	14,321
Rajganj Sinwari	354	170	3	2			1	172		1,713	2,061	269,000	5,000	12,000			10,500	563,200	1,975,550	781,900	3,617,150	208	17,390
Madhay Harsahi	222	1,101	3							257	1,361	265,880	225,000	20,000	36,000	43,051	5,000	553,300	789,950	306,020	2,244,201	167	13,438
Basantapur	183	684	14	23	1	283		7		122	1,134	133,240	155,600	15,000			3,000	367,021	364,723	61,450	1,100,034	139	7,914
Harinagara	293	277	25	48	11	5	6	292		1,020	1,684	551,001	136,000					4,250,000	758,700	170,410	5,866,111	292	20,089
Ramnagar Bhutaha	434	985	1,168	234	20	13	20			250	2,690	1,533,150	318,000	30,000			5,500	291,900	915,495	59,425	3,153,470	227	13,892
Jallpapur	269	89		1	2			4		1,161	1,257	148,002	39,000	75,000		90,000		804,100	430,400	770,854	2,357,356	269	8,763
Narsimha	675	721	17	69	5			15		2,757	3,584	354,502	289,000	5,000		15,000		3,520,200	4,182,700	503,500	8,869,902	400	22,175
Gautampur	171	451	19	15	9					498	992	295,000	82,000	40,000		30,000		198,500	1,243,400	315,145	2,204,045	129	17,086
Babiya	322	827	25	32	1			5		1,049	1,939	282,403	260,000			350,000	6,200	2,412,000	1,606,020	80,400	4,997,023	164	30,470
Study Area Total	3,974	6,557	1,309	504	54	301	28	611	9	13,800	23,173	4,566,083	2,398,525	207,000	36,100	528,051	30,200	20,552,311	14,836,278	4,371,559	47,526,107	2,998	15,853
District Total	15,040	26,208	4,577	1,810	180	615	160	4,940	63	70,253	108,806	50,603,744	26,726,813	1,449,527	3,576,312	2,409,314	2,124,103	89,375,497	59,773,238	14,987,405	251,025,953	15,040	16,691

Table 5.12 Local Governance Program Household Survey 1998 Share of Data (6) (%)

(Unit: %)

VDC/Municipality	No. of Sample Household	Occupation										Annual Income									
		Agriculture	Employee	Business	Industry	Sewing	Mason		99	Other	Total	Employment	Business	Industry	Penson	Saving	Rent	Other	Agricultural Crops	Livestocks	Total
Sahebganj	156	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Kaptanganj	195	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Dewanganj	310	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Ghuski	390	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Rajganj Sinwari	354	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Madhay Harsahi	222	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Basantapur	183	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Harinagara	293	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Ramnagar Bhutaha	434	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Jallpapur	269	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Narsimha	675	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Gautampur	171	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Babiya	322	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Study Area Total	3,974	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
District Total	15,040	24	4	2	0	1	0	5	0	65	100	20	11	1	1	1	1	36	24	6	100

Table 5.13 Local Governance Program Household Survey 1998 Data (7) Income in Sunsari District

(Unit: Rs)

