

## Third Stakeholders Meeting

## Advance Notification of Third Stakeholders Meeting

००६८

सं. जि.प.सा.का.द.नं. १३/०६३/०६८

SETIMADI Wednesday, May 2, 2007

## माथिल्लो सेती जलाशययुक्त जलविद्युत आयोजनाको

अपग्रेडिङ सम्भाव्यता अध्ययनका विविध पक्षहरू उपर सरोकारवालहरूसँग हुने  
छलफल कार्यक्रममा सहभागी हुने सम्बन्धी

### सूचना

पश्चिमाञ्चल विकास क्षेत्रको तनहुँ जिल्ला स्थित सेती नदीमा पहिचान भएको १२८ मेगावाट क्षमताको माथिल्लो सेती जलाशययुक्त जलविद्युत आयोजनाको अपग्रेडिङ सम्भाव्यता अध्ययन कार्य जापान अन्तर्राष्ट्रिय सहयोग नियोग जाईकाको प्राविधिक सहयोगमा सन् २००५ देखि शुरु गरिएको छ । यस अध्ययनको मुख्य उद्देश्य प्राविधिक, आर्थिक तथा वातावरणीय दृष्टिकोणले उपयुक्त योजना तयार गर्नु रहेको छ ।

यस आयोजनाको अपग्रेडिङ सम्भाव्यता अध्ययनको क्रममा आयोजनाका विविध पक्षहरू, जस्तै आयोजनाबाट प्रभावित क्षेत्र, वातावरणीय प्रभाव-न्युनिकरणका उपायहरू, समय तालिका, पनुर्बास तथा सामाजिक कार्य योजनाबारे सम्बन्धित सरोकारवालहरूसँग राय सुझाव प्राप्त गर्नु रहेको छ । जाईका (JICA) अध्ययन टोलीको सहयोगमा नेपाल विद्युत प्राधिकरणले आयोजनाबाट प्रभावित तल्लो तटिय क्षेत्र व्यास नगरपालिका, काँहु शिवपुर, कोट दरवारको तल्लो भाग, तल्लो जामुने, पोखरीभञ्ज्याङ क्षेत्रका सरोकारवालहरूको लागि मिति २०६४ बैशाख २१ गते शुक्रवार दिनको १:०० बजे काँहु शिवपुर गाविस स्थित श्री शुक्ला निम्न माध्यमिक विद्यालय हाताक्षेत्रमा र जलाशय संरचनाबाट प्रभावित रानीपोखरी, माथिल्लो जामुने, छाङ, भाङकोट, भिमाद र कोटदरवारको माथिल्लो खण्ड क्षेत्रका सरोकारवालहरूको लागि मिति २०६४ बैशाख २२ गते शनिवार दिनको १०:३० बजे रिसिङ्ग रानीपोखरी गा.वि.स. स्थित श्री दीप ज्योति प्राथमिक विद्यालय हाताक्षेत्रमा हुने छलफल कार्यक्रममा सहभागी भई आ-आफ्नो राय सुझाव उपलब्ध गराइदिनु हुन सबै सरोकारवाला तथा अन्य इच्छुक संघ संस्था तथा व्यक्तिहरूलाई अनुरोध गरिन्छ । यस सम्बन्धी लिखित राय सुझाव भए निम्न लिखित ठेगानामा पठाउन सकिने व्यहोरा समेत अनुरोध छ ।

### आयोजना

वातावरण तथा सामाजिक अध्ययन विभाग

नेपाल विद्युत प्राधिकरण

अद्वैतमार्ग, काठमाण्डौ, फोन : ०१-४२२६७३०, ४२४१८४४

जापान अन्तर्राष्ट्रिय सहयोग नियोग

सि/ओ जाईका (JICA) नेपाल कार्यालय

पो.नं. ४५० काठमाण्डौ नेपाल

1-2 Public notice published in the local newspaper "Seti Madi Daily" 2<sup>nd</sup> - 4<sup>th</sup> May 2007(English).

## **NOTICE**

### **PARTICIPATION IN THE STAKEHOLDERS' MEETING FOR DISCUSSION ON VARIOUS ASPECTS OF UPGRADING FEASIBILITY STUDY ON UPPER SETI STORAGE HYDROELECTRIC PROJECT**

Upgrading Feasibility Study of 128 MW capacity Upper Seti Storage Hydroelectric Project in Western development region, Tanahun district is conducted since 2005 with the technical assistance of JICA. The main objective of the study is to prepare a technically, economically and environmentally optimum plan of the project.

The propose of the upgrading feasibility study is to prepare upgrading EIA report covering different aspects of the projects such as affected regions, environmental impacts, mitigation measures, resettlement framework, social action plan frame work and project time line.

Nepal Electricity Authority and the JICA study team requests the stakeholders (individuals and concerned organisations) of the project affected regions of the downstream areas of Byas Municipality, Kahun Shivapur, and lower part of Kotdurbar, lower part of Jamune, and Pokharibhanjyang VDC to participate and give their concerns and suggestion on the project at Shri Shukla Lower Secondary School premises, Kahu Shivapur VDC on 2064-01-21 Friday at 1 o'clock. For the stakeholders of reservoirs affected regions Ranipokhari, upper Jamune, Chang, Majhkot, Bhimad and upper part of Kotdurbar VDCs are requested for participation and give their concerns and suggestion on the project at Shri Deep Jyoti Higher Secondary School premises, Rishing Ranipokhari VDC on 206-01-22 Saturday at 10:30 AM. It is also requested to send written concerns and suggestions to the following addresses.

#### **ORGANIZER**

Department of Environmental and Social Study  
Nepal Electricity Authority  
Audiat Marga, Kathmandu,  
Phone: 01-4226730, 4251845

Japan International Cooperation Agency  
C/O JICA Nepal office  
P.O. No. 450 Kathmandu, Nepal.

**-Seti Madi National Daily  
Wednesday, May 2,3, and 4<sup>th</sup>  
2007**

## List of Invited Institutions/Persons of Third Stakeholder Meeting

**Upper Seti (Damauli) Storage Hydroelectric Project  
3rd Stakeholder Meeting, May 6, 2007/ Baishak 23, 2064.**

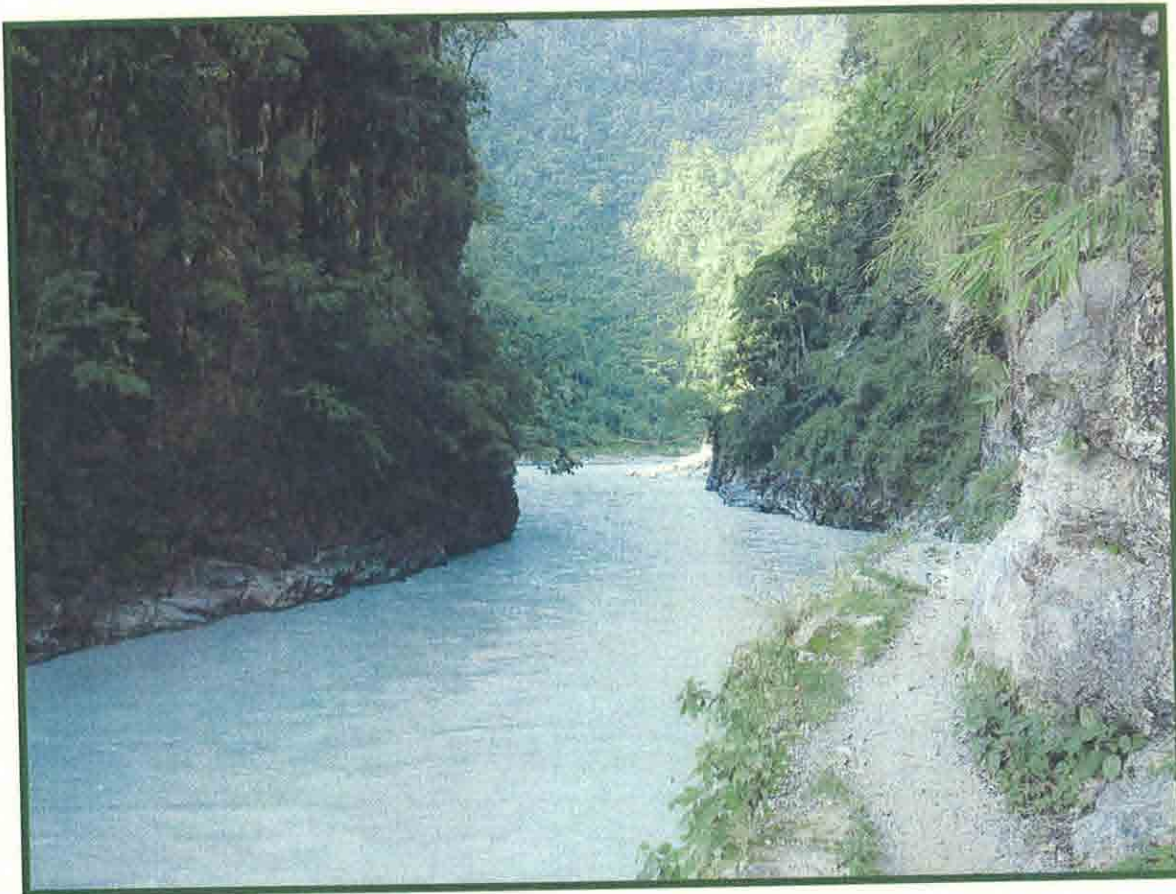
**List of Invited Institutions/Persons**

<b><u>S.No.</u></b>	<b><u>Name</u></b>	<b><u>Address</u></b>
1	District Development Committee	Damauli, Tanahaun
2	District Administrative Office	Damauli, Tanahaun
3	District Police Office	Damauli, Tanahaun
4	District Women Development Office	Damauli, Tanahaun
5	NGO Federation	Damauli, Tanahaun
6	District Agricultural Office	Damauli, Tanahaun
7	District Forest Office	Damauli, Tanahaun
8	District Public Health Office	Damauli, Tanahaun
9	Six Community Forest Offices	Affected VDCs, Letter were Given through District Forest Office
10	ACAP	Pokhara, Nepal
11	Lee Bird, National Level NGO	Pokhara, Nepal
12	Inland Fisheries Research Center, Nepal Agricultural Research Council (NARC)	Begnas, Pokhara, Nepal
13	Nepali Congress, District Executive Committee	Damauli, Tanahaun
14	CPNUML, District Executive Committee	Damauli, Tanahaun
15	Nepali Congress Democratic, District Executive Committee	Damauli, Tanahaun
16	Janamorcha Nepal (One of the Communist Party), District Executive Committee	Damauli, Tanahaun
17	Nepal Communist Party Maoist, District Executive Committee	Damauli, Tanahaun
18	Machha Puchere FM	Pokhara, Nepal
19	Bhanjung National Daily (Newspaper)	Damauli, Tanahaun
20	Reporter, Nepal Samachar Patra	Damauli, Tanahaun
21	Reporter, The Rising Nepal	Damauli, Tanahaun
22	Reporter, Kantipur	Damauli, Tanahaun
23	Reporter, Annapurna Post	Damauli, Tanahaun
24	Journalist Association	Damauli, Tanahaun
25	Reporters Club	Damauli, Tanahaun
26	Consumers Federation	Damauli, Tanahaun
27	Chairman, Civil Society	Damauli, Tanahaun
28	Vyas Municipality	Damauli, Tanahaun
29	Chhan VDC	Chhan
30	Bhimad VDC	Bhimad
31	Rani Pokhari VDC	Rani Pokhari
32	Kot Darbar VDC	Kot Darbar
33	Kahun Shivpur VDC	Kahun Shivpur
34	Secretaries of all the Affected VDCs	Tanahaun
35	Representative of Women Group	Number of Group 13
36	Campus Chief	Bhanu Bhakta Campus, Khairani Tar, Tanahaun
37	Members of the Parliament	3 Persons from Tanahaun District
38	Ministry of Environment, Science and Technology	Singa Durbar, Kathmandu
39	Ministry of Water Resource	Singa Durbar, Kathmandu
40	Department of Electricity Development	Anam Nagar, Kathmandu
41	Mr. Ramchandra Pokharel	Damauli, Tanahu
42	Rafting Association	Pokhara, Nepal
43	Pokhari Banjan VDC	Pokhari Banjan
44	Headmaster, Shree Deep Joyti Primary School	
45	Headmaster, Shree Shukula Lower Secondary School	

## Brochure of Third Stakeholder Meeting

# **The Upper Seti Storage Hydroelectric Project**

## **Upgrading Feasibility Study**



### **Project Summary**

**for**

### **Third Stakeholder Meeting**

**Nepal Electricity Authority (NEA)**

**Japan International Cooperation Agency (JICA)**

NEA  
Logotype

**May 2007**





## Background of the Project

Despite of various poverty reduction strategies implemented by the Government of Nepal from the past, approximately 32% of the population in the country is still living below the poverty line. Nepal has been facing the power deficit from the beginning of 2007 and that problem would be continued in the coming years basically in the dry season. In order to solve the problem of power shortage permanently and to support the poverty reduction efforts in Nepal, the Government of Nepal has proposed the various hydropower projects by using its abundant water resources particularly in its Tenth Plan (2002-2007). As of July 2006, total installed capacity of the country is 614 MW out of which 90% is contributed by hydropower. On the other hand, power demand in the country has been growing approximately at a rate of 8 % per annum in recent ten years period (1995 to 2005).

The run-of-river (RoR) type of hydropower plant dominates Nepal's hydro capacity. However, RoR type of hydropower plants can only marginally regulate river discharge for power generation. Thus, to cope the problem of power shortage in the dry season, Nepal Electricity Authority (NEA) has felt to develop the storage type of hydropower plants that can seasonally regulate river discharge for generation particularly in the dry season.

NEA has conducted studies on storage type of hydropower projects and identified *Upper Seti Storage Hydroelectric Project* as a potential one. The Government of Nepal then requested the Government of Japan to implement an upgrading feasibility study (hereinafter referred to the Study) under the technical assistance of Japan International Cooperation Agency (JICA). The JICA Study team commenced the Study in February 2005.

### 1. Objective of the Study

The Study aims at formulating the optimum plan for development and assessing the technical economical and financial and environmental viabilities of the Project.

### 2. Schedule of the Study

The study commenced in February 2005 and it will be completed by June 2007.

### 3. Range of the Study Area

The Study area of the Upper Seti Hydroelectric Storage Project is located in Tanahu District in Central Region and the transmission line route is from the powerhouse site at Damauli to the transmission lines in Bharatpur. The Study area is assumed as follows:

- ✧ The Watershed: Approx. 1,502 km<sup>2</sup>
- ✧ The Reservoir area and its vicinity: Approx. 120 km<sup>2</sup>

#### 4. Optimum Development Plan

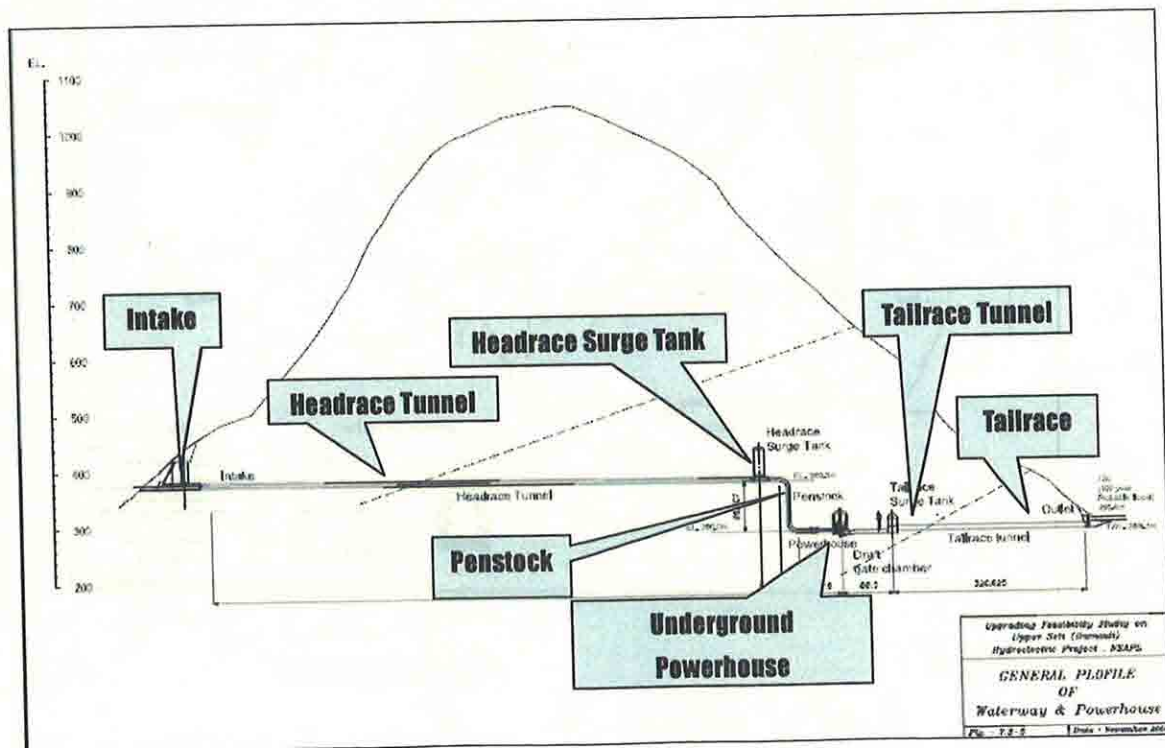
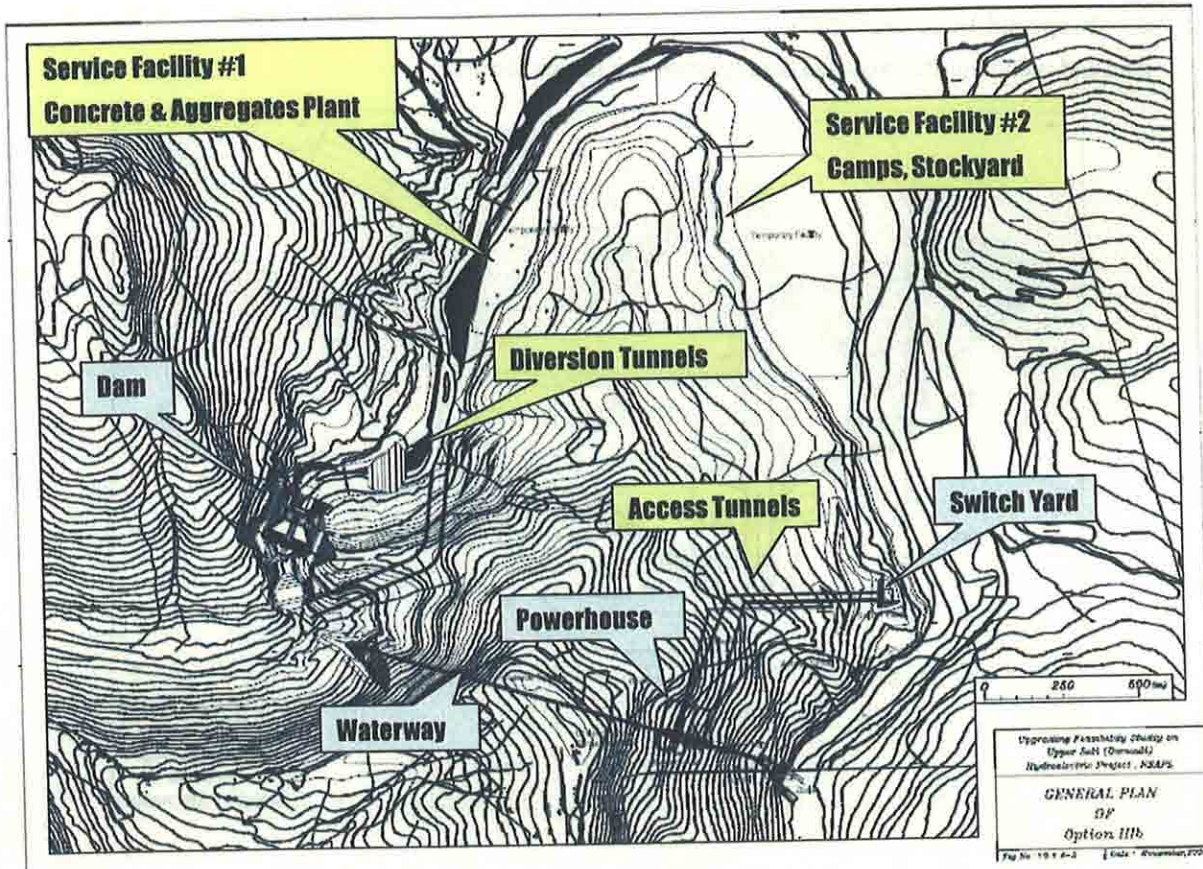
The optimization study was carried out based on data and information supplied by NEA, and the results of the following surveys/studies performed by the JICA Study Team;

- ✧ Supplementary environmental survey results including mitigation measures
- ✧ Geological investigation results
- ✧ Hydrological study results
- ✧ Power demand in the country

Based on the above data, JICA Study Team compared various alternatives for layouts and the Full supply Levels to select the most technically and economically feasible development plan, which will have less impact on natural and socio-economic and cultural environment. As a result of optimization study, optimum full supply level is set at EL.415.0m.

