(NEP/05/04)

PICO HYDRO PROMOTION PROJECT

DRAFT

FINAL REPORT (DRAFT)

(October, 2005 -January, 2008)

Submitted To

UNITED NATIONS DEVELOPMENT PROGRAMME

GLOBAL ENVIRONMENT FACILITY-SMALL GRANTS PROGRAMME (UNDP/GEF-SGP)

Bhanimandal, Lalitpur, Nepal

Submitted By

RURAL AND ALTERNATIVE ENERGY PVT. LTD.

Vyas-11, Damauli, Tanahun

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Prepared by

.....
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Approved by

.....
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Pvt. Ltd.

IDENTIFICATION OF PROJECT

Project Name	Pico Hydro Promotion Project.
Project Number	NEP/05/04
Project Type:	
SGP Focal area:	Climate Change Mitigation
Operation Programme:	Promotion and adoption of renewable energy by removing barriers and reducing the implementation costs i.e. op #6
Location of Project:	Bullingtar VDC of Nawalparasi district and Raipur VDC of Tanhun district
Grant Recipient:	Rural and Alternative Energy Pvt. Ltd. (RAEL)
Grant Recipient Address:	Vyas Municipality word -11, Main Road, Damuli, Tanahun Phone no: 977-65-560573 Fax: 977-65-560899 Email: resurja@ntc.net.np
Project period:	5 October 2005 to 14 June 2007 (on the basis of agreement) March, 2006 to December 2007 (On the basis of budget allocation)
Period Covered by Report:	October, 2005 to January, 2008

BENEFICIARIES FROM THE PROJECT

S.N.	***Pico hydro***	***Address***	***Capacity (KW)***	***HH Benefited***	***total***	***M***	***F***	***C***
1	Bhirkuti	Bullingtar, Nawalparsi	3.5	40	280	120	160	80
2	Devaki	Bullingtar, Nawalparsi	4	60	390	176	214	150
3	Damauli	Bullingtar, Nawalparsi	3	30	180	84	96	70
4	Sandhkhola	Bullingtar, Nawalparsi	6.7	70	452	241	211	198
5	Kusunde	Dandajher, Nawlparasi	2	11	109	58	51	22
6	Setekhola A	Raipur, Tanahun	2	15	83	43	40	37
7	Setekhola B	Raipur, Tanahun	3	29	160	82	78	62
Total			**24.2**	**255**	**1654**	**804**	**850**	**619**

Beneficiarries from Capacity Building/Training

S.N.	Training	NO	Male	Female	Nature of participants
1	Social mobilization Training	1	1		Social Mobilizer
2	Basic orientation to operator	14	2	2	Members from PHUGs
3	Pico hydro Repari and maintenance Training	7	7	0	Innovate Members From PHUGs
4	Pico Hydro Utilizatin Training	171	104	67	Members from PHUGs
5	CBoManagement Trainning	52	28	24	Chairpersons and Managers of local 27CBOs
6	Leadership development Training	56	29	27	C/M of CBos and Chairperson of PHUC.
7	Account keeping Training	28	15	13	Manager Of CBOs
8	NTFP Mgt Training	27	15	12	Innovative farmer
9	Enterprise Development Training	16	9	6	Poor farmer
10	Advance Enterprise Development Training	6	6		Innovate farmer
11	Orange orchard mgt Training	30	20	10	Farmer involve in orange cultivation
12	Bee keeping and honey harvesting Training	11	11	-	Involve in traditional bee keeping
13	Institutional Development Training	40	20	20	M/c of CBo members
14	Exposure visit	37	24	13	Representatives from CBOs and PHUC
15	Chairman Manager Conference				Chairman and Manager of CBOs and Chairperson of PHUC
16	Environment Day Celebration	1200	650	550	Students from two ecoclub
17	Learning and Review	21	14	7	Main promotion committee, male and

	Workshop				Female based CBOs, 6 Pico hydro user group, NGo, local teacher
18	Review workshop				The chairperson and manager of all CBOs, committee member of Pico hydro projects, representative from Community Development Group Coordination Committee, teachers and village level political leader.
19	Village level planning workshop	32	18	14	Members of CBOs and PHUC

BUDGET AND FINANCE

S.N.	Funding and cofunding status	Total Cost	percentage
1	**Total project cost**	**8,664,948**	**100**
2	**Amount received under this agreement**	**3,270,750**	**38**
3	**Amount Received from other source of funding**	**2271369**	**26**
a	AEPC	1252500	
b	DDC/VDC/PDF	860000	
c	RES	158869	
4	**Contribution of local CBO/farmers**	**3122829**	**36**
a	Financial contribution	1824549	
b	In kind contribution	1298280	

PROJECT ACTIVITIES

I. ACTIVITIES UNDER OBJECTIVE 1

(Organize poor and underprivileged groups such as kumals to carry out GEF-SGP focal area activities)

In order to organize the local people, there were interactions undertaken with the user of pico hydro by the Rural and Alternative Energy Pvt. Ltd. in the implementation of PHPP in the different communities.