VDC/Municipality	Employment	Business	Industry	Penson	Saving	Rent	Other	Agricultural Crops	Livestocks	Total	Households	Income per Family
Amaduwa	921,901	177,000		34,000	20,000	10,000	371,200	4,183,737	285,380	6,003,218	232	25,876
Amahi Belha	889,401	5,283,000		27,600		72,000	465,150	2,421,090	104,093	9,262,334	124	74,696
Aurabani	136,100	15,400					78,400	1,669,100	13,300	1,912,300	168	11,383
Babiya	282,403	260,000			350,000	6,200	2,412,000	1,606,020	80,400	4,997,023	164	30,470
Baklauri	2,508,301	316,800		272,000	46,500	22,000	7,882,000	1,249,050	223,100	12,519,751	598	20,936
Baraha Chetra	528,204	434,700	33,000	171,400	217,000	2,400	639,600	33,013	69,000	2,128,317	349	6,098
Basantapur	133,240	155,600	15,000			3,000	367,021	364,723	61,450	1,100,034	139	7,914
Bhadgaun Sinwari	1,407,204	3,338,000	170,002	76,400	463,300	1,206,000	3,945,152	2,150,707	31,450	12,788,215	456	28,044
Bhaluwa	404,000	49,200				18,000	902,240	770,724	4,000	2,148,164	116	18,519
Bharaul	2,273,560	318,000		255,000	70,000	50,000	892,980	2,359,497	592,545	6,811,582	477	14,280
Jhokraha	851,011	130,002		23,400	4,000		74,100	1,578,210	281,815	2,942,538	675	4,359
Bishnupaduka	296,004	37,200		49,200	60,400		320,900	6,400	116,700	886,804	193	4,595
Kaptanganj	172,000	172,000	10,000				751,800	1,414,665	200,875	2,721,340	152	17,904
Chanbela	135,009	5,000					1,372,900	170,403		1,683,312	151	11,148
Chimdi	191,318	211,400			162,000	20,000	1,292,500	1,195,765	139,995	3,212,978	171	18,789
Chitaha	212,000	62,000	20,000				78,500	1,414,900	48,725	1,836,125	429	4,280
Dewanganj	285,605	399,200					2,564,290	419,700	442,566	4,111,361	309	13,305
Dumraha	956,304	224,800		62,800	13,700	65,000	1,535,950	3,157,152	747,815	6,763,521	600	11,273
Duhabi	4,067,400	4,344,200	440,002	6	25,002	132,000	4,455,940	962,045	128,810	14,555,405	427	34,088
Gautampur	295,000	82,000	40,000		30,000		198,500	1,243,400	315,145	2,204,045	129	17,086
Ghuski	40,400	276,000					4,212,400	366,400	632,850	5,528,050	386	14,321
Hansposa	7,018,625	1,178,600	22,000	998,800	25,000	238,200	3,549,580	1,492,986	1,133,804	15,657,595	849	18,442
Harinagara	551,001	136,000					4,250,000	758,700	170,410	5,866,111	292	20,089
Haripur	220,807	244,003	21	1	1	1	855,843	665,250	270,123	2,256,050	135	16,711
Jallpapur	148,002	39,000	75,000		90,000		804,100	430,400	770,854	2,357,356	269	8,763
Khanar	1,080,400	567,703	50,000		215,000	46,000	1,037,300	1,070,189	1	4,066,593	80	50,832
Laukahi	135,000	404,150	30,000			18,000	261,400	253,536	179,885	1,281,971	79	16,227
Madhesa	1,840,001	688,000		30,000	18,000		2,880,675	443,075	70,875	5,970,626	287	20,804
Madheli	2,723,400	779,200	10,000				2,667,450	906,906	695,300	7,782,256	359	21,678
Madhuban	511,000	393,000		20,000		14,800	1,818,800	695,400	30,000	3,483,000	175	19,903
Madhay Harsahi	265,880	225,000	20,000	36,000	43,051	5,000	553,300	789,950	306,020	2,244,201	167	13,438
Mahendra Nagar	5,624,504	1,518,130	277,002	751,805	348,860	42,200	2,928,894	3,269,755	3,610,479	18,371,629	1,049	17,513
Narsimha	354,502	289,000	5,000		15,000		3,520,200	4,182,700	503,500	8,869,902	400	22,175
Paschim Kusaha	51,000	147,000					350,000	302,215	380,350	1,230,565	399	3,084
Pakali	344,002	85,000		84,000		8,502	168,000	342,062	65,506	1,097,072	89	12,327
Pancha Kanya	1,344,005	2,352,600	20,000	276,800	50,000	15,000	1,500,700	287,304	115,900	5,962,309	359	16,608
Prakashpur	434,700	59,400	43,500	257,000	17,000		3,228,700	1,538,851	69,200	5,648,351	925	6,106
Purba Kusaha	3,183,000	50,000		120,000	23,000		34,000	2,553,261	218,085	6,181,346	166	37,237
Rajganj Sinwari	269,000	5,000	12,000			10,500	563,200	1,975,550	781,900	3,617,150	208	17,390
Ramganj Belgachia	163,600	12,000	17,000				27,000	1,869,300	485,729	2,574,629	96	26,819
Ramnagar Bhutaha	1,533,150	318,000	30,000			5,500	291,900	915,495	59,425	3,153,470	227	13,892
Sahebganj	235,900	41,725		100			63,600	368,575	46,164	756,064	156	4,847
Satterjhora	24,000						215,200	381,100	29,700	650,000	227	2,863
Shripur Jabdi	5,000	10,200	10,000				1,137,000	292,850	93,700	1,548,750	469	3,302
Simaria	202,900	39,600		20,000			2,026,625	255,475	13,900	2,558,500	68	37,625
Singia	2,014,000	480,000			77,000		18,612,000	2,445,832	359,581	23,988,413	588	40,797
Sonapur	2,241,600	236,000	100,000		10,000	113,500	811,000	503,650		4,015,750	146	27,505
Tanmuna	6,000						257,507	754,570		1,018,077	112	9,090
Ekamba	1,092,400	137,000		10,000	15,500	300	148,000	1,291,600	7,000	2,701,800	219	12,337
Study Area Total	4,566,083	2,398,525	207,000	36,100	528,051	30,200	20,552,311	14,836,278	4,371,559	47,526,107	2,998	15,853
District Total	50,603,744	26,726,813	1,449,527	3,576,312	2,409,314	2,124,103	89,375,497	59,773,238	14,987,405	251,025,953	15,040	16,691

Table 5.14 Local Governance Program Household Survey 1998 Data (7) Income per Household in Sunsari District

(Unit: Rs)