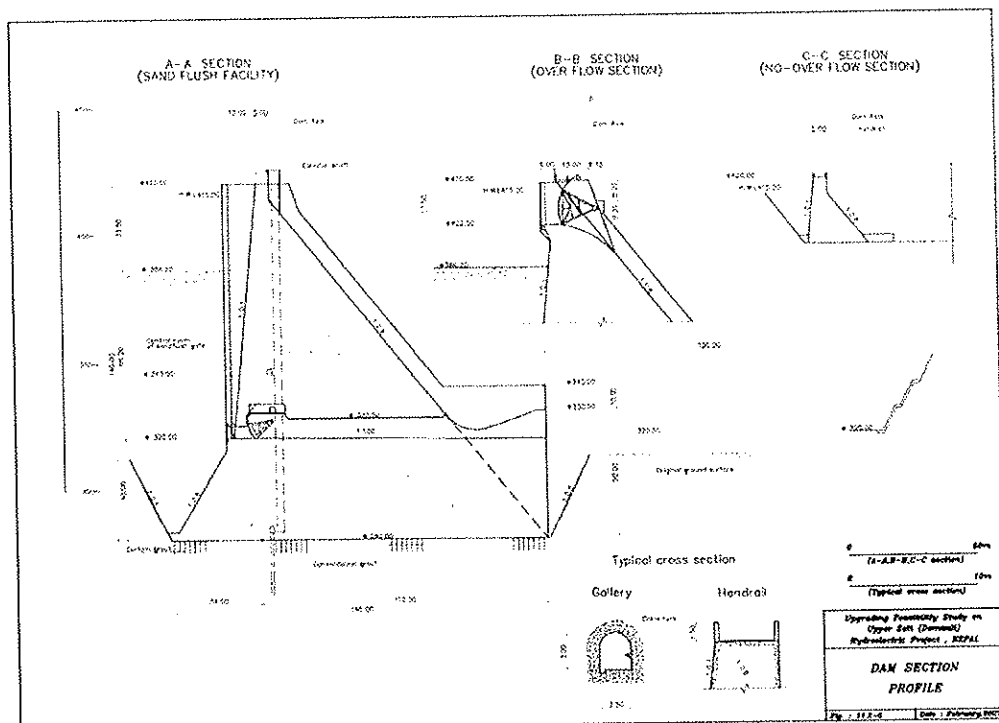
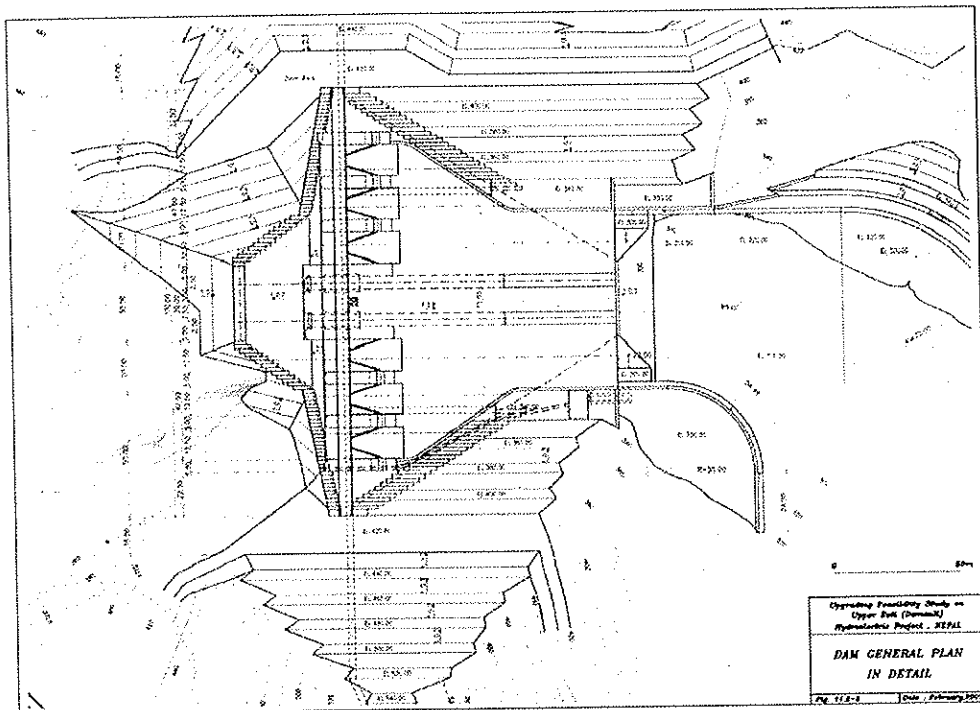
The Upper Seti Project is planned as a reservoir type such as Kulekhani Hydropower Project. It will constantly supply 128 MW of peaking power throughout the year, which is 1.4 times the total capacity of the Kulekhani I and II hydropower stations.

General plan of the project area including project facilities, general profile of the waterway and powerhouse, and main futures of the Project are shown below.



## 5. Proposed Dam Structure

Plan and section of the proposed dam structure are shown below.





## 6. Sediment Flush Operation

Sediment Flushing Operation is executed by Sand Flushing bottom outlets installed in Dam body.

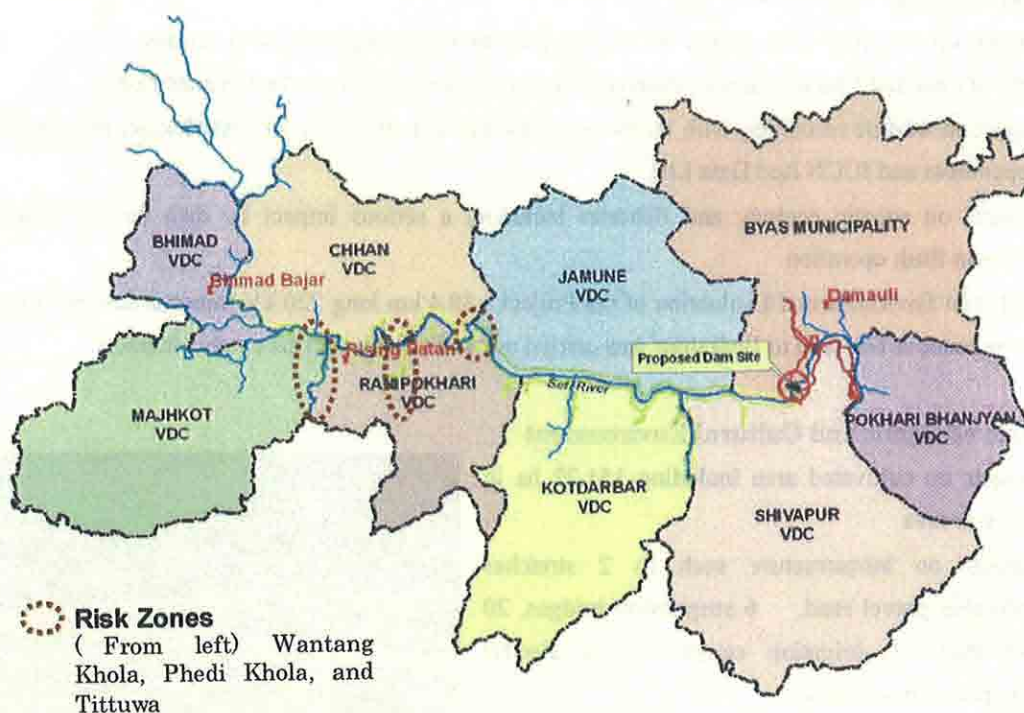
## 7. Project Affected Area

The affected area are categorized into the four area as follows listed into four categories:

1	Reservoir areas (FSL 415 m + 10m )	Bhimad, Chhang, Majkot, Rising Ranipokhari, Kotdurbar, Jamune, Kahun Shivapur VDCs, Vyas Municipality
2	Risk zones	i) Wantang Khola (Majkot-Rising Ranipokhari), ii) Phedi Khola (Rising Ranipokhari), and iii) Tittuwa (Rising Ranipokhari)
3	Project facility structures (access roads, camps, batching yards and spoil disposal yards)	Kahun Shivapur, Vyas Municipality
4	Downstream areas	Kahun Shivapur, Pokhari Bhanjyang, Keshavtar, Dharampani, Baidi, Chhipchhipe, Devghat, Deurali VDCs

The project will directly affect reservoir area and project facility structure sites covering 7VDCs, namely Bhimad, Chhang, Majkot, Rising Ranipokhari, Kotdurbar, Jamune, Kahun Shivapur VDCs and Vyas Municipality.

**Affected VDCs/Municipality**



## 8. Environmental Impact Identified in the Study

The EIA report prepared by NEA was reviewed, and revisions of a Scoping Document of supplemental EIA survey were carried out by the JICA Study Team in early 2006. This document gives recognition to the JICA Environmental and Social Considerations Guidelines. In accordance with the scoping report, a supplemental EIA survey was initiated with a local environmental consultant and completed in November 2006. As a result of these Supplemental EIA investigations, the following impacts were expected due to the implementation of the Project.

### 8-1. Natural Environment

- Watershed planning issues and impacts on the topography and land use due to creation of reservoir, including mitigation actions in respect of erosion and landslides
- Impact on the topography and land use due to construction of permanent and temporary structures on both sides of the Seti River near its confluence with the Madi
- Impacts on the downstream Seti River due to reservoir water regulation and daily fluctuations in the flow of the river
- Impacts on reservoir water quality due to eutrophication requiring mitigating actions
- Loss of total 424.5 ha of National Protected Forest, Community Forest and Private Forest
- Impact on wildlife resources, with 16 species of mammals indicated as protected under present CITES Appendices and IUCN Red Data List
- Impacts on aquatic ecology and fisheries including a serious impact by dam barrier effect and sediment flush operation
- An Initial Environmental Evaluation of the Project's 38.4 km long 220 kV transmission line from the powerhouse at Damauli to Bharatpur was carried out which indicated acceptable impacts.



Erosion-prone area of Bhimad Bazaar

### 8-2. Socio-economic and Cultural Environment

- Impacts on cultivated area including 151.22 ha in reservoir area
- Impacts on infrastructure such as 2 stretches motorable gravel road, 6 suspension bridges, 20 foot trails, 1 irrigation canals and 2 electric distribution line routes
- Impacts on community structures including 1 temple, 5 resting places and 1 ghat (cremation site)
- Impacts on annual agricultural production loss of 660.77 Metric ton



Cultivated land in the reservoir area



- Impacts on approximately 838 household landowners in terms of land acquisition (reservoir areas and project facility sites)
- Impacts on structures to be acquired including houses, cow sheds, toilets of 110 households (reservoir areas and project facility sites)
- Altogether 86 households require relocation as their residential structures are affected (from Chhang, Rising Ranipokhari, Jamune, Kahun Shivapur VDC, and Vyas municipality), out of which one-third households are without legal land holdings

## 9. Stakeholders Meetings

In accordance with the JICA's Guidelines on Environmental and Social Consideration, stakeholders meetings are being arranged through the offices of NEA with the assistance of JICA Study Team. The objectives of this stakeholder meeting are as follows:

- (i) to explain and disclose information regarding the Study including environmental and social aspects and report the current progress on various project activities
- (ii) to obtain concerns, opinions, suggestions and feedbacks particularly from the affected local people of the Project Area



A glimpse of Stakeholder Meeting

The initial Stakeholder Meetings were held in June 2006 which included intensive discussions with the local affected people in Damauli and with the concerned institutional representatives in Kathmandu. The 2<sup>nd</sup> stakeholder meetings were held in Damauli and Kathmandu in December 1 and 6, 2006 respectively. 402 people and 574 people actively participated in the 1<sup>st</sup> and the 2<sup>nd</sup> Stakeholder Meetings held in Damauli respectively.

During these meetings, the participants made their comments and addressed their concerns on the following issues:

- The proposed project is requisite and essential in terms of development in the country as well as in Tanahu District.
- The proposed project needs to provide the maximum benefits to the local society. Particularly, the priority for provision of employment opportunities should be given to the directly affected families and the affected VDC people.
- Due consideration should be given to the compensation and resettlement issues.
- The alternative mode of transportation for inundated roads and affected suspension bridges should be considered.
- The mitigation measures to protect Bhimad Bazaar and other necessary areas from erosion should be seriously considered.

- The affected community forest and grazing lands need to be delineated and compensated.
- Various development needs such as electricity facility, drinking water and schools should be considered and undertaken.

Since there were requests from the local people to hold the stakeholder meetings at the site, the localized stakeholder meeting will be held in Rising Ranipokhari for upper reservoir areas and in Beltar for the project facility sites in the first and second week of May 2007 in Damauli and Kathmandu.

## 10. Proposed Mitigation Measures

The JICA Study Team analyzed the various natural and social impacts caused by the Project. Based on the analysis, the following mitigation measures have been proposed in the Study. Further detail study on the mitigation measures will be conducted in the detailed design stage.

### 10-1. Natural Environment

- To protect the erosion area in the vicinity of Bhimad Bazaar, protection embankment works with concrete blocks cover will be carried out.
- Risk zone of erosion prone is defined as the area above the Full Supply Level up to 10m high and the areas in the vicinity of the Wantang Khola, the Phedi Khola and Tittuwa. Land acquisition program and slope stabilization measures will be provided in the above risk zone.
- The area of sediment source in the watershed is identified in the Study. To reduce the inflow of the sediment in the reservoir, the civil engineering works such as the construction of check dam together with bio-engineering works are proposed in the framework of the watershed management plan
- To prevent algae bloom caused by the reservoir eutrophication, fraction fence will be provided in the reservoir.
- To mitigate the impact on the aquatic ecology in the downstream of the dam, environmental flow of  $2.4\text{m}^3/\text{s}$  will be released from the dam throughout the year.
- To mitigate the impact on forestry and vegetation in the project area, plantation will be carried out in the spoil banks, slope cutting of the access road and the risk zone in the reservoir area. Compensation for the production loss of the Community Forest is proposed in the Study.
- To mitigate the impact on the fishery aspects, the extension of the fish hatchery at Kaligandaki A Project is considered, which will be improved so that the sufficient fish fingerlings can be transported and released in the Seti River
- To save endangered animals, rescue operation using boats during the filling of the reservoir and relocating them to compatible ecosystem in nearby forests are considered.

### 10-2. Socio-economic and Cultural Environment

The framework for proposed compensation procedures and framework for resettlement plan and social action plan were developed based on the review of the prevailing legal registration, similar type of Hydroelectric Development Projects in Nepal and the results of discussions in the previous stakeholder meetings.



The table below shows the framework of the basic compensation to be provided to each Affected Families/Affected Persons, communities and government agencies. Further details will be finalized during the detailed design study.

### Entitle Matrix for compensation and rehabilitation

Types of APs	Type of Compensation/Rehabilitation									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Permanent loss of Land at replacement cost	Loss of crops and natural resources	Loss of house and other structures at replacement cost	Loss of community facilities and resources	Loss of government property	Grant for disturbance compensation to displaced households	Grant of transportation allowance to displaced households/ community structure	Grant of land plot	Loss of business	House rental allowance
Landowner	✓	✓								
Land tenant	✓	✓								
Structure owner			✓							
Business owner									✓	
Community		✓		✓			✓			
Government Agency		✓			✓					
Relocates										
House and Lot owner	✓	✓	✓			✓	✓	✓	✓	✓
House owner tenant	✓	✓	✓			✓	✓	✓	✓	✓
Informal Settler			✓			✓	✓	✓	✓	✓
House occupant						✓	✓	✓	✓	✓

*Note: Compensation to permanent land with tenant shall be halved between the owner and tenant as per Land Reform Act provisions. The loss of crops and natural resources on such land however shall be paid to the tenant only.*

It is proposed that the eight social programs should be conducted to mitigate the socio-economic and cultural impacts on the affected communities and the affected persons, rehabilitate the quality of life of these communities and persons. The eight social programs are summarized below:

1. Restoration of Project Impacted Infrastructure Program
2. Affected Community's Initiative Support Program
3. Skill Enhancement and Employment Program
4. Agricultural Development Program
5. Community/Public Health and Education Enhancement Program
6. Women Development Program
7. Community-based Watershed Management Program
8. Rural Electrification Program

These programs are required to be further updated during the consultation with the local people in the Detailed Design Study.

#### 11. Time-line of the Project

Neither the acquisition for land and assets nor the construction work for dam starts immediately after the Upgrading Feasibility Study. There are several steps to be taken for the implementation of the Project indicated below.



## Frequently Asked Questions (FAQ)

This FAQ lists questions that are often addressed by the local people living in the affected VDCs/Municipality during the 1<sup>st</sup> and 2<sup>nd</sup> Stakeholder Meetings.

**Q1: When, how, and how much we can get compensation for our land and other assets?**

**A1:** The compensation cost will be decided by Compensation Fixation Committee (CFC) as per Nepal's legal provision. The detailed procedures for compensation will be provided only during the detailed design study phase after the finalization of the affected families and assets lost. (See also page 13).

**Q2: Are the people without formal titles or rights to be assisted?**

**A2:** Yes, if they are Affected Persons. The Upgrading Feasibility Study proposed that the land without legal holdings should be compensated as per the prevailing practices. However, the detailed procedures for compensation will be provided only during the design study.

**Q3: Are the representative from the affected people be able to become a member of Compensation Fixation Committee?**

**A3:** The Upgrading Feasibility Study proposed that the representative of the affected VDCs will be included in the Compensation Fixation Committee (CFC).

**Q4: Will the local people be able to get opportunities for training and employment?**

**A4:** Wherever possible the local people will be employed on the basis of skills and qualification during the construction period. Skill Enhancement and Employment Program is proposed by the Upgrading Feasibility Study as one of social action programs to be undertaken for local interested and eligible people from affected families and VDCs/municipality. However, the detailed information will be available to the local people only after the detailed design study phase.

**Q5: Can the inundated roads, suspension bridges and other infrastructures be rerouted? Will some roads be upgraded or newly constructed?**

**A5:** Yes, alternative transport facilities including foot trails, stretches of roads, suspension bridges will be rerouted and constructed under the Restoration of Project Impacted Infrastructure Program during the construction phase of the Project. With regard to the upgrading of affected stretches of road, further

examination will be undertaken from technical and financial aspects in coordination with the District Development Committee and the concerned VDCs during the detailed design study. In the project facility sites, the access road will be constructed and upgraded. Except for that, the construction of new roads outside the affected areas is out of the scope of the Project.