Table: Summary status of Organize poor and underprivileged groups

S.N.	Activities	Status	Remarks
1	Programme Orientation	Yes	In Seven Pico Hydro for the installation of pico hydro
2	First and Second dialogue	Yes	In Seven Pico Hydro for the problem solving and future strategy
3	Formation of CBOs	Yes	32 CBOs are formed including male and female based CBO
4	Base line survey	Yes	To Gather the basic data about community
5	CBO Monitoring	Yes	
6	CBO Account Record Audit	Yes	

A. Programme Orientation, first dialogue and second dialogue

Before implementing the project, orientation porgarmme were conducted in each community for sharing the project activities, strategies of pico hydro installation and community mobilization. All total seven orientations programme were conducted in seven Pico hydro user group. Similarly, regularly village dialogue programme was organized for ensuring inclusion of the poor and women in the benefits sharing of the technology, minimizing conflicts, sharing ideas. Seven pico hydro user group and committee were formed and institutionalized for the installation of Pico Hydro

Table: Participants in Programme Orientation

PHUG	Participants	Male	Female	Cast
Bhrikuti	45	26	19	Kumal
Devaki	60	32	28	Kumal, Brahmin, Damai, Magar
Damauli	50	24	26	Kumal
Sandhkhola	75	42	33	Magar
Kusunde	20	11	9	Magar
Setekhola A	21	15	6	Magar
Setkhola B	22	10	12	Magar, Brahmin
Total	293	160	133	Kumal+Magar+Brahamin+Damai

B. CBO Formation

For implementing income generation activities and saving and credit CBOs were formed in each Pico Hydro User Group. Separate female based CBos were formed for the involvement of women in income generation activities and development activities as women are leaving behind in the development activities. All total 32 Community based organization were formed in the seven Pico hydro user group. Tole meetings were organized to ensure that each member of PHUG is a member of one of the CBOs for getting the benefits from socio-economic development activities of the project. During the tole meetings, HH members were confirmed about the groups they belonged to and other members included in their group. Another objective of tole meeting was to inform the member to think on selecting Chairperson and Manager(C/M) of the group they belong to. Each members were given certain date to meet in the groups to select C/M. After formation of group and selection of Chairman and manager, each group regualary organized meeting for collecting monthly saving and mobilization of loan for income generation activities. Similarly, they collect the interest and loan in quarterly basis and mobilize to the new members. Income generation activities and saving and credit programme were launched through the 32 CBOs out of which 15 CBOs were female Based. 522 framer including male and female are organized in 32 CBOs from Tanahun and Nawalparasi district out of which 39 are dalits (kami, damai), 417 are Janajati (Kumal and Magar) and 66 are B/C. which are clearly shown in following table.

Table: No of CBos in different Pico hydro User group

Name of PHUG	*Bhrikuti*	*Devaki*	*Damauli*	*Sandhkhola*	*Kusunde*	*Detekhola A*	*Setekhola B*
CBOs No	5	7	4	10	2	2	2
Male CBOs	3	4	2	5	1	1	1
Female CBOs	2	3	2	5	1	1	1

Table : Members and cast representation of CBOs

S.N.	CBOs Name	Type	PHUG	Address	Member	Dalit	Janajati	B/C	Remarks
1	Laligurans	M	Bhrikuti	Bullingtar, Nwalparasi	14	-	14	-	All are Kumal community
2	Sipsirjana	M			15	-	15	-	
3	Bhrikuti	M			14	-	14	-	
4	Buddhi Bikas	F			20	-	20	-	
5	Devchuli Kalignadaki	F			22	-	22	-	
6	Shivalaya	M	Devaki		16	3		13	Kami and damai community and kumal community
7	Bijaya	M			16	1	14	1	
8	Sagarmatha	M			16	2	-	14	
9	Annapurna	M			13	3	4	6	
10	Srijana	F			21	6	4	11	
11	Chetansil	F			16	1	14	1	
12	Ghihalaxmi	F			17	1	14	2	