VDC/Municipality	Employment	Business	Industry	Penson	Saving	Rent	Other	Agricultural Crops	Livestocks	Total
Amaduwa	3,974	763	0	147	86	43	1,600	18,033	1,230	25,876
Amahi Belha	7,173	42,605	0	223	0	581	3,751	19,525	839	74,696
Aurabani	810	92	0	0	0	0	467	9,935	79	11,383
Babiya	1,722	1,585	0	0	2,134	38	14,707	9,793	490	30,470
Baklauri	4,194	530	0	455	78	37	13,181	2,089	373	20,936
Baraha Chetra	1,513	1,246	95	491	622	7	1,833	95	198	6,098
Basantapur	959	1,119	108	0	0	22	2,640	2,624	442	7,914
Bhadgaun Sinwari	3,086	7,320	373	168	1,016	2,645	8,652	4,716	69	28,044
Bhaluwa	3,483	424	0	0	0	155	7,778	6,644	34	18,519
Bharaul	4,766	667	0	535	147	105	1,872	4,947	1,242	14,280
Jhokraha	1,261	193	0	35	6	0	110	2,338	418	4,359
Bishnupaduka	1,534	193	0	255	313	0	1,663	33	605	4,595
Kaptanganj	1,132	1,132	66	0	0	0	4,946	9,307	1,322	17,904
Chanbela	894	33	0	0	0	0	9,092	1,128	0	11,148
Chimdi	1,119	1,236	0	0	947	117	7,558	6,993	819	18,789
Chitaha	494	145	47	0	0	0	183	3,298	114	4,280
Dewanganj	924	1,292	0	0	0	0	8,299	1,358	1,432	13,305
Dumraha	1,594	375	0	105	23	108	2,560	5,262	1,246	11,273
Duhabi	9,526	10,174	1,030	0	59	309	10,435	2,253	302	34,088
Gautampur	2,287	636	310	0	233	0	1,539	9,639	2,443	17,086
Ghuski	105	715	0	0	0	0	10,913	949	1,640	14,321
Hansposa	8,267	1,388	26	1,176	29	281	4,181	1,759	1,335	18,442
Harinagara	1,887	466	0	0	0	0	14,555	2,598	584	20,089
Haripur	1,636	1,807	0	0	0	0	6,340	4,928	2,001	16,711
Jallpapur	550	145	279	0	335	0	2,989	1,600	2,866	8,763
Khanar	13,505	7,096	625	0	2,688	575	12,966	13,377	0	50,832
Laukahi	1,709	5,116	380	0	0	228	3,309	3,209	2,277	16,227
Madhesa	6,411	2,397	0	105	63	0	10,037	1,544	247	20,804
Madheli	7,586	2,170	28	0	0	0	7,430	2,526	1,937	21,678
Madhuban	2,920	2,246	0	114	0	85	10,393	3,974	171	19,903
Madhay Harsahi	1,592	1,347	120	216	258	30	3,313	4,730	1,832	13,438
Mahendra Nagar	5,362	1,447	264	717	333	40	2,792	3,117	3,442	17,513
Narsimha	886	723	13	0	38	0	8,801	10,457	1,259	22,175
Paschim Kusaha	128	368	0	0	0	0	877	757	953	3,084
Pakali	3,865	955	0	944	0	96	1,888	3,843	736	12,327
Pancha Kanya	3,744	6,553	56	771	139	42	4,180	800	323	16,608
Prakashpur	470	64	47	278	18	0	3,490	1,664	75	6,106
Purba Kusaha	19,175	301	0	723	139	0	205	15,381	1,314	37,237
Rajganj Sinwari	1,293	24	58	0	0	50	2,708	9,498	3,759	17,390
Ramganj Belgachia	1,704	125	177	0	0	0	281	19,472	5,060	26,819
Ramnagar Bhutaha	6,754	1,401	132	0	0	24	1,286	4,033	262	13,892
Sahebganj	1,512	267	0	1	0	0	408	2,363	296	4,847
Satterjhora	106	0	0	0	0	0	948	1,679	131	2,863
Shripur Jabdi	11	22	21	0	0	0	2,424	624	200	3,302
Simaria	2,984	582	0	294	0	0	29,803	3,757	204	37,625
Singia	3,425	816	0	0	131	0	31,653	4,160	612	40,797
Sonapur	15,353	1,616	685	0	68	777	5,555	3,450	0	27,505
Tanmuna	54	0	0	0	0	0	2,299	6,737	0	9,090
Ekamba	4,988	626	0	46	71	1	676	5,898	32	12,337
Study Area Total	1,523	800	69	12	176	10	6,855	4,949	1,458	15,853
District Total	3,365	1,777	96	238	160	141	5,943	3,974	997	16,691

Table 5.15 Number, Area and Fragmentation of Holdings by Total Area of Holding - Sunsari District in 1991/92

Total Area of Holding	Holdings			Fragmentation						
	Number	Area (ha)	Average (ha/capita)	No. of Plots	Average No. of Plots	Number of Holdings Consisting of Plots				
						1	2-3	4-5	6-9	10 & over
Without land	1,256	18.8	0.01	1,192	0.9	1,150	21			
With land										
Under 0.1ha	5,322	255.4	0.05	5,492	1.0	5,152	170			
0.1ha - 0.2 ha	3,385	485.7	0.14	3,938	1.2	2,853	532			
0.2 ha - 0.5 ha	4,811	1,621.7	0.34	7,578	1.6	2,427	2,320	64		
0.5 ha - 1.0 ha	6,769	4,712.7	0.70	14,752	2.2	1,660	4,492	511	106	
1.0 ha - 2.0 ha	10,495	14,403.4	1.37	28,547	2.7	1,213	6,812	2,150	319	
2.0 ha - 3.0 ha	6,642	15,580.8	2.35	23,523	3.5	490	3,236	2,086	809	21
3.0 ha - 4.0 ha	1,958	6,593.8	3.37	8,770	4.5	21	873	532	405	128
4.0 ha - 5.0 ha	1,213	5,263.2	4.34	5,152	4.2	21	575	362	192	64
5.0 ha - 10.0 ha	1,533	9,945.5	6.49	6,918	4.5	21	511	660	277	64
10.0 ha and over	362	5,316.2	14.69	1,575	4.4	21	149	85	106	
Total with Land	42,490	64,178.4	1.51	106,245	2.5	13,879	19,670	6,450	2,214	277
Grand Total	43,746	64,197.2	1.47	107,437	2.5	15,029	19,691	6,450	2,214	277

Source: National Sample Census of Agriculture 1991/92

Table 5.16 Number, Area and Fragmentation of Holdings by Total Area of Holding - Sunsari District in 1991/92 (Share %)