**Q6: Are there any mitigation measures to protect the possible hazardous areas including Bhimad Bazaar from erosion?**

**A6:** Yes, special protection measures against erosion will be considered for the cliff of Bhimad Bazaar (See page 10). Wherever needed, the mitigation measures such as Community-based Watershed Management and plantation along the risk zones of reservoir areas will be carried out as part of social action programs to protect the potential risk areas from erosion or landslides.

**Q7: Which Community Forests will be affected? What are mitigation measures to these affected community forest?**

**A7:** There are 8 Community Forests (CF) which will be affected, namely Banchare Danda CF, Sangu Pokhara CF, Beltar-Bachanganda CF, Ghumaune Danda CF, Shidhabatasan CF, Bansghari CF, Bajar Thumki CF, and Salbas CF. The Upgrading Feasibility Study proposed that the forestry compensation should be provided based on the prevailing forest policy, i.e., replacement of trees at 25:1. Furthermore, the fuel wood volumes and grazing lands for the Community Forest will be compensated.

**Q8: What are the mitigation measures for fisheries?**

**A8:** As the mitigation measures, fish fingerlings of the economic important fish species will be released in the upstream and downstream of the dam. To secure the sufficient number of the fish fingerlings, the extension of the fish hatchery at the Kaligandaki A Project is proposed.

**Q9: Can the Project provide rural electrification facility in Tanahu District?**

**A9:** Regarding electrification in Tanahu District the Royalty earned from the project can be utilized for rural electrification purposes by DDC. Only project affected areas can be electrified by the Project during the construction.

**Q10: Can the Project meet the various development needs? If possible, what type of development needs can be met?**

**A10:** The upper Seti Storage Hydroelectric Project will conduct some specific programmes, in the affected VDCs which are recommended by the Upgrading Feasibility Study Report. These programmes includes: drinking Water Supply Programme, Agriculture Development Program, Women Development Program and Community/Public Health and Education Enhancement Program and Awareness Development Programme.

These programmes will be conducted as per the priority identified by the Upgrading Feasibility Study report at some specific location focusing on specific group of the society who suffers directly or indirectly by the project. Communities' participation of at least 25% in cash or kind of the estimated cost will be required for Drinking Water Supply Program. The other recommended programmes will be launched by the project at appropriate model as recommended by EIA.



## General Profile

### Main Features of the Upper Seti Storage Hydroelectric Project

<b>1) Reservoir</b>	
Full Supply Level	415.0 m
Gross Storage Volume	295.1 million m <sup>3</sup>
Effective Storage Volume	167.0 million m <sup>3</sup>
Reservoir Area	7.26 km <sup>2</sup>
Reservoir Length	27.0 km
Drawdown Depth	27.8 m
Design Flood (PMF)	7,377 m <sup>3</sup> /s
<b>2) Dam</b>	
Type	Concrete Gravity
Elevation of Dam Crest	EL.420 m
Height x Length of Crest	140 m (H) x 170 m (L)
Spillway Gate Type	Radial Gate
Size of Spillway Gate	12.5 m x 12.5 m x 6 nos.
<b>3) Powerhouse</b>	
Type	Underground
Width x Height x Length	22 m (W) x 42 m (H) x 90 m (L)
Turbine Type	Vertical Francis
Number of Turbine	Two (2) nos.
<b>4) Generation</b>	
Gross Head	115.8 m
Effective Head	113.0 m
Maximum Discharge	127.4 m <sup>3</sup> /s
Installed Capacity	64MW x 2
Annual Energy Production	475.2 GWh
Secondary	209.8 GWh
Primary	265.4 GWh

Participants Registered in the Third Stakeholder Meeting  
in Beltar, Rising Patan, Damauli



Participants Registered in the Third Stakeholders Meeting at Beltar, May 4th, 2007

SN	Name	Caste	Address	Office / organization	Profession /Grade	Phone	Age	Sex
	Vyas Municipality							
1	Shankar Parajuli	Brahmin	Vyas, 10		Student	560928	25	Male
2	Balram Shrestha	Newar	Vyas, 10	Gorakhkali	Job		38	Male
3	Mani raj Shrestha	Newar	Vyas-10		Agriculture		65	Male
4	Babu Lal Shrestha	Newar	VyasPatan-6		Agriculture		52	Male
5	Ganesh Bdr. Chhetri	Chhetri	Vyas-2		Teacher	562528	46	Male
6	Hom Raj Thapa	Magar	Vyas-7		Agriculture		53	Male
7	Mankaji Shrestha	Newar	Vyas-7		Agriculture		48	Male
8	Ranjit Giri	Magar	Vyas-7		Agriculture		66	Male
9	Jang Bdr. Majhi	Majhi	Vyas Benipatan-7		Agriculture		40	Male
10	Pradeep Kafle	Brahmin	Vyas-10	Nepal Forum Association	Journalist		33	Male
11	Samundra Poudel	Brahmin	Vyas-10	Rajdhani Ra.Dai.Machapuchre F.M	Journalist		19	Male
12	Basu Dev Chhetri	Chhetri	Vyas-10		Agriculture		65	Male
13	Ek Bdr. Alej	Magar	Vyas-10		Labour		41	Male
14	Rabindra Shah	Thakuri	Vyas-7		Agriculture		40	Male
15	Jay Bdr. Darai	Darai	Vyas-10		Labour		60	Male
16	Bhugol Khanal	Brahmin	Vyas-7		Student		26	Male
17	Sher Bdr. Ale	Magar	Vyas-10		Contractor		42	Male
18	Santa Kumar Shrestha	Newar	Vyas-7		Agriculture		58	Male
19	khem Lal Giri	Giri	Vyas-7		Driver		39	Male
20	Lil Bdr. Thapa	Magar	Vyas-7		Agriculture		35	Male
21	Bir Singh Ale	Magar	Vyas7		Agriculture		67	Male
22	Purna Bdr. Shrestha	Newar	Vyas-7		Business		32	Male
23	Khim Bdr. Thapa	Magar	Vyas-2		Agriculture	065-5605455	57	Male
24	Dhan Kumar Shrestha	Newar	Vyas-10		Business	560927	23	Male
25	Jash Bdr. Gurung	Gurung	Vyas-1		Agriculture		43	Male
26	Bidhya Bdr. Gurung	Gurung	Vyas-1		Agriculture		46	Male
27	Tej Bdr. Gurung	Gurung	Vyas-1		Agriculture	9846055648	45	Male
28	Jun Raj Shrestha	Newar	Vyas-2		Social Service	9846055655	53	Male
29	Babu Ram Bagale	Brahmin	Vyas-10		Business		45	Male
30	Shankar Bdr. Pandey	Chhetri	Vyas-10		Business		40	Male
31	Arjun Khadka	Chhetri	Vyas-11		Business		25	Male
32	Hira Singh Ale	Magar	Vyas-10		Business		45	Male
33	Nar Bdr. Ranabhat	Chhetri	Vyas-7		Agriculture	65690693	41	Male
34	Mangali Thapa	Magar	Vyas-2		Housewife		31	Female
35	Thir Bdr. Adhikari	Chhetri	Vyas-1		Business		35	Male
36	Madhu Giri	Giri	Vyas-7		Agriculture		30	Male
37	Sunil Lama	Lama	Vyas		Agriculture	570507	22	Male
38	Omkar Tsena	Brahmin	Vyas-7		Job	9846055615	50	Male
39	Ramji Pariyar	Pariyar	Vyas-10			561059	41	Male
40	Santosh Bagale	Brahmin	Vyas-10		Driving	065-560236	27	Male
41	Kismat Kumar Shrestha	Newar	Vyas-10			055-560388	23	Male
42	Man Bdr. Thapa	Magar	Vyas-10		Agriculture	9846055239	49	Male
43	Parasu Ram Giri	Giri	Vyas-7		Business	560875	45	Male
44	Indra Bdr B.K	B.K	Vyas-10		Business		30	Male
45	Tek Bdr. Gurung	Gurung	Vyas-10				65	Male
46	Madan Raj Sharma	Brahmin	Vyas-Benipatan		Agriculture		52	Male
47	Amrit Thapa	Magar	Vyas-10		Business		18	Male
48	Ko Bdr. Ranbhat	Chhetri	Vyas-7		Agriculture	690971	65	Male
49	Ambika Sunar	Sunar	Vyas-10		Business		40	Female
50	Roshan Thapa	Magar	Vyas		Business		25	Male
51	Binod Kumar Shrestha	Newar	Vyas Patan-7		Agriculture		34	Male
52	Harithar Ghimire	Brahmin	Vyas-1		Business		62	Male
53	Shambhu Lal Shrestha	Newar	Vyas-10		Business		62	Male
54	Prithavi Narayan Shrestha	Newar	Vyas-10		Business		37	Male
55	Tara Bdr. Thapamagar	Magar	Vyas-10		Agriculture		58	Male
56	Sashil B.K	B.K	Vyas-10		Business		36	Female
57	Sumima B.K	B.K	Vyas-10		Agriculture		42	Female
58	Bidur Rana	Magar	Vyas-10		Service		36	Male
59	Jute Kumal	Kumal	Vyas-10		Agriculture		57	Male
60	Lil Kumar Shrestha	Newar	Vyas-2		Agriculture		35	Male
61	Gyan Prasad Shrestha	Newar	Vyas-10		Business		62	Male
62	Ajay Thapa	Magar	Vyas-10		Student		18	Male
63	Amrit Bdr. Adhikari	Chhetri	Vyas-10		Driving		52	Male
64	Babu Lal shrestha	Newar	Vyas-7		Agriculture & Business		34	Male
65	Krishna Prasad Soti	B.K	Vyas-10		Teacher		40	Male
66	Bishnu Maya Shrestha	Newar	Vyas-10		Business		75	Female
67	Sarada Neupane	Brahmin	Vyas-10		Business		45	Female
68	Dil Bdr. Sunar	B.K	Vyas-10		Agriculture		35	Female
69	Kaghi Sara Ale	Magar	Vyas-1				34	Female
70	Bal Krishna Shrestha	Newar	Vyas-1	Press	Operator		20	Male
71	Lekha Nath Shrestha	Newar	Vyas-7Benipatan		Agriculture		53	Male
72	Tirtha Lal Shrestha	Newar	Vyas Bhimad omalegar		Business		33	Male
73	Chakra Singh Thapa	Magar	Vyas-7		Agriculture		43	Male
74	Surya Poudel	Brahmin	Vyas-10		Teaching		34	Male
75	Maina B.K	B.K	Vyas		Daily Wage		50	Female
76	Asta Lal Shrestha	Brahmin	Vyas-7		Agriculture		62	Male
77	Buddha Singh Thapa Magar	Shrestha	Vyas-10		Business		51	Male
78	Hari Maya Ale	Magar	Vyas-1		Daily Wage		28	Female
79	Lal Bdr. Thapa	Magar	Vyas-2		Service		35	Male
80	Suku Maya Bote	Dalit	Vyas Patan		Agriculture		22	Female
81	Dil Maya Bote	Bote	Vyas		Agriculture		25	Female
82	Rita Bote	Bote	Vyas		Agriculture		20	Female
83	Phul Maya Bote	Bote	Vyas		Agriculture		50	Female
84	Sumitra Bote	Bote	Vyas		Agriculture		52	Female
85	Hira Maya Bote	Bote	Vyas		Agriculture		50	Female

86 Bom Bdr. Bote	Bote	Vyas		Fishing/Agriculture	35 Male
87 Madhu Maya Malla	Thakuri	Vyas		Husabands Pension	73 Female
88 Yam Kumari Chand	Thakuri	Vyas		Agriculture/Housewife	35 Female
89 Putali Thapa	Magar	Vyas		Business	46 Female
90 Sita Giri		Vyas		Agriculture	34 Female
91 Gita Giri		Vyas		Agriculture	27 Female
92 Man Devi Malla	Newar	Vyas-2		Teaching	38 Female
93 Sunita Poudel	Brahmin	Vyas-2	Shri Sukla Ni. Ma. Vi	Teaching	38 Female
94 Sabita Gautam Poudel	Brahmin	Vyas-10	Shri Sukla Ni. Ma. Vi	Teaching	29 Female
95 Nirmala Bhandari	Chhetri	Vyas-10	Shri Sukla Ni. Ma. Vi	Teaching	26 Female
96 Sunita Budhathoki	Chhetri	Vyas-2	Shri Sukla Ni. Ma. Vi	Teaching	28 Female
97 Rina Thapa	Magar	Vyas-1	Shri Sukla Ni. Ma. Vi	Teaching	23 Female
98 Pumima Ale	Magar	Vyas-2	Shri Sukla Ni. Ma. Vi	Teaching	35 Female
99 Gil Bdr. Thapa	Magar	Vyas-7		Mistri	56 Male
## Suk Bdr. Nepali		Vyas-11		Labour]	44 Male
## Jai Ram Giri		Vyas-7		Service	40 Male
## Mini Maya Ale	Magar	Vyas-7			28 Female
## Rum Maya Rana	Magar	Vyas Hukse		Agriculture	31 Female
## Sarawati Lamichane	Brahmin	Vyas-7		Business	40 Female
## Laxmi Giri	Chhetri	Vyas-7		Household work	30 Female
## Shanti Thapa	Magar	Vyas-7		Household work	31 Female
## Dil Bdr. Poudel	Brahmin	Vyas-10		Business	46 Male
## Indra Singh Gurung	Gurung	Vyas-10		Business	52 Male
## Ghan Shyam Shrestha	Newar	Vyas-10		Agriculture	50 Male
## Rudra Bdr. Thapa	Magar	Vyas-10		Business	37 Male
## Manisara Thapa	Magar	Vyas-7		Carpenter	50 Female
## Laxmi Thapa	Magar	Vyas-7			41 Female
## Badri Kala Magar	Magar	Vyas-7			44 Female
## Buddhibiwan Pulami	Magar	Vyas		Agriculture	50 Male
## Duta Bdr. Thapa	Magar	Vyas		Agriculture	32 Male
## Tika Ram Shrestha	Newar	Vyas Bisghare		Agriculture	Male

Kahunshivapur VDC					
1 Buddhi Bahadur Saru Magar	Magar	Kahunshivapur-1		Agriculture	44 Male
2 Nar Maya Thapa	Magar	Kahunshivapur-1		Agriculture	49 Female
3 Nar Bahadur Thapa	Magar	Kahunshivapur-1		Agriculture	65 Male
4 Pahal Singh Ale	Magar	Kahunshivapur -1		Agriculture	44 Male
5 Basanti Thapa	Magar	Kahunshivapur -1		Agriculture	32 Female
6 Bal Bahadur Ranabhat	Chhetri	Kahunshivapur -1		Relyried	50 Male
7 Sam Maya Thapa	Magar	Kahunshivapur -1			52 Male
8 Dhan Bdr. B.K	B.K	Kahunshivapur -1		Agriculture	20 Male
9 Moti B. K	B.K	Kahunshivapur -1		Agriculture	38 Female
10 Kamala B.K	B.K	Kahunshivapur -1		Agriculture	38 Female
11 Som Maya B.K	B.K	Kahunshivapur -1		Agriculture	35 Female
12 Dil Maya Thapa	Magar	Kahunshivapur -1		Agriculture	55 Female
13 Chani Maya Magar	Magar	Kahunshivapur -1		Agriculture	36 Female
14 Sir Maya Thapa	Magar	Kahunshivapur -1		Agriculture	35 Female
15 Menuka Thapa	Magar	Kahunshivapur -1		Agriculture	28 Female
16 Til Bdr. Thapa	Magar	Kahunshivapur-1		Agriculture	53 Male
17 Lil Bdr. Ale	Magar	Kahunshivapur -1		Agriculture	60 Male
18 Ram Bdr. Thapa	Magar	Kahunshivapur -1		Agriculture	50 Male
19 Durga Bdr. Ale	Magar	Kahunshivapur -1		Agriculture	52 Male
20 Hari Raj Hamal	Thakuri	Kahunshivapur -9		Agriculture	40 Male
21 Hasta Bdr. Wache	Chhetri	Kahunshivapur -1		Agriculture	56 Male
22 Til Bdr. B.K	Brahmin	Kahunshivapur -1		Agriculture	50 Male
23 Min Bdr. Thapa	B.K	Kahunshivapur -1		Agriculture	51 Male
24 Chabi Lal B.K	Magar	Kahunshivapur -1		Agriculture	49 Male
25 Puma Bdr. B.K	B.K	Kahunshivapur -1		Agriculture	45 Male
26 Kamal Bdr. Ale	Magar	Kahunshivapur -1		Labour	51 Male
27 Mohan Singh Garja	Magar	Kahunshivapur -1		Agriculture	29 Male
28 Cha Narayan Shrestha	Newar	Kahunshivapur -1		Agriculture	57 Male
29 Tek Bdr. Thapa	Magar	Kahunshivapur -1		Agriculture	25 Male
30 Rajendra Thapa	Magar	Kahunshivapur -1		Agriculture	22 Male
31 Ganga Bdr. Sharu	Magar	Kahunshivapur -1		Labour	32 Male
32 Shri Jang Thapa	Magar	Kahunshivapur -1		Agriculture	68 Male
33 Shri Bdr. Thapa	Magar	Kahunshivapur -5		Agriculture	57 Male
34 Shiva Lal Thapa	Magar	Kahunshivapur -1		Agriculture	54 Male
35 Sagar Kumar Nepali	Sarki	Kahunshivapur -1		Agriculture	31 Male
36 Jit Bdr. Rana	Magar	Kahunshivapur -1		Agriculture	54 Male
37 Chiranjibi Ale	Magar	Kahunshivapur -1		Agriculture	67 Male
38 Dhol Bdr. Thapa	Magar	Kahunshivapur -1		Agriculture	60 Male
39 Bhuwan Singh B.K	B.K	Kahunshivapur -1		Agriculture	70 Male
40 Hum Bdr. Thapa	Magar	Kahunshivapur -1		Agriculture	60 Male
41 Bhim Bdr. Thapa	Magar	Kahunshivapur -1		Agriculture	45 Male
42 Mandari Rana	Magar	Kahunshivapur -1		Agriculture	75 Female
43 Daumaya Rana	Magar	Kahunshivapur -1		Agriculture	26 Female
44 Shire Thapa Magar	Magar	Kahunshivapur -1		Agriculture	43 Male
45 Dhan Maya Thapa	Magar	Kahunshivapur -1		Agriculture	34 Female
46 Dil Maya Thapa	Magar	Kahunshivapur -1		Agriculture	31 Female
47 Manju Thapa	Magar	Kahunshivapur -1		Agriculture	25 Female
48 Yam Bdr. Thapa	Magar	Kahunshivapur -1		Agriculture	52 Male
49 Yam Bdr. Saru	Magar	Kahunshivapur -1		Agriculture	48 Male
50 Khem Bdr. Rana	Magar	Kahunshivapur -1		Agriculture	44 Male
51 Karma Singh Thapa	Magar	Kahunshivapur -1		Agriculture	57 Male
52 Dhan Bdr. Garja	Magar	Kahunshivapur -1		Agriculture	57 Male
53 Rudra Bdr. Thapa	Magar	Kahunshivapur -1		Agriculture	60 Male
54 Aash Bdr. B.K	B.K	Kahunshivapur -1		Agriculture	53 Male
55 Rim Bdr Dulami	Magar	Kahunshivapur -1		Agriculture	38 Male
56 Som Bdr. B.K	B.K	Kahunshivapur -1		Sikarmi	18 Male

57	Krishna Bdr. Nepali	Nepali	Kahunshivapur -1	Agriculture	26 Female
58	Bhim Ale	Ale	Kahunshivapur -1	Student	25 Female
59	Harkha Thapa	Thapa	Kahunshivapur -1	Student	29 Female
60	Bel Bdr. Thapa	Thapa	Kahunshivapur -1	Agriculture	22 Male
61	Dul Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	23 Male
62	Krishna Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	28 Male
63	Bhim Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	32 Male
64	Jhul Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	59 Male
65	Prem Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	60 Male
66	Hem Bdr. Saru	Magar	Kahunshivapur -1	Student	17 Male
67	Kamal Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	29 Male
68	Yam Rana	Magar	Kahunshivapur -8	Agriculture	62 Female
69	Donde Pulami	Magar	Kahunshivapur -1	Driver	32 Male
70	Rekha Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	45 Male
71	Makar Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	22 Male
72	Um Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	30 Male
73	Prem Bdr. Ale	Magar	Kahunshivapur -1	Agriculture	26 Male
74	Gyan Maya Ranabhat	Chhetri	Kahunshivapur -1	Agriculture	34 Female
75	Madhy Maya Rana	Magar	Kahunshivapur -1	Agriculture	40 Female
76	Lila Maya Thapa	Magar	Kahunshivapur -1	Agriculture	33 Female
77	Bhangali Nepali	Nepali	Kahunshivapur -1	Agriculture	25 Female
78	TeK Bdr. Ale	Magar	Kahunshivapur -1	Teacher	40 Male
79	Tul Bdr. Ale	Magar	Kahunshivapur -1		32 Male
80	Tek Bdr. Thapa	Magar	Kahunshivapur -1	Teacher	39 Male
81	Hem Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	31 Male
82	Dunge Bdr. Garja Magar	Magar	Kahunshivapur -1	Agriculture	46 Male
83	Kush Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	22 Male
84	Bir Bahadur Baral	Brahmin	Kahunshivapur -1	Agriculture	55 Male
85	Buddha Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	48 Male
86	Mohan Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	41 Male
87	Nar Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	30 Male
88	Ram Bdr. Sunar	B.K	Kahunshivapur -1	Agriculture	48 Male
89	Bishnu Maya Sunar	B.K	Kahunshivapur -1	Agriculture	23 Male
90	Chandra Thapa Magar	Magar	Kahunshivapur -1	Agriculture	44 Male
91	Nar Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	60 Male
92	Neje Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	47 Male
93	Ajay B.K	B.K	Kahunshivapur -1	Mistri	28 Male
94	Khel Nath B.K	B.K	Kahunshivapur -1	Agriculture	34 Male
95	Bal Bdr. Nepali	Nepali	Kahunshivapur -1	Labour	57 Male
96	Ram Bdr. B.K	B.K	Kahunshivapur -1	Agriculture	34 Male
97	Dil Bdr. Nepali	Nepali	Kahunshivapur -1	Labour	51 Male
98	Govinda B.K	B.K	Kahunshivapur -1	Agriculture	17 Male
99	Raju B.K	B.K	Kahunshivapur -1	Mistri	24 Male
##	Santa Bdr. Nepali	Nepali	Kahunshivapur -1	Mistri	24 Male
##	Raju Thapamagar	Magar	Kahunshivapur -1	Agriculture	23 Male
##	Kamala Thapa	Magar	Kahunshivapur -1	Agriculture	37 Male
##	Kalimaya B.K	B.K	Kahunshivapur -1	Agriculture	52 Male
##	Bairam B.K	B.K	Kahunshivapur -1	Labour	23 Male
##	B.K	B.K	Kahunshivapur -1	Labour	67 Male
##	Padam B.K	B.K	Kahunshivapur -1	Labour	24 Male
##	Pem Kumari Thapa	Magar	Kahunshivapur -1	Agriculture	98460654031
##	Aaeli Ale	Magar	Kahunshivapur -1	Agriculture	25 Female
##	Rup Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	39 Male
##	Puja Malla	Malla	Kahunshivapur Bellar-1	Agriculture	35 Male
##	Keshar Thapa	Magar	Kahunshivapur -1	Teacher	21 Female
##	Om Bdr. Thapa	Magar	Kahunshivapur -5	Teacher	9846065002
##	Nol Man Thapa	Magar	Kahunshivapur i	Retried	49 Male
##	Pumima Thapa	Magar	Kahunshivapur i-1	Agriculture	56 Male
##	Uma Maya Thapa	Magar	Kahunshivapur i-1	Agriculture	30 Female
##	Khadak Bdr. Garja	Magar	Kahunshivapur-Hukse	Business	31 Female
##	Gangi Sar thapa	Magar	Kahunshivapur	Agriculture	25 Male
##	Buddhi Sara Ale	Magar	Kahunshivapur	Agriculture	48 Female
##	Tul Bdr. Thapa	Magar	Kahunshivapur-Jhaputar-1	Teacher	46 Female
##	Indra Bdr. Ale	Magar	Kahunshivapur-Jhaputar-1	Business	56 Male
##	Tek Bdr. Garja	Magar	Kahunshivapur-Jhaputar-1	Agriculture	60 Male
##	Lok Bdr. Thapa	Magar	Kahunshivapur-Jhaputar-1	Agriculture	38 Male
##	Karma Singh Thapa	Magar	Kahunshivapur-Jhap.	Agriculture	39 Male
##	Dev Bdr. Thapa	Magar	Kahunshivapur-Jhap.	Teacher	38 Male
##	Chandra Bdr. B.K	B.K	Kahunshivapur-Jhaputar-1	Teacher	38 Male
##	Krishna Bdr. Ale	Magar	Kahunshivapur Jhaputar-1	Business	35 Male
##	Man Bdr. Thapa	Magar	Kahunshivapur Jhaputar-1	Agriculture	38 Male
##	Chet Bdr. Garja	Magar	Kahunshivapur -1	Business	40 Male
##	Buddhi Bdr. Rana	Magar	Kahunshivapur -1	Agriculture	60 Male
##	Til Maya Pulami	Magar	Kahunshivapur -1	Agriculture	53 Male
##	Resham Magar	Magar	Kahunshivapur Bellar	Agriculture	36 Female
##	Dil Bdr. Thapa	Magar	Kahunshivapur Bellar	Labour	37 Male
##	Bishnu Maya Baral	Brahmin	Kahunshivapur -6	Agriculture	52 Male
##	Hira Singh Thapa	Magar	Kahunshivapur -1	Business	25 Female
##	Bom Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	58 Male
##	Hom Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	17 Male
##	Harka Bdr. Saru	Magar	Kahunshivapur -2	Agriculture	18 Male
##	Kumari Thapa	Magar	Kahunshivapur -1	Agriculture	25 Male
##	Om Bdr. Magar	Magar	Kahunshivapur -1	Agriculture	38 Female
##	Deu Bdr. B.K]	B.K	Kahunshivapur -2	Agriculture	37 Male
##	Dhak Bdr. B.K	B.K	Kahunshivapur Bellar-1	Agriculture	40 Male
##	Mithu B.K	B.K	Kahunshivapur Bellar-1	Labour]	40 Male
##	Nar Bdr. Saru	Magar	Kahunshivapur -1	Agriculture	36 Female
##	Ram Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	30 Male
##	Yam Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	28 Male
				Agriculture	31 Male

## Rekha Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	20 Male
## Nari Maya Thapa	Magar	Kahunshivapur -1	Agriculture	37 Female
## Dinesh Kumar Thapa	Magar	Kahunshivapur -1	Business	18 Male
## Amar Bdr. B.K	Magar	Kahunshivapur -1	Agriculture	47 Male
## Som Bdr. B.K	Dalit	Kahunshivapur -1	Agriculture	32 Male
## Buddhi sara B.K	B.K	Kahunshivapur -1	Agriculture	31 Female
## Kopila Thapa	Magar	Kahunshivapur -5	Agriculture	25 Female
## Juna Saru	Magar	Kahunshivapur -1	Agriculture	35 Female
## Bishnu Maya Garja	Magar	Kahunshivapur -1	Agriculture	30 Female
## Madhu Maya Thapa	Magar	Kahunshivapur -1	Agriculture	32 Female
## Basanti Thapa	Magar	Kahunshivapur -1	Agriculture	33 Female
## Khageshwor Nepal	Nepali	Kahunshivapur -1	Agriculture	69 Female
## Horn Kumari Saru	Magar	Kahunshivapur -1	Agriculture	39 Female
## Birn Maya Saru	Magar	Kahunshivapur -1	Agriculture	39 Female
## Ganga Maya Garja	Magar	Kahunshivapur -1	Agriculture	35 Female
## Ramesh Poudel	Magar	Kahunshivapur -7	Agriculture	Male
## Kesh Bdr. Pariyar	Darji	Kahunshivapur -1	Operator	35 Male
## Dal Bdr. Nepali	Nepali	Kahunshivapur -1	Service	35 Male
## Dev Bdr. Gauli Chhetri	Chhetri	Kahunshivapur -1	Sikarmi	54 Male
## Raj Kumar	B.K	Kahunshivapur -1	Sikarmi	30 Male
## Hasna Bdr. Garja	Magar	Kahunshivapur	Agriculture	40 Male
## Madhu Singh Thapa	Magar	Kahunshivapur -1	Teacher	38 Male
## Dil Maya Lamichanne		Kahunshivapur	Business	35 Female
## Bishnu Kumari Thapa	Magar	Kahunshivapur	Business	33 Female
## Madhu Maya Thapa	Magar	Kahunshivapur	Business	42 Female
## Bishnu Maya Nepali		Kahunshivapur	Business	46 Female
## Lila Maya Nepali		Kahunshivapur		50 Female
## Jun Devi Rana Bhat	Chhetri	Kahunshivapur	Service	30 Female
## Santu Maya Ale	Magar	Kahunshivapur	Agriculture	30 Female
## Mangali Maya Ale	Magar	Kahunshivapur	Agriculture	35 Female
## Nur Maya Ale	Magar	Kahunshivapur	Agriculture	40 Female
## Man Maya Ale	Magar	Kahunshivapur	Agriculture	27 Female
## Manu Maya Wache	Magar	Kahunshivapur -1	Agriculture	28 Female
## Reku Maya Thapa	Magar	Kahunshivapur -1	Agriculture	30 Female
## Birura Ale	Magar	Kahunshivapur -1	Agriculture	63 Female
## Lili Maya Thapa	Magar	Kahunshivapur -1	Agriculture	49 Female
## Krishna Bdr. B.K	B.K	Kahunshivapur -1	Mistri	32 Male
## Rudra Bdr. Thapa	Magar	Kahunshivapur -5	Business	25 Male
## Maya Shakya	Newar	Kahunshivapur	Agriculture	59 Female
## Pancha Maya B.K		Kahunshivapur -1	Agriculture	25 Female
## Bir Maya B.K		Kahunshivapur -1	Household work	60 Female
## Uma Garja	Magar	Kahunshivapur -1	Agriculture	24 Female
## Tiak Maya Garja	Magar	Kahunshivapur -1	Agriculture	59 Female
## Bhak Maya Rana	Magar	Kahunshivapur -1	Agriculture	60 Female
## Dil Maya Garja	Magar	Kahunshivapur -1	Agriculture	19 Female
## Ganga Garja	Magar	Kahunshivapur -1	Agriculture	20 Female
## Mal Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	21 Male
## Shivaraj Khadka	B.K	Kahunshivapur -1	Agriculture	20 Male
## Pabitra Thapa	Magar	Kahunshivapur	Agriculture	60 Female
## Gita Rana	Magar	Kahunshivapur -1	Agriculture	30 Female
## Nani Maya Rana	Magar	Kahunshivapur -1	Agriculture	36 Female
## Parwati Rana	Magar	Kahunshivapur	Agriculture	26 Female
## Krishna Bdr. Thapa	Magar	Kahunshivapur Lokma	Agriculture	64 Male
## Emaya Pulami	Magar	Kahunshivapur Lokma	Agriculture	58 Female
## Manisara Thapa	Magar	Kahunshivapur Lokma	Agriculture	49 Female
## Padam Prasad Ranabhat	Ranabhat	Kahunshivapur	Service	32 Male
## Bal Bdr. Sunar	B.K	Kahunshivapur -1	Agriculture	64 Male
## Mahadev Thapa	Magar	Kahunshivapur -1	Labour	24 Male
## Bishnu Maya Thapa	Magar	Kahunshivapur -1	Agriculture	42 Female
## Jagar Bdr Thapa	Magar	Kahunshivapur -1	Agriculture	44 Male
## Shri Bdr. Thapa	Magar	Kahunshivapur -1	Agriculture	48 Male
## Som Bdr. Saru	Magar	Kahunshivapur -1	Agriculture	32 Male
## Kesh Bdr. Saru	Magar	Kahunshivapur -1	Agriculture	23 Male
## Madhu Maya B.K	B.K	Kahunshivapur Dharapani-2	Agriculture	50 Female
## Lok Bdr. Pulami	Magar	Kahunshivapur Malanga-1	Agriculture	24 Male

Jamune VDC							
1 Laxman Adhikari	Brahmin	Jamune-7		Agriculture			45 Male
2 Ajay Kumar Shrestha	Newar	Jamune-7		Business			49 Male
3 Krishna Bdr. Raut	Brahmin	Jamune-7					65 Male
4 Upendra Ghimire	Brahmin	Jamune-7		Agriculture			57 Male
5 Dharma Raj Ghimire	M	Jamune-7		Agriculture			39 Male
6 Shailendra Ghimire	Brahmin	Jamune-7		Engineer	9804116540		21 Male
7 Bal Krishna Ghimire	Brahmin	Jamune-7		Agriculture			43 Male
8 Pushpa Khanal	Brahmin	Jamune-1	V.D.C				28 Male
9 Mani Bhadra Wagle	Brahmin	Jamune-1	V.D.C Technician	Assistant			36 Male

Pokhari Bhanjyang VDC							
1 Prem Kumar Shahi	Thakuri	Pokhari Bhanjyang-1		Agriculture			46 Male
2 Gam Bdr. Rana	Magar	Pokhari Bhanjyang-1		Agriculture			46 Male
3 Hem raj Chand	Thakuri	Pokhari Bhanjyang-1		Agriculture			63 Male
4 Rajendra Bdr. Sedhai	Chhetri	Pokhari Bhanjyang-1		Agriculture			28 Male
5 Chudamani Thakuri	Thakuri	Pokhari Bhanjyang-1					49 Male
6 Yam Bdr. Ale	Magar	Pokhari Bhanjyang-1		Agriculture			52 Male
7 Rim Bdr. Nepali	Nepali	Pokhari Bhanjyang-1		Foreign country			21 Male
8 Bishnu Sedhai	Brahmin	Pokhari Bhanjyang-1		Agriculture			34 Male
9 Amar Bdr. Ale	Magar	Pokhari Bhanjyang-1		Agriculture			68 Male
10 Harkha Bdr. Thapa	Magar	Pokhari Bhanjyang-1		Agriculture			42 Male
11 Nar Bdr. Ramdam	Ramdam	Pokhari Bhanjyang-1		Labour			54 Male

12 Hari Maya Thapa	Magar	Pokhari Bhanjang-1	Agriculture	33 Female
13 Chet Bdr. Rana	Magar	Pokhari Bhanjang-1	Agriculture	50 Male
14 Kusum Rana	Magar	Pokhari Bhanjang-1	Agriculture	35 Female
15 Taka Maya Pariyar	Darjui	Pokhari Bhanjang-1	Agriculture	40 Female
16 Chailmaya Rana	Magar	Pokhari Bhanjang-1	Agriculture	42 Male
17 Hira Singh Rana	Magar	Pokhari Bhanjang-1	Agriculture	35 Female
18 Bishnu Raj Tiwari	Brahmin	Pokhari Bhanjang-1	Agriculture	32 Male
19 Laxmi Kanta Mishra	Brahmin	Pokharibhanjang-1	Teacher	42 Male
20 Dhurva Raj Tiwari	Brahmin	Pokhari Bhanjang-1	Agriculture	35 Male
21 Bijuli Prasad Tiwari	Brahmin	Pokhari Bhanjang-1	Agriculture	52 Male
22 Bal Bdr. Ale	Magar	Pokhari Bhanjang-1	Agriculture	42 Male
23 Indra Bdr. Thapa	Magar	Pokhari Bhanjang-1	Agriculture	51 Male
24 Lekha Nath Bastola	Brahmin	Pokhari Bhanjang-1	Agriculture	32 Male
25 Nava Raj Bagali	Brahmin	Pokharibhanjang-1	Service	30 Male
26 Nabin Parajuli	Brahmin	Pokharibhanjang-1	Teacher	20 Male
27 Jau Maya Pariyar		Pokharibhanjang-1	Agriculture	40 Female
28 Bishnu Thapa		Pokharibhanjang-1	Student	16 Female
29 Suni Maya Pariyar		Pokharibhanjang-1	Agriculture	31 Female
30 Bishwo Nath Sakila	Brahmin	Pokharibhanjang-1	Lawyer	44 Male
31 Suk Bdr. Rana	Magar	Pokharibhanjang-1	Teacher	44 Male
32 Hani Maya Malla	Thakuri	Pokharibhanjang		33 Female
33 Sir Maya Thapa	Magar	Pokharibhanjang-1		33 Female
34 Amdhu Thapa	Magar	Pokharibhanjang-1		38 Female
35 Om Lal Thapa	Magar	Pokharibhanjang-1	Agriculture	27 Female
36 Dhan Bdr. B.K	B.K	Pokharibhanjang-1	Mistri	45 Male
37 Nagendra Bdr. Sen Thakuri	Thakuri	Pokharibhanjang Bel Bas-1	Agriculture	60 Male

<b>Kotdurbar VDC</b>						
1 Indra Bdr. Ale	Magar	Kotdurbar-6	Teaching		39 Male	
2 Til Bdr. Thapa	Magar	Kotdurbar-6	Student		28 Male	
3 Harkha Bdr. Ale	Magar	Kotdurbar-2	Agriculture		52 Male	
4 Yam Bdr. Thapa	Magar	Kotdurbar-7	Student		25 Male	

<b>Rising Ranipokhari VDC</b>						
1 Bhim Kumar Shrestha	Newar	Ranipokhari-3	Shiva Ma. Vi	Teacher		37 Male

<b>Others</b>						
1 Bishnu Mashke	Magar	Tanahusur-8	Journalist		22 Male	
2 Bel Bdr. Pariyar	Darji	Keshubtar-7	Labour		46 Male	
3 Jun Narayan Shrestha	Giri		Agriculture		65 Male	
4 Soman Ale	Magar	Hawashe	Agriculture		62 Male	
5 Krishna Ale	Magar	Dhapakera	Agriculture		32 Male	
6 Chen Narayan Chaudhari	Tharu	Pokhara-8	Job		41 Male	
7 Dhan Bdr. Thapa	Magar	Gairakholi-2	Agriculture		62 Male	
8 Suk Bdr. Ale	Magar	Gairakholi-2	Agriculture		51 Male	
9 Damber Singh Thapa	Magar	Ora Bhanjang	Teacher		30 Male	
10 Kesar Bdr. Thapa	Magar	Sokmadi-1	Agriculture		53 Male	
11 Chal Bdr. Thapa	Magar	Dadkhuri	Agriculture		31 Male	
12 Holi Maya Thapa	Magar	Jaliuwater	Agriculture		28 Female	
13 Santa Bir Ale	Magar	Bodhadi-1	Agriculture		73 Male	
14 Ben Bdr. Thapa	Chhetri		Agriculture		42 Male	
16 Bishnu Maya Sunar	Sunar		Agriculture		35 Female	
17 Babu Ram Karki	Chhetri	Dulegoda-4	Secretary	V.D.C	53 Male	