Total Area of Holding	Holdings			Fragmentation						
	Number	Area (ha)	Average (ha/capita)	No. of Plots	Average No. of Plots	Number of Holdings Consisting of Plots				
						1	2-3	4-5	6-9	10 & over
Without land	2.9	0.0	0.01	1.1	0.9	98.2	1.8	0.0	0.0	0.0
With land										
Under 0.1ha	12.2	0.4	0.05	5.1	1.0	96.8	3.2	0.0	0.0	0.0
0.1ha - 0.2 ha	7.7	0.8	0.14	3.7	1.2	84.3	15.7	0.0	0.0	0.0
0.2 ha - 0.5 ha	11.0	2.5	0.34	7.1	1.6	50.4	48.2	1.3	0.0	0.0
0.5 ha - 1.0 ha	15.5	7.3	0.70	13.7	2.2	24.5	66.4	7.5	1.6	0.0
1.0 ha - 2.0 ha	24.0	22.4	1.37	26.6	2.7	11.6	64.9	20.5	3.0	0.0
2.0 ha - 3.0 ha	15.2	24.3	2.35	21.9	3.5	7.4	48.7	31.4	12.2	0.3
3.0 ha - 4.0 ha	4.5	10.3	3.37	8.2	4.5	1.1	44.6	27.2	20.7	6.5
4.0 ha - 5.0 ha	2.8	8.2	4.34	4.8	4.2	1.7	47.4	29.8	15.8	5.3
5.0 ha - 10.0 ha	3.5	15.5	6.49	6.4	4.5	1.4	33.3	43.1	18.1	4.2
10.0 ha and over	0.8	8.3	14.69	1.5	4.4	5.8	41.3	23.5	29.4	0.0
Total with Land	97.1	100.0	1.51	98.9	2.5	32.7	46.3	15.2	5.2	0.7
Grand Total	100.0	100.0	1.47	100.0	2.5	34.4	45.1	14.8	5.1	0.6

Source: National Sample Census of Agriculture 1991/92

Table 5.17 Number and Area of Holdings by Tenure - Sunsari District in 1991/92

Total Area of Holding	Number of Holdings	Form of Rent													
		Total		Fixed in Cash		Fixed in Kind		Share crop		Exchange for Services		Mortgage		Other	
		No. of Holdings	Area (ha)	No. of Holdings	Area (ha)	No. of Holdings	Area (ha)	No. of Holdings	Area (ha)	No. of Holdings	Area (ha)	No. of Holdings	Area (ha)	No. of Holdings	Area (ha)
Without land	1,256	21	0.4											21	0.4
With land															
Under 0.5 ha	13,518	872	206.3	0	0.0	106	27.6	596	165.2	0	0	42	10.8	128	2.7
0.5 ha - 1.0 ha	6,769	2,151	987.1	192	71.6	362	165.6	1,426	726.9			43	13.6	128	9.4
1.0 ha - 2.0 ha	10,495	4,492	4,028.0	362	303.9	1,001	1,090.4	2,746	2,578.3			85	37.5	298	17.9
2.0 ha - 3.0 ha	6,642	3,172	4,270.7	128	140.9	809	1,048.2	2,086	3,055.3			85	23.8	64	2.5
3.0 ha - 4.0 ha	1,958	1,021	1,614.3	43	57.0	319	503.1	596	1,037.2	21	0.4	21	13.0	21	3.6
4.0 ha - 5.0 ha	1,213	425	919.2	43	122.6	106	194.6	255	598.4					21	3.6
5.0 ha - 10.0 ha	1,533	532	1,434.4	43	94.9	170	589.0	277	613.6			21	100.9	21	36.0
10.0 ha and over	362	85	461.4	21	158.6	21	14.4	43	288.4						
Total with Land	42,490	12,750	13,921.4	832	949.5	2,894	3,632.9	8,025	9,063.3	21	0.4	297	199.6	681	75.7
Grand Total	43,746	12,771	13,921.8	832	949.5	2,894	3,632.9	8,025	9,063.3	21	0.4	297	199.6	702	76.1
Share (Average)		29%	1.1	7%	1.1	23%	1.3	63%	1.1	0%	0.0	2%	0.7	5%	0.1

Source: National Sample Census of Agriculture 1991/92

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Table 6.1 Official Trade at Kauwakhanj Sub-Custom (Kaptanganj) from Mid of October to Mid of November 2001

Export/Import	Goods	Amount	Value	Custom Duty		Agriculture Improvement Tax	
			Rs	%	Rs	%	Rs
Export	Green Vegetable	4.2 t	21,000	0.5	105	–	–
Import	Cotton Cloth	61 meter	1,561	4.0	62		
	Mosquito Net	2 sets	300	20.0	60		
	Blankets	30 nos	2,120	20.0	424		
	Cumin Sheet	40 kg	2,355	4.0	94		
	(Agriculture Products)						
	Potato	46.2 t	226,560	–	–	5.0	11,328
	Broken Rice	30 t	151,381	–	–	5.0	7,569
	Gram Seeds	1 t	20,180	–	–	5.0	1,009
	Cotton Fiber	650 kg	13,117	–	–	5.0	656
	Green Chilli	300 kg	750	–	–	5.0	38
	Green Banana	200 bunch	5,767	–	–	5.0	288
	Living Baffalo	11 heads	17,329	–	–	5.0	866
Import Total			441,420		641		21,754

Source: Kauwakhanj Sub-Custom Office at Kaptanganj

Table 6.2 Official Trade at Kauwakhanj Sub-Custom (Kaptanganj) from Mid of November to Mid of December 2001