<b>NEA, JICA, Study Team, NESS</b>						
1 Narayan Bdr. Khadka	Chhetri	NEA	NEA, PDD	Service	5580374	46 Male
2 Anu Rajbhandari		NEA	NEA, ESSD	Service	4378074	45 Female
3 Jagadishwor M. Singh	Newar	NEA	NEA	Service	4212297	45 Male
4 Bisma Shrestha	Newar	NEA	NEA	Service	4210299	46 Male
5 Raju Sharma	Brahmin	NEA	NEA	Service	4460506	44 Male
6 Bhim Raj Kaderiya	Brahmin	NEA	NEA	Service	4225477	37 Male
7 Shiv Chandra Jha	Brahmin	NEA	NEA	Engineer	4279217	55 Male
8 Dr. Toran Sharma	Brahmin	NESS, Kathmandu	NESS	Consultant	4244989	52 Male
9 Mahadev Joisy	Brahmin	NESS, Kathmandu	NESS	Service	4244989	40 Male
10 Surendra Sharma	Brahmin	NESS, Kathmandu	NESS	Service	4244989	30 Male
11 Amrit Paudel	Brahmin	NESS, Kathmandu	NESS	Service	4244989	27 Male
12 Pradeep Kumar Maharjan	Newar	NESS, Kathmandu	NESS	Service	4244989	30 Male
13 Dr. Katsuhiko Masaki			JICA Environmental Advisory Council member			Male
14 Mr. Makoto Yoshino			Second Secretary, Embassy of Japan			Male
15 Dr. Kanji Usui			JICA Thailand Office			Male
16 Ms. Sayoko Tokuda			JICA Nepal Office			Female
17 Mr. Sorab Rana			JICA Nepal Office			Male
18 Mr. Yoshimasa Ishii			JICA Study Team			Male
19 Mr. Hironobu Nishimiya			JICA Study Team			Male
20 Mr. Tomoo Aoki			JICA Study Team			Male
21 Dr. Hiromi Yasu			JICA Study Team			Male
22 Mr. Tadashi Amano			JICA Study Team			Male
23 Ms. Toshiko Shimada			JICA Study Team			Female
24 Dr. Tej Kumar Shrestha			JICA Study Tema (consultant)	Professor		Male
25 Mr. Satish Chandra Devkota			NEA			Male
26 Mr. Rajan Rishi Kadel			NEA			Male

Total Number of participants excluding NEA, JICA, NESS, and Study Team	394(Male 272, Female 122)
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**Participants Registered in the Third Stakeholders Meeting at Rising Patan, May 5th, 2007**

SN	Name	Caste	Address	Office / organization	Profession /Grade	Phone	Age	Sex
	<b>Rising Ranipokhari VDC</b>							
1	Ram Chandra Ghaire	Brahmin	Rising Patan-9		Service	9846054266	32	Male
2	Janardan Ghaire	Brahmin	Rising Patan-9		Agriculture		72	Male
3	Keshav Kamal Karki	Chhetri	Rising Patan-9		Agriculture		74	Male
4	Krishna Aryal	Brahmin	Rising Patan-9		Agriculture		33	Male
5	Shiva Raj Ghaire	Brahmin	Rising Patan-9		Student		22	Male
6	Mahadev Ghaire	Brahmin	Rising Patan		Agriculture		28	Male
7	Tulshi Shrestha	Newar	Rising Patan		Agriculture		35	Male
8	Sita Devi Ghaire	Brahmin	Rising		Agriculture		40	Female
9	Lok Bdr. Nepali	Sarki	Rising Patan-9		Agriculture		52	Male
10	Sita B.K.	Kami	Rising Patan		Agriculture		32	Female
11	Batti Maya B.K	Kami	Rising Patan		Agriculture		40	Female
12	Punya Bati Paudel	Brahmin	Rising Patan		Agriculture		69	Female
13	Tirtha Raj Ghaire	Brahmin	Rising Patan		Teacher		42	Male
14	Kashi Ram Ghaire	Brahmin	Ranipokhari		Agriculture		38	Male
15	Kul Bdr. Rana	Magar	Rising Patan		Agriculture		59	Male
16	Narayan Pd. Regmi	Brahmin	Rising		Teacher		48	Male
17	Rishi Ram Ale	Magar	Rising Patan		Business		38	Male
18	Mina Thapa	Magar	Ranipokhari-9		Agriculture		20	Female
19	Lekh Bdr. Thapa	Magar	Rising Ranipokhari-7		Agriculture		65	Male
20	Lal Kumar Thapa	Magar	Rising Ranipokhari-7		Agriculture		58	Male
21	Man Maya Gurung	Gurung	Rising Ranipokhari-7		Agriculture		60	Female
22	Rekshishwori Ghaire	Brahmin	Rising Ranipokhari-7		Agriculture		59	Female
23	Ratna Maya Shrestha	Newar	Rising Patan		Agriculture		60	Female
24	Lila Maya Thapa	Magar	Rising Ranipokhari		Agriculture		43	Female
25	Chandra Maya Thapa	Magar	Rising Ranipokhari		Agriculture		60	Female
26	Gaun Maya Magar	Magar	Rising Ranipokhari		Agriculture		65	Female
27	Dil Bdr. Thapa	Magar	Rising Ranipokhari		Agriculture		52	Male
28	Buddhi Man Shrestha	Newar	Rising Ranipokhari-9		Agriculture		66	Male
29	Jagat Man Shrestha	Newar	Rising Ranipokhari-9		Business		72	Male
30	Murali Mohan Ghaire	Brahmin	Rising Ranipokhari-9		Agriculture		28	Male
31	Bhim Bdr. Nepali	Sarki	Rising Ranipokhari-9		Agriculture		50	Male
32	Fadbir Thapa	Magar	Rising Ranipokhari-9		Agriculture		69	Male
33	Jamuna Paudel	Brahmin	Rising Ranipokhari-9		Student		14	Female
34	Yetmaya Pariyar	Darji	Rising Ranipokhari-9		Agriculture		45	Female
35	Krishna Pd. Ghaire	Brahmin	Rising Patan		Agriculture		29	Male
36	Surendra Ghaire	Brahmin	Rising Patan		Agriculture		21	Male
37	Som Pd	Brahmin	ranipokhari		Agriculture		26	Male
38	Dhaiki Maya Devkota	Brahmin	Rising Ranipokhari-9		Agriculture		60	Female
39	Khinu Maya Marsayni	Brahmin	Rising Ranipokhari-9		Agriculture		45	Female
40	Shiva Maya Ghaire	Brahmin	Rising Ranipokhari-9		Agriculture		45	Female
41	Bmaya Shrestha	Newar	Rising Ranipokhari-9		Agriculture		48	Female
42	Yam Kumari Rana	Magar	Rising Ranipokhari-9		Agriculture		27	Female
43	Laxmi Ghaire	Brahmin	Rising Patan-9		Agriculture		50	Female
44	Tej Bdr. Thapa	Magar	Rising Patan-7		Agriculture		37	Male
45	Bishnu Maya Ghaire	Brahmin	Rising Patan-9		Agriculture		65	Female
46	Shir Maya Paudel	Brahmin	Rising Patan-9		Agriculture		50	Female
47	Chinu Maya Ghaire	Brahmin	Rising Patan		Agriculture		40	Female
48	Tol Bdr. Nepali	Sarki	Rising Ranipokhari-9		Service		25	Male
49	Bir Bdr. Thapa	Magar	Rising Ranipokhari-7		Agriculture		64	Male
50	Lekh Nath Ghaire	Brahmin	Ranipokhari		Agriculture		17	Male
51	Jamuna Ghaire	Brahmin	Rising Ranipokhari-9		Agriculture		51	Female
52	Krishna Mani Ghaire	Brahmin	Rising Ranipokhari-9		Agriculture		53	Male
53	Raj Kumar Shrestha	Newar	Ranipokhari		Agriculture		48	Male
54	Laxman Shrestha	Newar	Rising Patan		Agriculture		49	Male
55	Bishnu Hari Ghaire	Brahmin	Rising Patan		Agriculture		56	Male
56	Hari Pd. Ghaire	Brahmin	Rising Ranipokhari-9		Agriculture		72	Male
57	Madhav Pariyar	Darji	Rising Ranipokhari Wantang Khola		Agriculture		18	Male
58	Shree Ram Ghaire	Brahmin	Rising Ranipokhari-9		Agriculture		39	Male
59	Lati Maya Thapa	Magar	Rising Ranipokhari-7		Agriculture		75	Female
60	Sarita Ghaire	Brahmin	Rising Ranipokhari-9		Agriculture		20	Female
61	Sirjana Ghaire	Brahmin	Rising Ranipokhari-9		Agriculture		16	Female
62	Rupa Rana	Magar	Rising Ranipokhari-9		Agriculture		40	Female
63	Sita Maya Gurung	Gurung	Rising Ranipokhari-9		Agriculture		20	Female
64	Minu Maya Pariyar	Darji	Rising Ranipokhari-9		Agriculture		22	Female
65	Lati Maya Rana	Magar	Rising Ranipokhari-9		Agriculture		70	Female
66	Yam Maya Gurung	Gurung	Rising Ranipokhari-9		Agriculture		44	Female
67	Chha Maya Gurung	Gurung	Rising Ranipokhari-9		Agriculture		30	Female
68	Gan Chari Gurung	Gurung	Rising Ranipokhari-9		Agriculture		53	Female
69	Bhagirathi Ghaire	Brahmin	Rising Ranipokhari-9		Agriculture		40	Female
70	Parbati Ghaire	Brahmin	Rising Ranipokhari-9		Agriculture		60	Female
71	Dam Kumari Shrestha	Newar	Rising Ranipokhari-9		Agriculture		60	Female

72	Bishnu Shrestha	Newar	Rising Patan-9	Agriculture	24	Female
73	Huma Rana	Magar	Rising Patan-9	Agriculture	19	Female
74	Naresh Raj Ghaire	Brahmin	Rising Patan-9	Agriculture	32	Male
75	Krishna Pd. Ghaire	Brahmin	Rising Patan-9	Agriculture	50	Male
76	Tulsi Maya Thapa	Magar	Rising Patan-9	Agriculture	40	Female
77	Durbada Shrestha	Newar	Rising Patan-9	Agriculture	75	Female
78	Tilu Rana	Magar	Rising Patan-9	Agriculture	16	Female
79	Suman Shrestha	Newar	Rising Patan-9	Agriculture	19	Female
80	Sarala Shrestha	Newar	Rising Patan-9	Agriculture	40	Female
81	Mina Kumari Shrestha	Newar	Rising Patan-9	Agriculture	40	Female
82	Ganu Maya Ghaire	Brahmin	Rising Patan-9	Agriculture	80	Female
83	Warika Thapa	Magar	Rising Patan-9	Student	16	Female
84	Bhim Kumari Thapa	Magar	Rising Patan-9	Agriculture	40	Female
85	Santosh Ghaire	Brahmin	Rising Patan-9	Student	17	Male
86	Kopila Thapa	Magar	Rising Patan-9	Agriculture	33	Female
87	Raju Kumar Sharstha	Newar	Rising Patan-8	Agriculture	38	Male
88	Bai Kumari Shrestha	Newar	Rising Patan-9	Agriculture	55	Female
89	Sumitra Shrestha	Newar	Rising Patan-9	Agriculture	50	Female
90	Kul Bdr. Nepali	Sarki	Rising Ranipokhari-9	Agriculture	54	Male
91	Jhul Bdr. B.K.	Kami	Rising Ranipokhari-9	Labour/Agriculture	44	Male
92	Samsar Bdr. Karki	Chhetri	Rising Ranipokhari-9	Agriculture	64	Male
93	Arjun Ghaire	Brahmin	Rising Ranipokhari-9	Agriculture	40	Male
94	Deepak Shrestha	Newar	Rising Ranipokhari-9	Student	28	Male
95	Mangali B.K.	Kami	Rising Ranipokhari-9	Agriculture	60	Female
96	Nar Maya Lankan	Magar	Rising Ranipokhari-9	Agriculture	40	Female
97	Bir Bdr. B.K.	Kami	Rising Ranipokhari-9	Pensioner	47	Male
98	Nar Bdr. Gurung	Gurung	Rising Ranipokhari-9	Agriculture	69	Male
99	Rekh Bdr. Thapa	Magar	Rising Ranipokhari-9	Agriculture	53	Male
100	Jhakke Bir Thapa	Magar	Rising Ranipokhari-9	Agriculture	82	Male
101	Hari Kumar Shrestha	Newar	Rising Ranipokhari-9	Student	17	Male
102	Chun Maya Rana	Magar	Rising Ranipokhari-9	Agriculture	36	Female
103	Shanti Shrestha	Newar	Rising Ranipokhari-9	Agriculture	26	Female
104	Run Prasad Shrestha	Newar	Rising Ranipokhari-9	Agriculture	49	Male
105	Ganesh Kumar Shrestha	Newar	Rising Ranipokhari-9	Agriculture	21	Male
106	Krishna Pd. Ghaire	Brahmin	Rising Ranipokhari-9	Agriculture	30	Male
107	Keshav Ghaire	Brahmin	Rising Ranipokhari-9	Agriculture	66	Male
108	Sojit Thapa	Magar	Rising Ranipokhari-9	Student	18	Male
109	Basu Dev Sharma	Brahmin	Rising Ranipokhari-9	Agriculture	57	Male
110	Prem Bdr. Kaji	Chhetri	Rising Ranipokhari-9	Agriculture	56	Male
111	Sastar B.K.	Kami	Rising Ranipokhari-9	Agriculture	22	Male
112	Santa Kumar Shrestha	Newar	Rising Patan	Business	30	Male
113	Mukti Nath Ghaire	Brahmin	Rising Patan-9	Agriculture	44	Male
114	Babu Lal Shrestha	Newar	Rising Patan-9	Agriculture	33	Male
115	Khadka Man Gurung	Gurung	Rising Patan-9	Agriculture	52	Male
116	Ram Pd. Paudel	Brahmin	Rising Patan-9	Agriculture	43	Male
117	Krishna Shyam Ghaire	Brahmin	Rising Patan-9	Agriculture	33	Male
118	Chitra Bdr. Rana	Magar	Rising Patan-9	Agriculture	47	Male
119	Rup Narayan Shrestha	Newar	Rising Patan-9	Agriculture	80	Male
120	Dependra Shrestha	Newar	Rising Patan-9	Student	16	Male
121	Bhakta Bdr Shrestha	Newar	Rising Patan-9	Business/Agriculture	54	Male
122	Bhakti Pd. Ghaire	Brahmin	Rising Patan-9	Agriculture	61	Male
123	Surya Lal Sunar	Sunar	Rising Patan	Agriculture	Male	
124	Babu Ram Ghaire	Brahmin	Rising Patan-9	Agriculture	53	Male
125	Bishnu Pd. Ghaire	Brahmin	Rising Patan-9	Agriculture	46	Male
126	Bojh Raj Ghaire	Brahmin	Rising Patan-9	Agriculture	62	Male
127	Jun Narayan Shrestha	Newar	Rising Patan-9	Agriculture	66	Male
128	Ratna Bdr. Gurung	Gurung	Rising Patan-9	Agriculture	56	Male
129	Krishna Shyam Ghaire	Brahmin	Rising Patan-9	Agriculture	43	Male
130	Ramji Ghaire	Brahmin	Rising Patan-9	Agriculture	35	Male
131	Arjun Pd. Ghaire	Brahmin	Rising Patan-9	Teacher	42	Male
132	Naba Raj Ghaire	Brahmin	Rising Ranipokhari-9	Agriculture	35	Male
133	Bodh Raj Ghaire	Brahmin	Rising Ranipokhari-9	Agriculture	63	Male
134	Topali Maya Ghaire	Brahmin	Rising Patan-9	Agriculture	54	Female
135	Khima Devi Ghaire	Brahmin	Rising Patan-9	Agriculture	40	Male
136	Juna Nepali	Sarki	Rising Ranipokhari-9	Agriculture	40	Female
137	Yam Bdr. B.K.	Kami	Rising Ranipokhari-9	Agriculture	49	Male
138	Tek Bdr. Thapa	Magar	Rising Ranipokhari-7	Agriculture	49	Male
139	Narmata Panyar	Darji	Rising Ranipokhari-9	Agriculture	50	Female
140	Sanu Shital Shrestha	Newar	Ranipokhari-9	Agriculture	28	Male
141	Badri Nath Ghaire	Brahmin	Ranipokhari-9	Agriculture	39	Male
142	Narayan Pd. Ghaire	Brahmin	Ranipokhari-9	Agriculture	57	Male
143	Hari Pd. Paudel	Brahmin	Ranipokhari-9	Agriculture	47	Male
144	Parshu Ram Ghaire	Brahmin	Ranipokhari-9	Teacher	36	Male
145	Lal Bdr. Shrestha	Newar	Ranipokhari-9	Business	45	Male
146	Shanta Bdr. Shrestha	Newar	Ranipokhari-9	Agriculture	62	Male

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147	Badri Nath Ghaire	Brahmin	Ranipokhari-9		Agriculture	59	Male
148	Dol Raj Mishra	Brahmin	Ranipokhari-9	CTEVT	Electrician	30	Male
149	Debiraj Adhikari	Brahmin	Rising Ranipokhari-9		Agriculture	28	Male
150	Krishna Saru	Magar	Rising Patan-9		Agriculture	60	Female
151	Chun Kumari Shrestha	Newar	Rising Patan-9		Agriculture	40	Female
152	Tuk Maya Gurung	Gurung	Rising Patan-9		Agriculture	40	Female
153	Khiri Maya Gurung	Gurung	Rising Patan-9		Agriculture	37	Female
154	Devisara Gurung	Gurung	Rising Patan-9		Agriculture	84	Female
155	Seti Shrestha	Newar	Rising Patan-9		Agriculture	60	Female
156	Parwati Thapa	Magar	Rising Patan-9		Agriculture	35	Female
157	Tar Bdr. Thapa	Magar	Rising Patan-8		Agriculture	29	Male
158	Ran Bdr. Thapa	Magar	Rising Patan-7		Agriculture	46	Male
159	Sushila Shrestha	Newar	Rising Patan-9		Agriculture	26	Male
160	Om Raj Shrestha	Newar	Rising Patan-8		Agriculture	54	Male
161	Radhika Shrestha	Newar	Rising Patan-9		Agriculture	45	Female
162	Tena Karki	Chetri	Rising Patan-9		Agriculture	26	Female
163	Saraswati Gaire	Brahmin	Rising Patan-9		Agriculture	48	Female
164	Kala Gaire	Brahmin	Rising Patan-9		Agriculture	40	Female
165	Anil Gaire	Brahmin	Rising Ranipokhari-9		Student	12	Male
166	Kudimaya Gaire	Brahmin	Rising Ranipokhari-9		Agriculture	50	Female
167	Jay Dev Gaire	Brahmin	Rising Ranipokhari-9		Agriculture	40	Male
168	Surya Kala Gaire	Brahmin	Rising Ranipokhari-9		Agriculture	36	Female
169	Madhu Maya Gaire	Brahmin	Rising Ranipokhari-9		Agriculture	30	Female
170	Madhu Maya B.K	B.K	Rising Ranipokhari-9		Agriculture	32	Female
171	Chandra Kala Poudel	Brahmin	Rising Ranipokhari-9		Agriculture	58	Female
172	Madan Gaire	Brahmin	Rising Patan		Agriculture	19	Male
173	Prasan Gaire	Brahmin	Rising Patan		Agriculture	17	Male
174	Thakur Prasad Gaire	Brahmin	Rising Patan		Agriculture	20	Male
175	Tulasa Acharya	Brahmin	Ranipokhari-9		Agriculture	44	Female
176	Darisa Thapa	Magar	Rising Ranipokhari Paltang-7		Agriculture	50	Female
177	Chanimaya Rasali	Sunar	Rising Patan-9		Agriculture	60	Female
178	Krishna Kumari Rasali	Sunar	Rising Patan-9		Agriculture	28	Female
179	Tulasi Gaire	Brahmin	Rising Patan-9		Agriculture	50	Female
180	Biba B.K	B.K	Rising Patan-9		Agriculture	40	Female
181	Nar Bdr. Rana	Magar	Rising Patan-9		Agriculture	72	Male
182	Dirgha Lal Shrestha	Newar	Rising Patan-9		Agriculture	76	Male
183	Haribansa Gaire	Brahmin	Rising Patan-9		Agriculture	45	Male
184	Ganesh Man Shrestha	Newar	Rising Ranipokhari Paltang-8		Agriculture	53	Male
185	Dul Raj Shrestha	Newar	Rising Patan-9		Agriculture	52	Male
186	Amar Singh Rana	Magar	Rising Patan-9		Agriculture	40	Male
187	Harkha Bdr. Rana	Magar	Rising Patan-9		Agriculture	66	Male
188	Dil Bdr. Rana	Magar	Rising Patan-9		Agriculture	60	Male
189	Jeevan Thapa	Magar	Rising Patan-9		Agriculture	38	Female
190	Resam Rana	Magar	Rising Patan		Agriculture	17	Male
191	Dhan Maya Rana	Magar	Rising Patan		Agriculture	40	Female
192	Milan Karki	Chetri	Rising Patan		Agriculture	18	Male
193	Baisara Rana	Magar	Rising Patan		Agriculture	45	Female
194	Nar Bdr. Thapa	Magar	Rising Patan		Agriculture	19	Male
195	Hom Bdr. Thapa	Magar	Rising Patan		Agriculture	31	Male
196	Rajkumar	Newar	Rising Patan		Agriculture	19	Male
197	Rudra Narayan Shrestha	Newar	Rising Patan-9		Agriculture	74	Male
198	Bishnu Bdr. Thapa	Magar	Rising Patan-9		Agriculture	32	Male
199	Dal Bdr. Thapa	Magar	Rishi Patan-9		Agriculture	67	Male
200	Man Bdr. Thapa	Magar	Rishi Patan-9		Agriculture	64	Male
201	Ramchandra Gaire]	Brahmin	Ranipokhari-9		Agriculture	50	Male
202	Navraj Shrestha	Newar	Ranipokhari-9		Agriculture	17	Male
203	Om Prakash Gurung	Gurung	Ranipokhari-9		Agriculture	50	Male
204	Hasta Bdr. Thapa	Magar	Ranipokhari-9		Agriculture	60	Male
205	Shri Prasad Rana	Magar	Ranipokhari-9		Agriculture	22	Male
206	Yam Nath Gaire	Brahmin	Ranipokhari-9		Agriculture	62	Male
207	Biru Bajgai	Brahmin	Ranipokhari-9		Teaching	24	Male
208	Deepak Pariyar]	Pariyar	Ranipokhari-9		Tailor	25	Male
209	chandra Nath Pandit	Brahmin	Ranipokhari-9	Ranipokhari V.D.C	Secretary	40	Male
210	Rupsingh Nepali	Nepali	Ranipokhari-9		Agriculture	16	Male
211	Saroj Gurung	Gurung	Ranipokhari-9		Agriculture	13	Male
212	Lok Bdr. Nepali	Nepali	Ranipokhari-9		Agriculture	15	Male
213	Bishwo Prakash Sharma	Brahmin	Ranipokhari-9		Teaching	42	Male
214	Ramesh Gaire	Brahmin	Ranipokhari-9		Agriculture	19	Male
215	Ujjwol Gaire	Brahmin	Ranipokhari-9		Agriculture	17	Male
216	Ramesh Chandra Gaire	Brahmin	Ranipokhari-9		Agriculture	59	Male
217	Kamal Gaire	Brahmin	Ranipokhari-9		Agriculture	39	Male
218	Laxman Nepali	Nepali	Ranipokhari-9		Agriculture	18	Male
219	Pancha Maya Nepali	Nepali	Ranipokhari-9		Agriculture	50	Female
220	Bishnu Prasad Gaire	Brahmin	Ranipokhari-9		Student	22	Male
221	Hari Bhakta Gaire	Brahmin	Ranipokhari-9		Agriculture	32	Male



222	Dilli Raj Shrestha	Newar	Rishing Patan	Agriculture		41	Male
223	Mati Lal Pariyar	Pariyar	Rishing Patan	Agriculture		53	Male
224	Puran Singh Gurung	Gurung	Rishing Patan	Agriculture		53	Male
225	Buddhi Man Thapa	Magar	Ranipokhari-7	Agriculture		30	Male
226	Madhu Sujun Gaire	Brahmin	Rishing Patan	Student		16	Male
227	Pramod Gaire	Brahmin	Rishing Patan	Student		13	Male
228	Mani Shrestha	Newar	Rishing Patan	Agriculture		40	Male
229	Basanta Shrestha]	Newar	Rishing Patan	Abroud		32	Male
230	Hom Bdr. Thapa	Magar	Rishing Patan	Abroud		44	Male
231	Bishnu Kamal Gaire	Brahmin	Ranipokhari-9	Agriculture		46	Male
232	Kedar Nath Gaire	Brahmin	Ranipokhari-9	Agriculture		50	Male
233	Man Kumar Shrestha	Newar	Ranipokhari-9	Agriculture		34	Male
234	Om Raj Gurung	Gurung	Ranipokhari-9	Agriculture		52	Male
235	Sajan Thapa	Magar	Ranipokhari-9	Student		16	Male
236	Bishwo Raj Gaire	Brahmin	Rishing Patan	Teaching		39	Male
237	Jagannath Sharma	Brahmin	Rishing Patan	Teaching		45	Male
238	Hari Bhakta Gaire	Brahmin	Rishing Patan	Agriculture		40	Male
239	Rajendra Prasad Gaire	Brahmin	Rishing Patan	Service		31	Male
240	Rishi Ram Adhikari	Brahmin	Ranipokhari-9	Agriculture	065-690610	30	Male
241	Dal Bdr. Karki	Chetri	Ranipokhari-9	Agriculture	9841657884	26	Male
242	Bal Ram Thapa	Magar	Ranipokhari-9	Agriculture		35	Male
243	Uma Rana	Magar	Ranipokhari-9	Agriculture	9841657864	21	Female
244	Ganga Man Shrestha	Newar	Rishing Patan	Agriculture		34	Male
245	Aarati Gaire	Brahmin	Rishing Patan	Agriculture		25	Female
246	Tul Bdr. Thapa	Magar	Ranipokhari-9	Agriculture		29	Male
247	Purna Chandra Gaire	Brahmin	Ranipokhari-9	Agriculture		34	Male
248	Maina Shrestha	Newar	Rising Ranipokhari-9	Agriculture		50	Female
249	Renu Kumari Shrestha	Newar	Rising Ranipokhari-9	Agriculture		46	Female
250	Gaensh Kumar Shrestha	Newar	Rising Ranipokhari-9	Agriculture		54	Male
251	Rishi ram Gaire	Brahmin	Rising Ranipokhari-9	Agriculture		45	Male
252	Tika Maya Gaire	Brahmin	Rising Ranipokhari-9	Agriculture		67	Female
253	Til Bdr. Thapa	Magar	Rising Ranipokhari-7	Agriculture		49	Male
254	Ghan Shyam Gaire	Brahmin	Rising Ranipokhari-9	Agriculture		40	Male
255	Jit Bdr. Thapa	Magar	Rising Ranipokhari-7	Agriculture		55	Male
256	Dau Bdr. Thapa	Magar	Rising Ranipokhari-9	Agriculture		38	Male
257	Lal Bdr. Khamcha	Magar	Rising Ranipokhari Tutuwa-9	Agriculture		42	Male
258	Som Bdr. B.K	B.K	Rising Ranipokhari Badar Kuna-9	Agriculture		40	Male
259	Sadam Man B.K	B.K	Rising Ranipokhari Badar Kuna-9	Agriculture		58	Male
260	Dauram Ale	Magar	Rising Ranipokhari Aam Dada	Agriculture		55	Male
261	Jit Bdr. Lankan	Magar	Rising Ranipokhari Aam Dada	Agriculture		28	Male

Chang VDC							
1	Padam Bdr. Gurung	Gurung	Chang-7	Agriculture		55	Male
2	Luk Maya Wagie	Brahmin	Chang Patan-8	Agriculture		56	Female
3	Tara Bdr. Pathak	Chhetri	Chang Patan-8	Agriculture		42	Male
4	Mitra Lal Shrestha	Newar	Chang-4	Agriculture		57	Male
5	Sushma Pathak	Chhetri	Chang-8	Agriculture		33	Female
6	Mina Adhikari	Brahmin	Chang-8	Agriculture		30	Female
7	Kalpana Adhikari	Brahmin	Chang-8	Agriculture		25	Female
8	Yek Bdr. Gurung	Gurung	Chang-7	Agriculture		50	Male
9	Khima Nanda Wagie	Brahmin	Chang Patan-8	Agriculture		33	Male
10	Lok Narayan Shrestha	Newar	Chang-8	Agriculture		48	Male
11	Jhul Bdr. Lamkang	Magar	Chang-2	Agriculture		54	Male
12	Tej Bdr. Gurung	Gurung	Chang-7	Agriculture		54	Male
13	Nanda Lal Shrestha	Newar	Chang-7	Agriculture		55	Male
14	Dan Bdr Gurung	Gurung	Chang-7	Agriculture		59	Male
15	Hira Sing Gurung	Gurung	Chang-7	Agriculture		50	Female
16	Chandra Bdr. Gurung	Gurung	Chang-7	Agriculture		44	Male
17	Samel Tamu	Gurung	Chang	Agriculture		17	Male
18	Man Narayan Shrestha	Newar	Chang-7	Agriculture		47	Male
19	Dil Bdr.	Darji	Chang-2	Agriculture		32	Male
20	Khil Bdr.	Gurung	Chang-7	Agriculture		50	Male
21	Nanda Bdr. Thapa	Magar	Chang-4	Agriculture		54	Male
22	Man Bdr. Thapa	Magar	Chang-4	Agriculture		50	Male
23	Lekh Narayan Shrestha	Newar	Chang-4	Agriculture		64	Male
24	Samsher Thapa	Magar	Chang-4	Agriculture		40	Male
25	Gaj Bir Ale	Magar	Chang V.D.C-4	Agriculture		64	Male
26	Dan Bdr. Ale	Magar	Chang V.D.C-4	Agriculture		58	Male
27	Gir Bdr. Gurung	Gurung	Chang V.D.C-7	Agriculture		42	Male
28	Sur Bir Gurung	Gurung	Chang V.D.C-7	Agriculture		35	Male
29	Tek Bdr. Gurung	Gurung	Chang-7	Agriculture		58	Male
30	San Chari Gurung	Gurung	Chang V.D.C -7	Agriculture		60	Female
31	Hem Bdr Gurung	Gurung	Chang V.D.C -7	Agriculture		55	Male
32	Ratna Bdr. Pathak	Chetri	Chang Patan-8	Agriculture		38	Male

33 Tilak Ram Poudel	Brahmin	Chang Patan-2	Agriculture	Male
34 Purna Bdr. Pathak	Brahmin	Chang Patan-8	Agriculture	50 Male
35 Gyanu Maya Poudel	Brahmin	Chang Patan-8	Agriculture	50 Female
36 Radha Bhandari	Brahmin	Chang Patan-8	Agriculture	26 Female
37 Uttar Kumar Gurung	Gurung	Chang-7	Agriculture	57 Male
38 Dharma Raj Khanal	Brahmin	Chang-8	Agriculture	59 Male
39 Tek Bdr Ale	Magar	Chang V.D.C-8	Agriculture	44 Male
40 Ram Bdr. Ale	Magar	Chang V.D.C-8	Agriculture	48 Male
41 Guman Singh Gurung	Gurung	Chang-7	Agriculture	65 Male
42 Indra Kala Poudel	Brahmin	Chang V.D.C-8	Agriculture	71 Female
43 Som Bdr. Gurung	Magar	Chang Ghaderi	Agriculture	24 Male
44 Hem Bdr. Thapa	Magar	Chang-2	Service	22 Male
45 Yub Raj Wagle	Brahmin	Chang-8	Agriculture	43 Male
46 Padam Pani Wagle	Brahmin	Chang	Agriculture	49 Male
47 Som Pathak	Brahmin	Chang	Agriculture	39 Male
48 Ram Bdr. Ale	Magar	Chang	Agriculture	49 Male

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Majhkot VDC				
1 Sharada Acharya	Brahmin	Majhkot	Agriculture	43 Female
2 Ram Bdr. Rana	Magar	Majhkot-9	Agriculture	45 Male
3 Ram Sharan Sharma Gh	Brahmin	Majhkot	Teacher	55 Male
4 Bishnu Pd. Ghaire	Brahmin	Majhkot	Agriculture	40 Male
5 Durga Prasad Gaire	Brahmin	Majhakot -9	Agriculture	35 Male
6 Ram Nath Gaire	Brahmin	Majhakot -9	Service	32 Male
7 Bal Ram Marasani	Brahmin	Majhkot-9	Teacher	45 Male
8 Daya Bikram Devkota	Brahmin	Majhkot-9	Student	17 Male
9 Bodh Raj Ghaire	Brahmin	Majhkot-9	Agriculture	68 Male
10 Krishna Hari Ghaire	Brahmin	Majhkot-9	Teacher	42 Male
11 Ramsaran Gaire	Brahmin	Majhakot -9	Teaching	48 Male
12 Rajendra Pd. Ghaire	Brahmin	Majhkot-9	Agriculture	27 Male
13 Bishnu	Brahmin	Majhkot-9	Agriculture	45 Male
14 Hari Chandra Ghaire	Brahmin	Majkot Chore Patan	Agriculture	38 Male
15 Bal Krishna Ghimire	Brahmin	Majhkot-9	Agriculture	48 Male

Bhimad VDC				
1 Raju Pariyar	Pariyar	Bhimad	Teaching	28 Male
2 Suk Bdr. Pariyar	Pariyar	Bhimad	Business	44 Male
3 Surya Bhakta Subedi	Brahmin	Bhimad-1	Agriculture	23 Male
4 Kesh Bdr. Sunar	Sunar	Bhimad-2	Business	46 Male
5 Mahendra Reshmi	Magar	Bhimad-1	Agriculture	38 Male
6 Chakra Pani Subedi	Brahmin	Bhimad-1	Agriculture	60 Male
7 Raju Khanal	Brahmin	Bhimad	Business	35 Male
8 Dinesh Bhandari	Brahmin	Bhimad	Student	22 Male
9 Buddhi Ram Lamshai	Brahmin	Bhimad Patan	Business	50 Male
10 Bishnu Bhakta Subedi	Brahmin	Bhimad-1	Agriculture	36 Male
11 Dilli Ram Poudel	Brahmin	Bhimad-2	Agriculture	45 Male
12 Akhil Suvedi	Brahmin	Bhimad-1	Student	19 Male
13 Surya Pd. Aryal	Brahmin	Bhimad-2	Agriculture	40 Male

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Kotdurbar VDC				
1 Harkha Bdr. Ale	Magar	Kotdurbar-2	Agriculture	50 Male
2 Hari Bdr. Thapa	Magar	Kot Durbar-7	Agriculture	52 Male
3 Min Bdr. Sharu	Magar	Kot Durbar-7	Agriculture	38 Male

Jamune VDC				
1 Tirtha Raj Adhikari	Brahmin	Jamune	Agriculture	39 Male
2 Bai Krishna Ghimire	Brahmin	Jamune-7	Agriculture	43 Male
3 Bishnu Kumar Shrestha	Newar	Jamune-7	Agriculture	44 Male

Others				
1 Bhagirathi Mishra	Brahmin	Bhagabati	Agriculture	48 Female
2 Laxman Pariyar	Darji	Samung Bhagabati	Labour	24 Male
3 Sudan Tiwari	Brahmin	Bhagabati	Student	12 Male
4 Aita Ram Pariyar	Darji	Bhagawatipur-2	Agriculture	31 Male
5 Ram Bdr.	Darji	Bhagawatipur-2	Agriculture	44 Male
6 Chin Bdr. Pariyar	Darji	Bhagawatipur-2	Agriculture	40 Male
7 Chandra Bdr. Pariyar	Darji	Bhagawatipur-2	Agriculture	73 Male
8 Til Bdr. Ale	Magar	Bhagawatipur-2	Agriculture	64 Male
9 Aita Bdr. B.K.	Kami	Bhagawatipur-2	Agriculture	49 Male
10 Narayan Pd. Tiwari	Brahmin	Bhagawatipur-2	Agriculture	42 Male
11 Santosh Tiwari	Brahmin	Samung, Bhagawati-2	Agriculture	18 Male
12 Ratna Bdr. B.K	B.K	Samu Bharpur-2	Agriculture	33 Male
13 K.B. Thapa	Magar	Gajalkot-7	Teacher	21 Male
14 Keshav Shrestha	Newar	Kathmandu	Service	51 Male

15 Bishnu Adhikari	Brahmin	Buduwa Fat-9	Agriculture	31 Male
16 Shiva Pandit	Brahmin		Teaching	49 Male
17 Ram Bhagat Sharma	Brahmin			521404 34 Male


NEA, JICA, Study Team, NESS							
1 Dr. Toran Sharma	Brahmin	NESS, Kathmandu	NESS	Consultant	4244989	52	Male
2 Mahadev Joisy	Brahmin	NESS, Kathmandu	NESS	Service	4244989	40	Male
3 Surendra Sharma	Brahmin	NESS, Kathmandu	NESS	Service	4244989	30	Male
4 Amrit Paudel	Brahmin	NESS, Kathmandu	NESS	Service	4244989	27	Male
5 Pradeep Kumar Maharjar	Newar	NESS, Kathmandu	NESS	Service	4244989	30	Male
6 Rajan Kandel	Brahmin	NEA	NEA	Service		38	Male
7 Narayan Bdr. Khadka	Chhetri	NEA	NEA, PDD	Service	5580374	46	Male
8 Anu Rajbhandari	Newar	NEA	NEA, ESSD	Service	4378074	45	Female
9 Jagadishwor M. Singh	Newar	NEA	NEA	Service	4212297	45	Male
10 Bisma Shrestha	Newar	NEA	NEA	Service	4210299	46	Male
11 Raju Sharma	Brahmin	NEA	NEA	Service	4460506	44	Male
12 Bhim Raj Kaderiya	Brahmin	NEA	NEA	Service	4225477	37	Male
13 Shiv Chandra Jha	Brahmin	NEA	NEA	Engineer	4279217	55	Male
14 Ram Nath Subedi	Brahmin	Rising Patan-9	NEA	Service		47	Male
15 Dr. Katsuhiko Masaki			JICA Environmental Advisory Council member				Male
16 Dr. Kanji Usui			JICA Thailand Office				Male
17 Ms. Sayoko Tokuda			JICA Nepal Office				Female
18 Mr. Sorab Rana			JICA Nepal Office				Male
19 Mr. Yoshimasa Ishii			JICA Study Team				Male
20 Mr. Hironobu Nishimiya			JICA Study Team				Male
21 Mr. Tomoo Aoki			JICA Study Team				Male
22 Dr. Hiromi Yasu			JICA Study Team				Male
23 Mr. Tadashi Amano			JICA Study Team				Male
24 Ms. Toshiko Shimada			JICA Study Team				Female
25 Dr. Tej Kumar Shrestha			JICA Study Tema (consultant)	Professor			Male
26 Mr. Satish Chandra Devkota			NEA				Male
27 Mr. Rajan Rishi Kadel			NEA				Male

Total Number of participants excluding NEA, JICA, NESS, and Study Team	360(Male 261, Female 99)
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Participants Registered in the Third Stakeholders Meeting at Damauli, May 6th, 2007