Export/Import	Goods	Amount	Value	Custom Duty		Agriculture Improvement Tax	
			Rs	%	Rs	%	Rs
Import	Earthen Pots	8 cattleload	983	12.0	118		
	(Agriculture Products)						
	Potato	3.64 t		–	–	5.0	
	Broken Rice	10 t		–	–	5.0	
	Maize	10 t		–	–	5.0	8,058
	Millet	10.35 t		–	–	5.0	
	Green Banana	100 bunch		–	–	5.0	
	Dry Chilli	200 bunch		–	–	5.0	
Import Total					118		8,058

Source: Kauwakhanj Sub-Custom Office at Kaptanganj

Table 7.1 Proposed Budget of Concerning Offices in Sunsari District for FY 2058/59 (2001/2002)

Title	Program Budget	Administrative Budget	Total Budget	Remarks
A. District Development Committee	14,385,000.00	75,011,723.71	89,396,723.71	
Total	14,385,000.00	75,011,723.71	89,396,723.71	
B. Line Agencies a) Agriculture, Forest, Environment and Industry				
District Agriculture Development Office	6,711,577.00	4,788,423.00	11,500,000.00	
District Livestock Service Office	3,468,840.00	4,168,359.00	7,637,199.00	
District Forest Office	2,384,000.00	520,000.00	2,904,000.00	
Small Cottage Industry`s office	1,380,000.00	2,125,000.00	3,505,000.00	
District Co-operative Office	268,510.00	948,600.00	1,217,110.00	
Agriculture Development Bank	360,000,000.00	15,459,542.00	375,459,542.00	Not included in Budget
Total	14,212,927.00	12,550,382.00	26,763,309.00	
b) Population and Social Devlopment				
District Education Office	20,945,500.00	333,376,150.00	354,321,650.00	
District	12,322,000.00	21,000,000.00	33,322,000.00	
Women Development Office	1,466,000.00	1,460,000.00	2,926,000.00	
Total	34,733,500.00	355,836,150.00	390,569,650.00	
c) Infrastructure development				
Easten Regional Road Division	183,800,000.00	3,500,000.00	187,300,000.00	
District Drinking Water Office	51,413,000.00	3,954,000.00	55,367,000.00	
Electricity	68,577,000.00	25,000,000.00	93,577,000.00	
Town development and building constructior	3,850,000.00	800,000.00	4,650,000.00	
Telecommunication				Only the program operated
Total	307,640,000.00	33,254,000.00	340,894,000.00	
d) Land and Water resources				
District Irrigation Office	35,600,000.00	3,500,000.00	39,100,000.00	
Underground Irrigation Project	10,000,000.00	1,000,000.00	11,000,000.00	
Sunsari Morang Irrigation Project				Only the program operated
Total	45,600,000.00	4,500,000.00	50,100,000.00	
Total of Concernig Offices	402,186,427.00	406,140,532.00	808,326,959.00	

Source: Sunsari District Development Committee Annual Report 2001

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Table 7.2 District Development Committee, Sunsari Statement of Funds

(in Rs)

	Budget Title	1999/2000	2000/2001	20001/2002
1	Last Year Liability	1,118,888	2,014,726	
2	Stone, bolder, sand	3,020,167	9,293,000	11,000,000
3	Re-useable commodity	2,887,896	6,364,000	6,487,724
4	Livestock tax	465,602	736,787	750,000
5	Vehicle Tax	553,413	788,200	850,000
6	Medicinal Herbs	499,000	721,000	800,000
7	Land tax	628,311	600,000	600,000
8	Citizenship recommendation	13,995	10,000	10,000
9	Passport recommendation	37,095	40,000	50,000
10	Sales of Tender form	54,970	30,000	50,000
11	Ticket	40	1,000	5,000
12	Sales of Land Tax Receipt	42,075	45,000	45,000
13	Contingency	62,499	1,634,040	800,000
14	Woman crafts	4,030	5,000	5,000
15	Contract of Fish	68,556	25,000	30,000
16	Sales of Dry Wood	220,824	500,000	500,000
17	Local Tax (forvStraw, Hay etc.)	47,851	25,000	30,000
18	Deposit forfeiture		516,603	
19	Suspension Bridge Toll Tax	20,102	19,001	20,000
20	Humepipe	21,115	30,000	40,000
21	Contract Licence	20,150	28,000	32,000
22	Other export tax	575,000	1,651,000	1,700,000
23	Miscellaneous	23,477	10,000	100,000
24	Export of stone, bolder, sand		351,000	500,000
25	Bone, horn, hooves		37,771	50,000
26	Licence and contract renewal		321,000	500,000
27	Land Tax Registration		4,000,000	4,500,000
28	Auction bid		600,000	5,000
29	advance clearification		600,000	50,000
30	Land Rent	9,500		10,000
	Total Amount in Rs.	**10,394,554**	**30,997,128**	**29,519,724**

Source: Sunsari District Development Committee Annual Report 2001

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Table 7.3 Expenditure Statement of District Development Committee Office