SN	Name	Caste	Address	Office / organization	Profession /Grade	Phone	Age	Sex
1	Yek Bdr. Rana	Magar	Vyas-2	CPN (UML) Member	Politician	9846040382	50	Male
2	Surendra Prasad	Shah	Fishery Department, Pokhara	Fishery Department, Pokhara	Service	61522004	46	Male
3	Bhagabati Neupane	Braman	Purkot-7	CPN (UML) Member	Social Worker	9846039178	28	Female
4	Kashinath Marrasini	Braman	Tanahun	D.A.O.	Govt. Service	560133	45	Male
5	Ramesh Sigdel	Braman	Tanahun	CPN (Maoist), District Secretary	Politician	98560281212	40	Male
6	Chandra Mani Adhikari	Braman	Tanahun	D.H.O.	Service	9846027358	47	Male
7	Moti Kumar Shrestha	Newar	Vyas-2	N.C. (Democracy)	Politician	9846065310	74	Male
8	Pushpa Khanal	Braman	Jamune-1	Jamune VDC Secretary	Service	9846043024	28	Male
9	Ram Chandra Uppadhyay	Braman	Khairanitar	CPN (UML) Member	Politician	9856022196	42	Male
10	Shiva Raj Dhakal	Braman	Tharpek		Agriculture			Male
11	Indira Ojha	Braman	Tanahun	Women Development Office	Service	560142	35	Female
12	Prabin Aryal	Braman	Kathmandu	Ministry of Water Resource	Engineer	4211501	44	Male
13	Kosh Raj Sharma	Braman	Tanahun	Sury Branch, Tanahu	Service			Male
14	Kedar Sigdel	Braman	Kahun-7	CPN (UML) Member	Politician		40	Male
15	Tirtha Raj Wagle	Braman	Chhang	VDC Secretary	Service			Male
16	Mohan Bir Gurung	Gurung	Majhkot-5	VDC Secretary	Service		56	Male
17	Shree Ram Karki	Chhetri	Vyas-4					Male
18	Ram Chandra Pokharel	Braman	Vyas-9	Former precedent, DDC, Tanahun				Male
19	Tirtha Raj Adhikari	Braman	Jamune-7	Nepali Congress	Politician		39	Male
20	Shiva Bdr. Ranabhat	Chhetri	Jamune-3	N.C. (Democracy)	Politician		52	Male
21	Chandra Man Pandit	Braman	Ranipokhari	VDC Secretary	Service	9846026024	40	Male
22	Guru Dutta Ghimire	Braman	Kotdurbar	VDC Secretary				Male
23	Baburam Karki	Chhetri	Kahun Shivapur	VDC Secretary	Service		53	Male
24	Raj Kumar Shrestha	Newar	Vyas-10	Community Forest, Tanahun	Precedent	9846067438	48	Male
25	Narayan Bdr. Khadka	Chhetri	NEA	NEA, PDD	Service	5580374	46	Male
26	Anu Rajbhandari		NEA	NEA, ESSD	Service	4378074	45	Female
27	Jagadishwor M. Singh	Newar	NEA	NEA	Service	4212297	45	Male
28	Bisma Shrestha	Newar	NEA	NEA	Service	4210299	46	Male
29	Raju Sharma	Braman	NEA	NEA	Service	4460506	44	Male
30	Bhim Raj Kaderiya	Braman	NEA	NEA	Service	4225477	37	Male
31	Shiv Chandra Jha	Braman	NEA	NEA	Engineer	4279217	55	Male
32	Dr. Raghu Nath Neupane	Braman	Vyas-10		Doctor	9846043142	54	Male
33	Bishnu Pd. Dhakal	Braman	Tanahun	DDC	Service	9856027533	45	Male
34	Jaya Dev Bista	Braman	Pokhara	Fishery Department, Pokhara	Service	522004	50	
35	Nil Bdr. Thapa	Magar	Kotdurbar-4	Nepali Congress	Social Worker	065 560532	57	Male
36	Radha Wagle	Braman	Kathmandu	MOFSC	Civil Servant	9841445377	30	Female
37	Pradeep Kaphle	Braman	Damauli	FNJ, Tanahun	Journalism	9846040432	33	Male
38	Rajan Rishi Kadel	Braman	NEA	NEA	Service	4226730	37	Male
39	Amar Raj	Braman	Damauli	Nepal Samacharpatra	Reporter	560931		Male
40	Bishnu Bdr. Singh	Chhetri	NEA	NEA	Service	4370432	53	Male
41	Ram Bdr. Thapa	Magar		CPN (Maoist),	Politician	9856027590	45	Male
42	V.B. Bhandari	Braman		Bhanjyang Patrika	Journalism		59	Male
43	Pratap Lal Shrestha	Newar	Vayas-1	CPN (UML) Member	Politician	9856023891	47	Male
44	Nurma Hamat Miya		Vayas-2	Nepal Muslim Sangathan	Precedent	560224	62	Male
45	Mohamad Yusuf		Vayas-11	Nepal Muslim Sangathan	Member	561513	63	Male
46	Santosh Kumar Shrestha	Newar	Vayas-2	Hotel Committee	Member	60143	64	Male
47	Dhruba Sundar Shrestha	Newar	NEA	NEA	Service	5523778		Male
48	Chatur Bdr. Shrestha	Newar	NEA	NEA	Engineer	4496800	40	Male
49	Ashok Karki		Barbhanjang	Shree Saraswati M.B	Head Master	9856027448	39	Male
50	Ramesh Paudel	Braman	Kahun Shivapur		Social Worker	560356	35	Male
51	Saraswati Adhikari	Braman	Vayas-2	NGO	Member		44	Female
52	Narayan Pd. Wagle	Braman	Tanahun	Malpot Office	Service	560177	49	Male
53	Daya Ram Gautam	Braman	Tanahun	DAO	Service	560105	45	Male
54	Dr. Toran Sharma	Braman	NESS, Kathmandu	NESS	Consultant	4244989	52	Male
55	Mahadev Joisy	Braman	NESS, Kathmandu	NESS	Service	4244989	40	Male
56	Surendra Sharma	Braman	NESS, Kathmandu	NESS	Service	4244989	30	Male
57	Amrit Paudel	Braman	NESS, Kathmandu	NESS	Service	4244989	27	Male
58	Pradeep Kumar Maharjan	Newar	NESS, Kathmandu	NESS	Service	4244989	30	Male
59	Dr. Katsuhiko Masaki			JICA Environmental Advisory Council member				Maleale
60	Dr. Kanji Usui			JICA Thailand Office				Maleale
61	Mr. Sorab Rana			JICA Nepal Office				Maleale
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63	Mr. Hironobu Nishimiya			JICA Study Team				Maleale
64	Mr. Tomoo Aoki			JICA Study Team				Maleale
65	Dr. Hiromi Yasu			JICA Study Team				Maleale
66	Mr. Tadashi Amano			JICA Study Team				Maleale
67	Ms. Toshiko Shimada			JICA Study Team				Female
68	Dr. Tej Kumar Shrestha			JICA Study Team (consultant)	Professor			Maleale


Presentation Material in Beltar, Rising Patan, Damauli



# Major Findings of Upgrading Feasibility Study

JICA Study Team


Damauli, Tanahu District  
May 6 2007



# Contents of Presentation

- Background & Outlines of Study
- Findings
  - Power Demand & Supply
  - Characteristics of Project Site
  - Contents of Study
- Conclusions and Recommendations
- Time-line of the Project


2



# 1. Background (1)

- Power Supply
  - Hydropower shares 99 % in energy generated in Nepal
- Electrification: around 25 % in households
- Supply Balance
  - Annual maximum demand: recorded during dry season
  - Minimum monthly discharge: less than 10 % of maximum one
    - Countermeasures: power import, thermal power, & load shedding
- Load shedding
  - FY 2004/05 12 days, July 2005 to May 2006 137 dyaas
- Affects of Shortage of Power
  - People's living & economic activities in the country

3

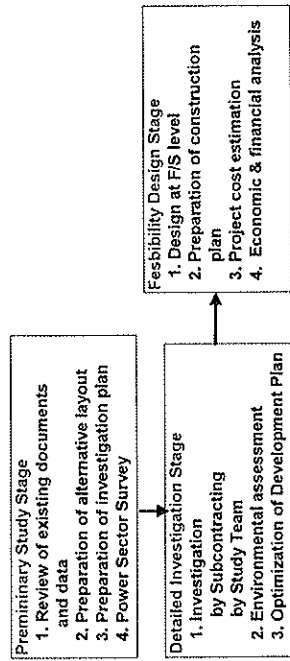


# 1 Outlines of the Study (1)

- Chronology of Study
  - 2000: Identification and Feasibility Study of storage projects by NEA
  - 2001: F/S by NEA
  - 2004: Upgrading F/S by NEA
  - 2004: Preliminary study by JICA
  - Feb. 2005: Commencement of Upgrading F/S by Study Team
- Study Period: Feb. 2005 to Jun. 2007
- Purpose
  - Formulate the optimum plan
  - Assess its environmental, technical, economical and financial viabilities

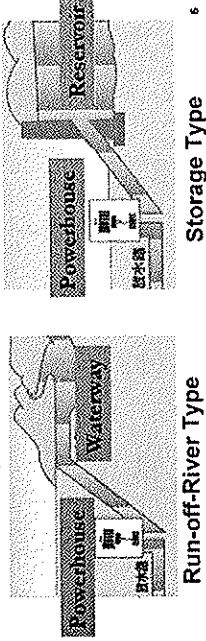
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## 1 Outlines of the Study (2)

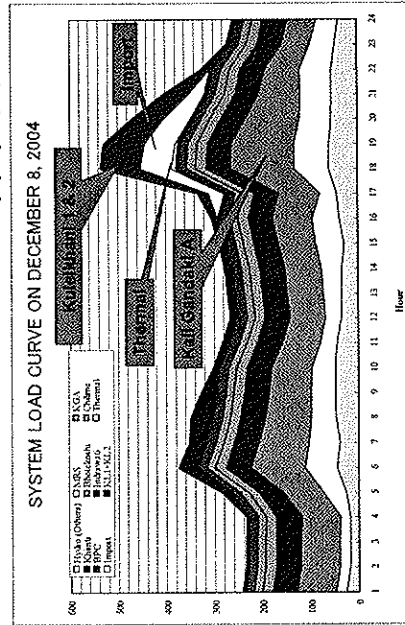


## 2.1 Power Demand & Supply (1)

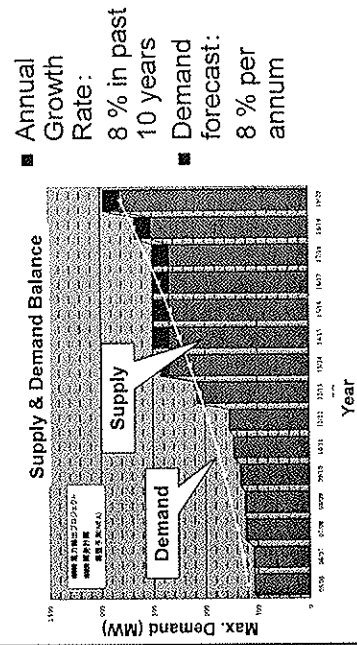
- Total Installed Capacity : 611 MW, Hydropower 90%
  - Annual Energy: Hydropower 99%
  - Peak demand sources: storage type: 92MW (15%)
- Thermal: a. expensive fuel cost  
 b. procurement risks and foreign currency  
 c. priority on hydropower



## 2.1 Power Demand & Supply (2)



## 2.1 Power Demand & Supply (3)



## 2.2 Characteristics of Project (1)

Main Features of the Project

1) Reservoir		2) Dam	
Full Supply Level	415.0 m	Type	Concrete gravity
Gross Storage Volume	256.1 million m <sup>3</sup>	Height x Length of Crest	140 m (H) x 170 m (L)
Effective Storage Volume	167.0 million m <sup>3</sup>		
Reservoir Area	7.26 km <sup>2</sup>		
Reservoir Length	27.0 km		
Drawdown Depth	27.8 m		
Design Flood (PMF)	7,377 m <sup>3</sup> /s		
3) Powerhouse		4) Generation	
Type	Underground	Number of Turbine	Two (2) nos.
Width x Height x Length	22 m (W) x 42 m (H) x 90 m (L)	Effective Head	113.0 m
Turbine Type	Vertical Francis	Maximum Discharge	127.4 m <sup>3</sup> /s
		Installed Capacity	94MW x 2
		Annual Energy Production	475.2 GWh

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## 2.2 Characteristics of Project (2)

Characteristics of the Site

- Geology: Foundation of high dam  
Underground powerhouse
- Sedimentation :  
Annual sediment: 6,500 ton/year/km<sup>2</sup>
- Environment: Storage project  
Category A in JICA Guidelines

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## 2.3 Study (Geology)

■ Result of geological investigation

- 1) Geology around reservoir will be watertight
- 2) Rock foundation will have enough strength for 140-m high concrete gravity dam.
- 3) Rock around underground powerhouse will be hard.



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## 2.3 Study: Sedimentation

- Countermeasures for Sedimentation

  1. Sediment flushing facilities in dam
  2. Sediment flushing at the beginning of rainy season
  3. Coating of turbines due to erosion by small particle of soil

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## 2.3 Study (Environment)

- Environmental Impact Assessment (EIA)
- 1. Review of NEA's EIA
- 2. Supplemental Environmental Survey
- 3. Supplemental EIA
- 4. Proposals on Mitigation Measures
- 5. Frame work of Resettlement Plan and Social Action Plan
- 6. Stakeholder Meeting

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## 2.3 Study (Stakeholder Meeting)

- Findings at 1st and 2nd Stakeholder Meetings
- 1st Meeting: 402 participants, 2nd Meeting: 574 participants
- 1) The proposed project is requisite and essential
- 2) The proposed project needs to provide the maximum benefits to the local society.
- 3) Due consideration should be given to the compensation and resettlement issues.
- 4) The alternative mode of transportation for inundated roads and affected suspension bridges should be considered.
- 5) The mitigation measures to protect Bhimad Bazaar and other necessary areas from erosion should be seriously considered.
- 6) The affected community forest and grazing lands need to be delineated and compensated.
- 7) Various development needs such as electricity facility, drinking water and schools should be considered and undertaken.

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## 2.3 Study (Optimization)

- Optimization of Development Plan
- 1. Preparation of 5 layouts for comparison
- 2. Estimate on environmental cost every 10m of Full Supply Level
- 3. Cost: Construction and O & M Costs of Project
- 4. Benefit: Construction and O & M Costs of Thermal Power Plant
- 5. Comparison of Benefit – Cost ratio

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## 2.3 Optimization Result

- Selected Plan
- 1. FSL: EL.415 m
- 2. Dam: Concrete gravity type
- 3. Installed Capacity : 128MW
- 4. Powerhouse : Underground type

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### 2.3 Study (Design, etc.)

- For the selected plan
- 1. Design at F/S level
- 2. Preparation of construction plan
- 3. Estimate project cost
- 4. Economic and financial evaluation
- 5. Proposal on further investigations

17

### 2.3 Study (Construction Cost & Schedule)

- Construction Period: 6 years including preparatory works

Construction Cost	
Item	(Million US\$)
1 Preparatory Works	2.24
2 Civil Works	192.93
3 Hydromechanical Eq.	16.63
4 Electromechanical Eq.	47.18
5 Transmission Lines	9.00
Direct Cost	267.98
6 Environmental Cost	29.10
7 Admin. & Engineering Fee	18.76
8 Contingency	24.61
Indirect Cost	72.47
9 Total	340.45

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### 2.3 Study: Economic Evaluation

- Economic Evaluation
  - 1. Method: Comparison of Thermal Power Plant
  - 2. Benefit (B): Construction and O&M Cost of Thermal Power Plant
  - 3. Cost (C): Construction and O&M Cost of Project
  - 4. Results: Confirmed more benefit than thermal power plant
- Economically feasible

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### 2.3 Study: Financial Evaluation

- Financial Evaluation
  - 1. Benefit: Electric tariff of NEA
  - 2. Electric tariff: Assumed reasonable increase
  - 3. NEA can get benefit from Project
- Confirmed financially feasible

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### 2.3 Study: Others

#### Other Benefit from Project

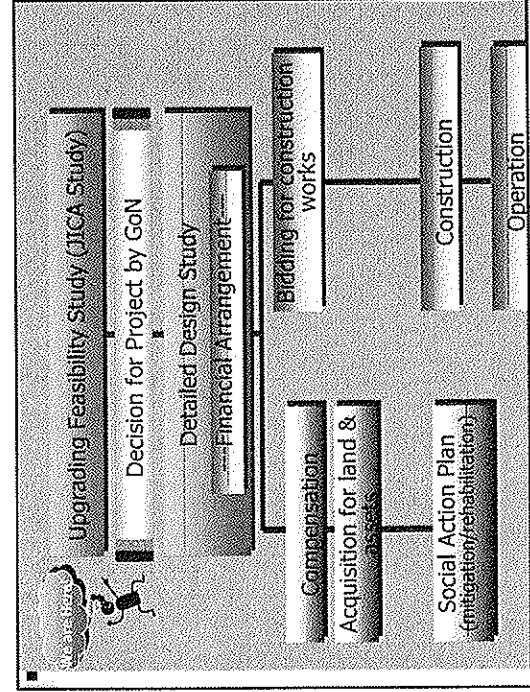
1. Make stable power frequency
2. Maintain power voltage in network
3. Reduce/replace operation hours of costly thermal power plants
4. Reinforce NEA's network by transmission


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### 3 Conclusion & Recommendation

- Judged feasibility from technical, environmental, economical, and financial viewpoint
- Recommended to proceed to the next stage as new power sources

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# Natural Environmental Impacts and Mitigation Measures

## The Upgrading Feasibility Study

Damauli, Tanahu District  
May 6 2007

1
Natural Environment - Physical Environment -

Impact on Land Use and Topography

Impact during Construction Phase


Land Use in the Reservoir Area		Land Use under Nominated FSLs (ha)									
SN	Land Use Types	435	495	415	405	390	385	375			
1	Cultivation	223.22	105.80	63.36	51.72	37.45	28.77	16.11			
2	Built up	2.10	1.34	0.85	0.88	0	0	0			
	<b>Total cultivation/built up</b>	<b>225.41</b>	<b>110.23</b>	<b>70.21</b>	<b>62.1</b>	<b>37.45</b>	<b>28.77</b>	<b>16.11</b>			
3.1	Grazing Land	135.43	102.56	84.59	70.03	47.87	33.25	17.62			
3.2	Shrubs	34.53	23.18	17.31	11.07	4.81	2.61	0.82			
	<b>Total grazing/shrub</b>	<b>169.74</b>	<b>125.74</b>	<b>102.63</b>	<b>81.1</b>	<b>52.71</b>	<b>35.89</b>	<b>18.44</b>			
3.3	Hill Sal Forest	61.32	43.64	29.16	20.40	11.75	7.29	3.17			
3.4	Khat/Sissoo Forest	49.88	40.97	32.02	14.16	36.70	40.12	20.52			
3.5	Mixed Open Forest	318.26	301.87	271.81	239.62	209.73	173.29	138.08			
	<b>Total Forest</b>	<b>472.46</b>	<b>409.46</b>	<b>365.69</b>	<b>304.68</b>	<b>266.18</b>	<b>212.2</b>	<b>161.77</b>			
4	Barren Land	5.05	1.43	0.28	0.03	0.03	0	0			
5	Escarpment	13.17	8.70	5.38	2.14	0.07	0	0			
6	River	109.74	98.15	91.14	87.49	81.59	75.31	65.49			
7	Sand	164.08	128.54	111.74	101.19	92.37	82.85	69.12			
	<b>Grand Total</b>	<b>1100.14</b>	<b>887.67</b>	<b>735.41</b>	<b>628.71</b>	<b>510.31</b>	<b>434.02</b>	<b>331.13</b>			

1
Natural Environment - Physical Environment -

Impact during Construction Phase

Reservoir Area

- In the upper reservoir area, the soil slides associated with the terrace materials are prevalent.
- the risk of the slope instability due to the reservoir operation should be considered in the upper reservoir area.



Wantang Khola

Bhimad Bazaar

1
Natural Environment - Physical Environment -

Impact during Construction Phase

Land Use in the Project Facility Site

SN	Land Use Types	Land Use (ha)
1	Cultivation	35.28
2	Built up Areas	0.245
	<b>Total cultivation/built up</b>	<b>35.525</b>
3.1	Grazing Land	7.43
3.2	Shrubs	4.07
	<b>Total grazing/shrub</b>	<b>12.02</b>
3.3	Hill Sal Forest	44.46
3.4	Khat/Sissoo Forest	0
3.5	Mixed Open Forest	24.24
	<b>Total Forest</b>	<b>68.7</b>
4	Barren Land	0
5	Escarpment	0
6	River	7.01
7	Sand	9.28
	<b>Grand Total</b>	<b>133.08</b>

## 1 Natural Environment - Physical Environment -

### Impact during Operation Phase

#### Flood Water Level

- The annual flushing of the reservoir at FSL 415 m will effectively control any sedimentation.
- In the case that nominated Full Supply Level is 415 m, the sedimentation will not happen around the Bhimad Bazaar.
- The backwater effect after the sedimentation is minor.

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## 1 Natural Environment - Physical Environment -

### Impact during Operation Phase

#### Downstream of the Dam

- High sediment deposit at the sediment flush operation and river scouring at the normal operation will be experienced in the Seti River section immediately below the dam.
- The agricultural land on the left bank appears to be high enough that it would not be affected.
- Any economic activities by villagers such as irrigation has not been found in the immediate area of tailrace, since the area is mainly composed of deep gorge.

6

## 1 Natural Environment - Physical Environment -

### The Measures during Construction Phase

- The optimum reservoir Full Supply Level is examined from not only economic viewpoint but also environmental viewpoint
- The layout of the construction facilities to minimize the impacts on the communities of Beni Patan and Shivapur

7

## 1 Natural Environment - Physical Environment -

### The Measures during Operation Phase

#### Reservoir Area

- Completion of protection embankment works with concrete blocks cover in the vicinity of Bhimad Bazaar
- Land acquisition program and stabilization of erosion prone in the risk zone area from Full Supply Level to 10m high above
- Selective planting of ground cover and trees at the base of areas susceptible to erosion in tributary stream leading into the Seti River
- Land acquisition program and stabilization of erosion prone areas with suitable tree species in the vicinity of the Wantang Khola, the Pedhi Khola and Tittuwa

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## Natural Environment - Physical Environment -

### *The Measures during Operation Phase*

#### Downstream of Dam

- A siren system will be proposed to install in the vicinity of Damauli
- However, in further stage of the project, topographic survey in the downstream river course should be carried out to examine the details of hydraulic conditions such as increase speed of downstream water level during the power generation.

9

## Natural Environment - Physical Environment -

### Impact on Water Quality

- Sampling tests are carried out at ①Downstream of Damauli, ②Confluence with the Madi River, ③Dam Site, ④Bhimad Bazaar in June and October.
- ⇒ Present river water is not polluted.
- ⇒ Total Suspended Solids and Settleable Solid are very high.
- ⇒ Concentration of total phosphorus is high. There is possibility of eutrophication in the reservoir

10

## Natural Environment - Physical Environment -

- The measures in the reservoir prevents the algae bloom by decreasing inflow of nutrient such as phosphorus or nitrogen in the active zone of the phytoplankton.

- The measures are composed of the following two method.

- i) Providing the Fraction Fence to control the inflow of the nutrient into the surface of the reservoir
- ii) Conducting sand flush operation once a year to prevent the nutrient from accumulating in the bottom of the reservoir

11

## Natural Environment - Physical Environment -

- Sediment flush operation should be carried out once a year not only to secure reservoir capacity but also to maintain the good water quality in the reservoir
- The environmental flow 2.4 m<sup>3</sup>/s proposed by NEA is likely to be reasonable range to mitigate the impact of aquatic ecology in the downstream



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## 2 Natural Environment - Biological Environment -

### Impact on Vegetation and Forestry

Loss of Forest/Shrub/Grasslands under Reservoir FSL -415m

S N	Forest Land	Area (ha)
1.	Grazing Land	84.59
2.	Shrub Land	17.94
	<b>Total Grazing and Shrub</b>	<b>102.53</b>
3.	Hardwood Sal Forest Land	29.46
4.	Mixed Open Forest Land	271.81
5.	Khair/Sisso Forest Land	32.62
	<b>Total Forest Land</b>	<b>353.89</b>

Loss of Forest/Shrub/Grasslands in the Project Facility Sites

S N	Forest Land	Area (ha)
1.	Grazing land	7.33
2.	Shrub land	4.67
	<b>Total Grazing and Shrub</b>	<b>12.01</b>
3.	Hardwood Sal Forest Land	44.46
4.	Mixed Open Forest Land	24.24
5.	Khair/Sisso Forest Land	0.00
	<b>Total Forest Land</b>	<b>68.7</b>

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## 2 Natural Environment - Biological Environment -

### Impact on Wildlife

#### Mammal

- A number of protected species according to CITES, IUCN and Government of Nepal classifications are present in the Project areas affected. This includes the Bengal Tiger, Sloth Bear, Himalayan Black Bear, Common Otters and a number of smaller cats.

#### Reptiles and Amphibians

- A total of 17 reptiles and amphibian species are reported in the Project area. Out of 17 reported species, Golden Monitor Lizard and Rat Snake is respectively categorized in "Lower Risk/Near Threatened" and "Lower Risk/Least Concern" in IUCN Red List. These two species are legally protected in Nepal. In addition, two species are listed in the CITES Annex I and three species in the CITES Annex III.

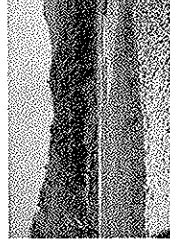
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## 2 Natural Environment - Biological Environment -

- 8 community forests user groups are identified in the Project area

- Compensation for the forest on each administrative category

- Protection Forest: Plantation 1:25
- Private Forest: Land and Volume of Trees
- Community Forest: Plantation 1:25 and Compensation of Production Loss for 5 years



14

## 2 Natural Environment - Biological Environment -

#### Bird

- 62 bird species belonging to 14 orders and 34 families are recorded in the Project area. Large number of birds and many species are found in the lower reservoir area. Out of recorded species, Vulture (Gyps sp.) is categorized into "Globally Threatened" and Spot Billed Ducks (*Anas poecilorhyncha*) and in Appendix I and Eurasian Golden Oriole (*Oriolus oriolus*) in Appendix II of CITES.

#### Butterfly and Moss

- Total of 44 species of butterflies and 2 species of Mosses are observed in the Project area. No recorded species is listed in the CITES and IUCN Red List.

16

## 2 Natural Environment - Biological Environment -

- Related to the protected species, the confirmation of their habitat conditions should continue and the proper measures should be studied through the detail investigation and monitoring in the detailed design stage and construction stage.
- Since similar habitat conditions are widely seen in the vicinity of the study area, it is considered that extinction of specific species will be very low possible incidence.
- To save endangered animals, rescue operation using boats during the filling of the reservoir and relocating them to compatible ecosystem in nearby forests are considered.

17

## 2 Natural Environment - Biological Environment -

### Impact on Aquatic Ecology and Fishery

- Sampling of fish and aquatic species at ①Dam Site, ②Bhimad Bazaar, ③Downstream of confluence with the Madi River
- Out of the total of 36 species caught, none are officially Red Listed by IUCN
- Impact on migrant fishes is irreversible
- Supply with fry from the fish hatchery in the Kaligandaki A.
- Extension of the fish hatchery and stocking program in the Upper Seti reservoir will be required.



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## 3 Natural Environment - Watershed Management -

### Study on Framework of Watershed Management

- Identify ecologically sensitive areas where additional programs are needed and prioritize these based on GIS data and field surveys
  - The sediment source study in the Seti watershed of upstream dam indicates high sediment source areas in the northern part of the Seti watershed, 40 ~ 50 km away from the reservoir.
  - It is considered that the sediment sources most affected for the reservoir are loose alluvial deposit area (Tar in Nepal) with ramifications of gullies extended along the Seti River and its tributaries in the downstream of Pokhara.
  - Consequently, it is proposed to provide small-scale civil engineering and bio-engineering measures of slope protection in the areas upstream from Bhimad to Pokhara.

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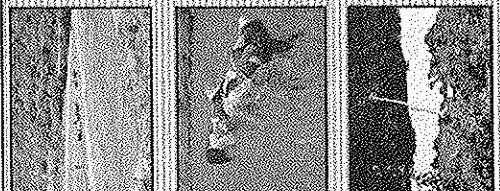
## 4 Natural Environment - Environmental Cost -

### Natural Environmental Cost

Physical Environment	(million NR)
(1) The mitigation measures during the construction phase	43.1
(2) The mitigation measures for the impact on the community in the downstream	3.8
(3) Watershed management	111.5
(4) Monitoring	14.1
<b>Total</b>	<b>172.5</b>
<b>Biological Environment</b>	
(1) The mitigation measures for the impact on forestry and vegetation	291.5
(2) The mitigation measures for the impact on fisheries	165.5
(3) Monitoring	6.2
<b>Total</b>	<b>461.2</b>

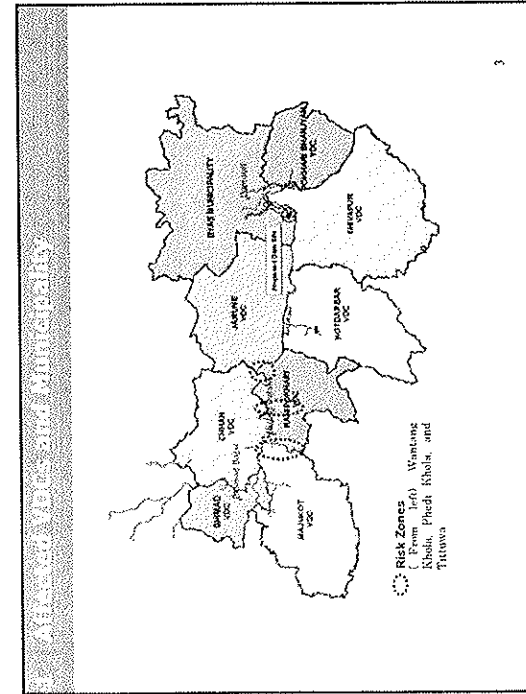
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# Framework of Resettlement Plan and Social Action Plan The Upgrading Feasibility Study Damauli, Tanahu District May 6 2007

1 Identification of Affected Areas		Affected 7 VDCs & 1 Municipality
1	Reservoir Areas (FSL 415+10m)	Bhimad, Chhang, Majkot, Rising Ranipokhari, Kotdurbar, Jamune, Kahun, Shivapur VDCs, Vyas Municipality
	Risk Zones (A 50 m horizontal distance from the edge of the cliff)	i)Wantang Khola (Majkot-Rising Ranipokhari), ii)Phedi Khola (Rising Ranipokhari), and iii) Tittuwa (Rising Ranipokhari)
2	Project Facility Sites	Kahun Shivapur, Vyas Municipality
3	Downstream Areas	Kahun Shivapur, Pokhari Bhanjyang, Keshavtar, Dharampani, Baidi, Chipchiipe, Devghat, Deurali VDCs



2 Major Socio-Economic and cultural impacts		
Affected Cultivated Land	151.22 ha	FSL415 +10 m
Affected Built up Area	1.7 ha	
Affected Forest Land	424.5 ha	
Loss of Agricultural Production	660.77 MT	
Number of Affected Private Structure	313	
Number of Affected Community Structure	7 (1 Ghat, 5 Resting place, 1 Temple)	
Number of Affected Private Land Owners	838 hh	
Number of Affected Structure Owners	110 hh (half of them living in the project facility sites)	
Number of Residential Structure Owners =Relocatee	86 hh (about one-third of them having non-legal title)	

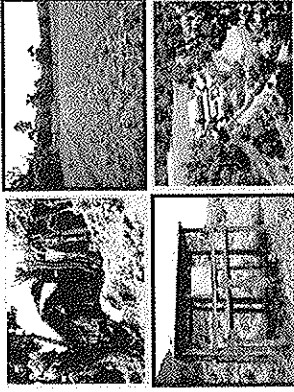
## 2. Major Socio-Economic and Cultural Impacts

- Affected Infrastructures --
  - 2 stretches of Motorable roads, 6 suspension bridges, 20 foot trails, 1 irrigation canals, 2 electric distribution line routes
- Loss of Water Resources and Forest Resources -----
  - Giving negative impacts on those who are highly dependent on forest resources such as fodder and fuel wood and water resources in their daily lives
- Inflow of a Large Number of Workers -----
  - Giving significant stress to the local water supply system and existing public facilities, deteriorating the sanitation conditions and environment

FSL415 m

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## Framework of Resettlement Plan



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## 1. Resettlement Policy Framework for the Project

- Land acquisition and involuntary resettlement shall be avoided where feasible or minimized to the extent possible.
- Where population displacement is unavoidable, individuals, households and community losing assets, livelihood and other resources shall be informed and consulted.
- Affected Persons(APs) shall be compensated at replacement cost for all losses and damaged assets. The absence of legal titles to lands, property and facilities shall not be a bar to compensation.
- APs shall be fully compensated and resettled before their houses are demolished and their land and facilities are acquired.

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## 1. Resettlement Policy Framework for the Project

- A resettlement plan shall be prepared and consulted with APs in advance of the implementation of the project .
- The resettlement plan implementation shall be monitored.
- The resettlement shall be executed as part of the development project.
- After RP implementation, the economic and social conditions of the APs should be improved or at least maintained.

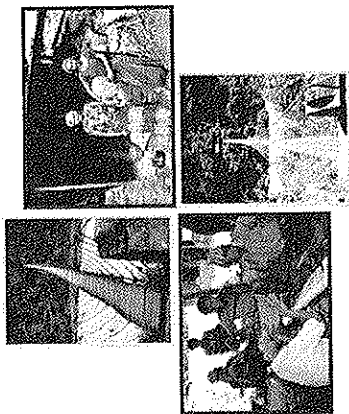
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2. Guide Matrix for Compensation/Rehabilitation										
Type of AS	Type of Compensation/Rehabilitation									
	1	2	3	4	5	6	7	8	9	10
	Permission to use land as agricultural or other use	Loss of crops and other resources	Loss of house and other structures at replacement cost	Loss of community facilities/resources	Loss of government property	Grant for disturbance to displaced households	Grant for transportation of displaced households to new structures	Grant of land to displaced persons	Loss of land/structure	House rental or other income
Landowner	✓	✓	✓							
Land tenant	✓	✓	✓							
Structure owner			✓							
Business owner									✓	
Community		✓		✓			✓			
Government Agency		✓			✓					
Relocation										
House & Lot owner	✓	✓	✓			✓	✓	✓	✓	✓
House owner	✓	✓	✓			✓	✓	✓	✓	✓
House tenant										
Informal settler			✓			✓	✓	✓	✓	✓
House occupant						✓	✓	✓	✓	✓

3. Cost Estimation for Resettlement Plan		
Summary		Million NPR
Cost Estimation for the Private Land		999.51
Cost Estimation for the Structures		33.972
Cost Estimates for Agriculture Production Equivalent to One Year Production		0.647
Other Rehabilitation Compensation to Relocatee		44.95
Transportation Allowance to affected Structure Owners Other than the Affected Residential Structure Owners		0.56
Monitoring for 10 years		1.80
Grand Total		1,081.4

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## Proposed Social Action Plan



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## 1. Social Action Plan Framework for the Project

- Social Action Plan is designed to mitigate socio-economic impacts on the affected communities and affected persons, and rehabilitate the quality of life of these communities and persons.
- Social Action Plan includes a package of 8 social programs.

1. Social Action Plan Framework for the Project
2. Social Action Plan Framework for the Project
3. Social Action Plan Framework for the Project
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7. Social Action Plan Framework for the Project
8. Social Action Plan Framework for the Project

2. Proposed Social Programs	
1	<ul style="list-style-type: none"> <li>◆ <b>Target Groups:</b> Affected local communities in which infrastructure will be affected.</li> <li>◆ <b>Program Components:</b> Affected infrastructure such as motorable roads, suspension bridges, and foot trails will be restored.</li> </ul>
2	<ul style="list-style-type: none"> <li>◆ <b>Target Groups:</b> Affected communities of the project-affected VDCs/municipality of the Reservoir area</li> <li>◆ <b>Program Components:</b> Some development funds will be allocated to each affected VDC to undertake programs as per local needs. The local affected VDCs are expected to contribute 25% of the estimated cost in cash or in kind for the selected program.</li> </ul>

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2. Proposed Social Programs	
3	<ul style="list-style-type: none"> <li>◆ <b>Target Groups:</b> Local interested and eligible people from affected people and communities. The priority should be given to the poor, destitute and disadvantaged people.</li> <li>◆ <b>Program Components:</b> Training will be carried out focusing on enhancement of skills required for the project employment.</li> </ul>
4	<ul style="list-style-type: none"> <li>◆ <b>Target Groups:</b> Affected persons and affected communities.</li> <li>◆ <b>Program Components:</b> It includes agricultural, horticultural and herbal and vegetable farming development by providing practical training and improved seeds or samplings.</li> </ul>

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2. Proposed Social Programs	
5	<ul style="list-style-type: none"> <li>◆ <b>Target Groups:</b> One program is targeted near the construction sites. The other is targeted in the close vicinity of the reservoir affected VDCs.</li> <li>◆ <b>Program Components:</b> It focuses on the improvement of public health, sanitation, water supply, health and education institutions. Various public awareness and education activities such as environmental sanitation, HIV/AIDS, STI and other communicable diseases, and prevention, will be also undertaken.</li> </ul>
6	<ul style="list-style-type: none"> <li>◆ <b>Target Groups:</b> Women in the affected VDCs and municipality</li> <li>◆ <b>Program Components:</b> It includes income generation skills, education on HIV/AIDS, STI, family planning, and girl trafficking, and micro-credit funds.</li> </ul>

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2. Proposed Social Programs	
7	<ul style="list-style-type: none"> <li>◆ <b>Target Groups:</b> Affected communities located close to the reservoir in affected VDCs and municipality.</li> <li>◆ <b>Program Components:</b> With the technical support of the watershed management experts in the detailed design phase, the program will be launched and managed by the affected communities.</li> </ul>
8	<ul style="list-style-type: none"> <li>◆ <b>Target Groups:</b> Unconnected part of the affected VDCs and municipality.</li> <li>◆ <b>Program Components:</b> It is designed to meet the electricity connection needs of the local communities.</li> </ul>

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A. Cost Estimation for Social Action Plan	
Summary	Million NPRs
Replacement of Affected Infrastructures by the Reservoir	85.5
Community's Initiative Support Program	52.13
Skill Enhancement and employment	10.14
Agricultural Development Programs	27.51
Community/Public Health and Education Enhancement Programs at the Project Construction sites	9.66
Community/Public Health and Education Enhancement Programs at the Reservoir affected VDCs	6.27
Women Development Program	13.03
Watershed Management Programs	12.31
Monitoring for 10 years	19.55
Grand Total	236.10

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Recommendations are further investigation at the Detailed Design Stage	
Update and finalize the affected land plots and land owners	
Conduct an inventory structure survey for areas such as Wantang Khola, Phedi Khola and Tittuwa as well as the Project Facility Sites	
Update the framework of Resettlement Plan and the Social Action Plan	
Incorporate the proposed mitigation and enhancement measures in Tender Documents and Contract Agreement	

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