	Budget Title	Actual Budget 1999/2000	Budget Title	Proposed 2000/2001	Estimated 2001/2002
1	Salary	1,248,919	Staff salary	1,650,004	1,700,000
2	Allowance	684,317	Auditing Charge	150,000	160,000
3	Daily Travelling Allowance	630,253	Officer allowance	588,000	600,000
4	Clothes	15,600	DDC special allowance	309,500	350,000
5	Water & Electricity	73,183	Extra allowance	80,000	100,000
6	Telephone & trunks	159,162	Meeting allowance	100,000	120,000
7	Other Services	197,536	Cloth allowance	23,500	25,000
8	Rent	47,787	Officer`s daily travelling allowance	400,000	420,000
9	Repair & Maintenance	417,493	Staff`s daily travelling allowance	365,400	370,000
10	Office Equipment	168,440	Office Service Expenses	400,000	400,000
11	Other Equipment	177,002	Office Service Expenses(official)	40,000	40,000
12	Printing	184,098	Office operational expenses	250,000	300,000
13	Newspaper, books	59,844	Rent (including vehicle)	250,000	300,000
14	Fuel for Vehicle	611,541	Maintenance	500,000	500,000
15	Fuel for other purpose	12,918	Office equipment	300,000	300,000
16	Miscellaneous expenses	257,096	Newspaper and books	80,000	100,000
17	Operational subsidy	104,500	Fuel for vehicle (Officer`s)	600,000	600,000
18	Other subsidy	480,622	Fuel for vehicle (Staff`s)	200,000	200,000
19	Furniture	48,600	Fuel (others)	21,000	25,000
20	Vehicle	721,081	Miscellaneous Expenditure	250,000	275,000
21	Mechinary equipment	23,500	Causual	1,000,000	1,000,000
22	Capital aid (special expenditure)	1,117,444	Durable Vehicle (including purchase of 2 vehicle)	2,600,000	300,000
23	Causual Sanction Expenditure	321,990	Distric Counsil Expenditure	275,000	300,000
24	Counsil Expenditure	134,018	Sanitation Expenditure	20,000	20,000
25	Staff Providend fund		Economic support (Personal, Corporated, calamity)	500,000	500,000
26	Sports	510,000	Membership charge	50,000	500,000
27	Women development committee	100,000	Prizes	100,000	120,000
28			Staff welfare	500,000	500,000
		8,506,942		**11,602,404**	**10,125,000**

Source: Sunsari District Development Committee Annual Report 2001

Table 7.4 Development Budget of Fund for Sunsari District Development Committee

	Budget Title	Estimated 2001/2002	Remarks
1	Advetisement of Training and Seminars	100,000.00	
2	Training and Seminar	50,000.00	
3	L.GP aid VDC building, Health center	1,500,000.00	
4	Building Construction (Including City hall)	4,450,000.00	Only for Construction
5	Distribution of Stone, bolder, sand in aid to VDCs	3,090,000.00	
6	Sports development programme (Including soprts programme,)	1,200,000.00	
7	Woman and Child Programme	300,000.00	
8	Farmer awareness Programme (Training, Seminar, Exibition	400,000.00	
9	Oppressed caste, and	300,000.00	
10	Educational and Cultural Programme (Including prizes)	200,000.00	
11	Inquiry from different Committee (Including Admn. Exp. of Com.)	200,000.00	
12	Partnership programme Endower (donator) and other association, organization (Including HIV AIDS programm	400,000.00	
13	Implementation of Tourism development package apprisial (Ramdhuni, Barjutal etc)	1,000,000.00	
14	Objective grant-aid (Humepipe, plainsheet and others)	1,200,000.00	
15	Forestry and Environment (Including prizes for Motivating Nursery Community Association, Organization)	100,000.00	
16	Administration Consolidation Programme (Research for Administration consolidation, Training, Seminars and	150,000.00	
17	Contract exemption or Compensation	715,246.75	
18	Reporters Welfare Fund	50,000.00	
19		3,989,476.96	
	Total	**19,394,723.71**	

Source: Sunsari District Development Committee Annual Report 2001

Table 7.5 Details of the Tax Collected During the FY 2000/2001

	Tax Title	Total amount of contract	Collection upto Paush 2001	Amount remain to collect
1	Stone, bolder, sand Tax at river bank	9,292,999.99	4,646,500.00	4,646,499.99
2	Stone, bolder, sand (exporting)	351,000.00	160,000.00	151,000.00
3	Suspension Bridge Toll Tax	19,001.00	19,001.00	
4	Bone, Horn, Hooves, Feather	37,771.00	37,771.00	
5	Aquarian tax	25,000.00	25,000.00	
6	Straw, Hay and other tall grass	25,000.00	25,000.00	
7	Re-usable or useless commoity	6,363,999.99	2,050,000.00	4,313,999.00
8	Export tax for Medicinal Herbs	721,000.00	721,000.00	
9	Export tax for other goods	1,651,000.00	809,000.00	842,000.00
10	Other Service Charges			
	A. Inaruwa, Duhabi Road Tax	300,333.00	195,000.00	260,888.88
	B. Inaruwa, Kauwakhoj Road Tax	155,555.55		
	C. Dharan, Chatara Road Tax	111,111.00	111,111.00	
	D. Jhumka, Chatara Road Tax	211,200.00	211,200.00	
11	Livestock tax (exporting to other dist)			
	(a) Hariripur Entrance(junction)	410,000.00	200,000.00	210,000.00
	(b) Ithari Entrance	75,732.68	75,732.68	
	(c) Duhabi Entrance	141,000.00	124,500.00	16,500.00
	(d) Khanar Entrance	10,151.61	10,151.61	
	(e) BarahChhetra Entrance	38,001.00	38,001.00	
	(f) Bishnupaduka Entrance	2,601.00	2,601.00	
	(g) Panchakanya Entrance	4,301.00	4,301.00	
	(h) Shripur Entrance	55,000.00	10,000.00	45,000.00
	Total	**20,001,758.82**	**9,475,870.29**	**10,525,888.53**

Source: Sunsari District Development Committee Annual Report 2001

Table 7.6 Land Tax Collected For FY 1999/2000

	VDC/Municipality	Amount	Remarks
1	Sahebganj	7,855.71	
2	Kaptanganj	21,071.20	
3	Dewanganj	3,925.94	
4	Ghuski	16,312.04	
5	Rajganj Sinwari	9,201.00	
6	Madhay Harsahi	23,558.37	
7	Basantapur	4,452.79	
8	Harinagara	4,160.00	
9	Ramnagar Bhutaha	5,031.49	
10	Jallpapur	2,723.08	
11	Narsimha	40,307.01	
12	Gautampur	14,763.98	
13	Babiya	14,552.18	

Source: Sunsari District Development Committee Annual Report 2001

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Table 7.7 Logical Framework for Development Plan of Sunsari DDC (2001 - 2006)

Summary of the project	Indexes	Bases for proof (Sources of data)	Risky sides
Nation Target: Poverty Allivation			
Target of DDC 1. Qalified improvement of life of the people in Sunasri	**1996 2006** * Human development Index 0.382 0.55 * Sexual Equity index 0.338 0.46	* Report on Human Resource development in Nepal, UNDP	* Only if promised by the local dept., concerning offices and political parties * If the realtive fund will be sanctioned by the Government and donor organization
Objective of the Dist. Dev. 1. To improve the economic condition of the district	**1998 2006** * Percapita income 15000($214) 21000($301)	* Report on Human Resource development in Nepal, UNDP	
2. To improve the social condition of the district	**1996 2006** * Total Literacy Rate Women 49% 63% Men 73% 82% * Average Age Women 58.3 yrs 62 yrs Men 60.5 yrs 64 yrs * Mother Death Rate 850/lakh 539/thousand * Infant Death Rate 79/thousand 60/thousand * Child Death Rate 115/thousand 94/thousand * Population Growth rate 3%(1991) 2.5%	* Datas of Health Management Information System * Records of District Education Office and District health Office * Records of DDC Information center	
Concerning Objective 1. The condition of the Child and Woman will be improved	Upto 2006 * The averge age of the women in Sunsari district will be increased from 58 to 62 years * The mother death rate would be decreased ti 850/lakh to 539/lakh (Source: Visionary Plan DDC 1998) * The infant death rate will be decreased from 79/thousand to 60/thousand and the child death rate from 115/thousand to 94/thousand * Child Labour will be reduced to 16% from the current 22%	* Records of Event registration at the office of local registrar * The records of patient over the hospital and Health Centre	
Concerning Objective 2. The approach of the people ove the health service on the district will have been increased by means of qualified Health Services	* The no. of person taking treatment from Hospital will be increased yearly by 15%	* The records over the District Public Health Office * The records over the DDC Information Centre	
Concerning Objective 3 : There will be quantitive as well as quality improvement of Education status	Upto 2006 * Literacy Percentage will be increased upto 72% from 61% * Admission rate will be increased upto 90% from 51.5% * The rate of primary level completion will be increased to 80% from 39% * Admission of Ladies in primary School will be increased to 90% from 47.45% * The difference of Total admission rate and easily admission rate in primary school will be fallen to 10% from 29.1% * The difference of Total admission rate and easily admission rate in Lower Secondary and Secondary School will be fallen to 10% from 21.7% * The educational disaster fro the Primary School will be fallen to 13% from 23% * Literacy of Oppressed Community will be increased to 42% from current of 26%	* The records over the DDC Information Centre * The statement and records of District Education Office	* If there will be positive government policy and Investment
Concerning Objective 4 : There will be increament over the prodction and productivity of agricultural and livestock related products.	* The current annual production rate over the agriculture and Livestock Service will be increased from the current rate of 5% and 3.5% to 5.5% & 4% simultaneou	* The records over the District Agricult. Devepolment Office and District Livestock Service Office	* If there will be proper development on Irrigation Agriculture Road, manure and market management * If there will be proper devlop-ment of advanced Livestock Souce Centre, Quarentine Centre, and market management
Concerning Objective 5 : There will be remarkable improvement over the foresty and Enviro-nment	Upto 2006 * The production and the productivity of Wood and Firewood will be incresed as follows: * The Area of forest will be increased as follows: 1999 2004 2006 24866 ha 25066 ha 25206 ha * The employment will be 607000 * Net income from the forestry will be NRs. 470300000	* Records of the District Forest Office	
Concerning Objective 6 : There will be improvement over t position of basic infrastructure.	Upto 2006 * Transportation (12 months) for 100% citizen * Drinking Water (12 months) for 100% citizen * Telephone will be from 1:100 to 1:33 * Electricity in town for 85% citizen * Electricity in rural area for 43% citizen * Utilization of Alternative Energy will be increased by additional 1% * The population utilizing the facility over the city will be increased to 34.2% from current 18.3%.	* The recods of DDC information Centre	
Concerning Objective 7 : There will be development and amplification over the Industry and Commerce related sector.	Upto 2006 * By means of Cottage & Small Industry 7872, and from Micro industry 3000, and large or medium scale industry 11842 person will get employment. * By means of Skill Development Training 3200 person will get (self) employment	* Annual Report of Micro skill development programme Sunsari * Records at Cottage and small industry office	
Concerning Objective 8 : By means of institutional develop ment of local deprtment, public will get fast and fresh services.	Upto 2006 * Work Efficiency of the employee working over the local territory and the representative will be increased by 50% * Mobilization of Sources available over the district will be incresed by 50% than the current position. * Local Governance(autonomous) Law and rules will be completely implemented.	* The annual reports of DDC, VDC and Municipality * Records over the DDC information Centre * Survey Report	
Concerning Objective 9 : There will be improvement over the poor, feeble, helpless and disabled person.	* The details over the status of poor, feeble, helpless and disabled will be prepared. * The care, nutrition and educational position of Child the Poor/Oppressed communi will be improved by 3%	* The annual reports of DDC, VDC and Municipality	* If necessary sources will be availabe and the community will supprot.
Concerning Objective 10 : There will be development and extension over the area of Tourism	* There will be increment over the local and foreign tourist flow. * Rural Tourism will be started.	* Sample Survey Report * Records of Hotel Association	
	Estimated Budget (For 7 years) In NRs `000` **Needed** 7676.7 million **Accesiable** 6588 million **Lacking Amont** 1088.7 million		Pre Condition * If National Planning Commission and concerning Ministry will support the periodic plan of the District * If necessary tools and sources will be provide in time by the Government and Donor Orgn.

Source: Sunsari District Development Committee Annual Report 2001

ATTACHMENT 8

Table 8.1 Demand and Supply Balance Analysis on Agricultural Production

(1/4) Population Estimation

District	Population				
	2001	2011	2016	Annual growth rate (2011-16) (%)	2017
Jhapa	688,109	937,650	1,032,585	1.9	1,052,204
Morang	843,220	1,079,329	1,189,966	2.0	1,213,765
Sunsari	625,633	772,517	854,869	2.0	871,966
Saptari	570,282	731,876	805,630	1.9	820,937
Siraha	572,399	723,753	796,649	1.9	811,785
Eastern Terai	3,299,643	4,245,125	4,679,699	2.0	4,770,657
13VDCs in Study Area	97,677				136,136
Study Area[1)]	65,834				91,556
% of Study Area to Sunsari	10.5				10.5

1) Gross Irrigable area / 13VDC area : 11,338ha / 16,819ha =0.674: 97,677x0.674=65,834

Source: 2001: Population Census 2001, 2011 and 2016: Statistical Year Book 2001

(2/4) Cereal Balance

Cereal	Gross Production		Deduction of Input		Milling Loss	Net Supply	
	Present (t)	With project (t)	Present	With project		Present (t)	With project (t)
Rice	16,514	25,570	0.604	0.703	0.65	6,483	11,684
Wheat	12,336	18,316	0.480	0.635	0.75	4,441	8,723
Total	28,850	43,886				10,924	20,407
					Demand[1)]	12,015	16,709
					Balance	-1,090	3,698

1) Population x 182.5kg/year (based on field survey)

(3/4) Vegetable Supply outside the Study Area

Vegetable	Gross Production		Handling Loss		Net Supply	
	Present (t)	With project (t)	Present	With project	Present (t)	With project (t)
Summer + Winter	4,570	46,940	0.15	0.15	3,885	39,899
			Demand in the Study Area[1)]		3,851	5,356
			Surplus in the Study Area		33	34,543
			Demand in the eastern Terai		189,178	273,727
			Supply share		0.02%	12.62%

1) Population x 58.5kg/year (am't of vegtable consumption in Nepal is from FAO data)

(4/4) Potato Suuply outside the Study Area

Vegetable	Gross Production		Handling Loss		Net Supply	
	Present (t)	With project (t)	Present	With project	Present (t)	With project (t)
Summer + Winter	14,947	21,166	0.15	0.15	12,705	17,991
			Demand in the Study Area[1)]		2,311	3,214
			Surplus in the Study Area		10,394	14,777
			Demand in the eastern Terai		113,507	164,236
			Supply share		9.16%	9.00%

1) Population x 35.1kg/year (am't of potato consumption in Nepal is from FAO data)

Source of Production: Study Team (Refer to Appendix 5 Agriculture Development)

References

1) The Ninth Plan (1997-2002), His Majesty's Government National Planning Commission Nepal, July 1998
2) Nepal Agriculture Perspective Plan Main Document, prepared for National Planning Commission, His Majesty's Government of Nepal and Asian Development Bank, by Agricultural Projects Services Center Kathmandu and John Mellor Associates, Inc. June 1995
3) Enhancing Decentralized Governance and Poverty Alleviation Initiatives (A National Guiding Framework), By the Ministry of Local Development, 2001
4) Local Governance Program Annual Report 2000, His Majesty's Government of Nepal and UNDP
5) Country Assistance Strategy 1999-2001, The World Bank
6) Statistical Year Book of Nepal 2001, Central Bureau of Statistics, HMGN
7) District Development Profile of Nepal, Informal Sector Research & Study Center, 2001
8) Household Survey Data Tabulation of Sunsari District, Local Governance Program, HMGN and UNDP, December 1998 (Nepalese)
9) Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Kingdom of Nepal for the Community Groundwater Irrigation Sector Project, Asian Development Bank, January 1998
10) Community Ground Water Irrigation Sector Project (TA 2589-NEP), Final Report (main report and Appendices and Supplementary Reports), for ADB, HMGN and DIO, by Hunting Technical Services Ltd and East Consult (P) Ltd, October 1997
11) Sunsari Morang Irrigation III Detailed Feasibility And Design (Main Reports and Annexes), for HMGN and DOI, by Nippon Koei Co, Ltd in association with MULTID Disciplinary Consultants (P) Ltd. And Nepal Consult (P) Ltd.
12) Final Report on District Transport Master Plan (DTMP) of Sunsari District Main Report, for District Development Committee Sunsari, by Devs Consult Nepal, 2001
13) Sunsari District Annual Report, 2000 (Nepalese)
14) Population Census 2001, June 2002.