13	Bikram Baba	M	Damauli		16	-	16	-	All kumal
14	Mankamana	M			16	-	16	-	
15	Annapurna Kha	F			16	-	16	-	
16	Dhaulagiri	F			16	-	16	-	
17	Jamkabhet	M	Sandhkhola		16	3	13	-	Magar and dalit(kami and damai)
18	Milan	F			15	3	12	-	
19	Kopila	F			22	3	19	-	
20	Janachetana	M			21	3	18	-	
21	Taramandal	F			12	-	12	-	
22	Amar	M			12	-	12	-	
23	Pragati	F			15	-	15	-	
24	Machapuchre	M			13	-	13	-	
25	Chandrasurya	M			12	3	9	-	
26	Juntara	F			12	3	9	-	
27	Lekali	M	Kusunde	Dandajheri, Nawalparasi	11	-	11	-	All Magar
28	Kalika	F			11	-	11	-	
29	Barai	M	Setekhola A	Raipur, Tanahun	14	-	8	6	Magar dominate
30	Pragatishil	F			15	-	9	6	
31	Paribartan	M	Setekhola B		28	2	23	3	Magar dominate
32	Kalika	F			29	2	24	3	
Total	32		7		522	39	417	66	

II. ACTIVITIES UNDER OBJECTIVE 2

(Support rural communities to adopt pico hydro technology in order to reduce the emission of green house gases)

Table: Summary status of adaptation of pico hydro technology

S.N.	Activities	Status	Remarks
1	Installation of Pico Hydro	yes	Seven pico hydro with 24.2 kw electricity production in local level
2	Formation of Function grop	Yes	7 PHUC and PHUG were formed and institulized
3	CETF MObilizaion	Yes	Mobilized in income generation activities, Pio hydro installation and maintenaince 156 house holds are benefited on the basis of official record.

A. Installation of Pico Hydro and Formation of function group:

Seven pico hydros were installed in Tanahun and Nawalparsi district. For the successful completion of project Seven pico hydro user group and pico hydro user committee were formed on the basis of village settlement and using water resources for electricity. These 7 Pico hydro user group are Bhrikuti Khola PHUG, Devaki PHUG, Damauli khola PHUG, Setekhola A PHUG, Setekhola B PHUG, Kusunde Khola PHG, and Sandhkhola PHUG.

During the programme orientation and different village level dialogue community were mobilized for the utilization of streamlets water to convert electricity. For that they have

to collect money for purchasing cement, corrugated sheet and extra electricity utensils in spite of payment to the company. The detail process for the installation of pico hydro is presented below.

- Site survey for measuring the pico hydro capacity from the streamlets.
- Mass meeting among the electric users for the collective decision.
- Formation of Pico hydro user group and committee (selection of chairman, treasure, secretary, and members).
- Preparation of Constitution, work plan and register in District development committee for water right.
- Agreement with the company about the budget and time period.
- Collection of extra money from the members to pay the company and to purchase physical materials and lobby with government and NGO Sector for the co-funding.
- Labor input for the construction of canal, for-way tank, Power house and electric wire network to the village.

All total 24.2 KW electricity produced from the seven Pico hydro and 1654 peoples of 255 hhs are using electricity for lighting purpose. With the installation of the Pico hydro, local community people have obtained better opportunities to listen to the radio, televising and cassette player using electricity. While during the survey and canal construction few people believed on the success of the project but after the installation people have become very satisfied.

Table: Pico Hydro capacity and Beneficiaries

S.N.	Pico hydro	Address	Capacity (KW)	HH Benefited	total	M	F	C
1	Bhirkuti	Bullingtar, Nawalparsi	3.5	40	280	120	160	80
2	Devaki	Bullingtar, Nawalparsi	4	60	390	176	214	150
3	Damauli	Bullingtar, Nawalparsi	3	30	180	84	96	70
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5	Kusunde	Dandajher, Nawlparasi	2	11	109	58	51	22
6	Setekhola A	Raipur, Tanahun	2	15	83	43	40	37
7	Setekhola B	Raipur, Tanahun	3	29	160	82	78	62
Total			24.2	255	1654	804	850	619

Farmer had contributed financial as well as labor contribution for canal construction, pole, wiring, power house construction and installation. Pico hydro itself is low cost technology where locally available materials like sand, stone and timber are used for the construction of power house. Rural and Alternative energy Pvt. Ltd supplied the electrical equipments and technical support on the basis of agreement between farmers and company. Alternative Energy Promotion Center, Nepal Government also provides subsidies as NRs.65, 000 per KW. Users of Bullingtar and Raipur are also able to receive from the Village Development Committee (VDC), District Development Committee (DDC) and Parliament Development Fund (PDF). The labor contribution for the completion of project is very high. If in kind contribution is converted into the economical value the total cost of pico hydro become expensive. The total expenditure

and cost sharing of each pico hydro is presented below. By seeing the detail expenditure of Kusunde pico-hydro we can generalize the contribution of all stakeholders, labor in kind contribution of different activities and material required for the completion of pico hydro.

Table: Total Expenditure and Cost Sharing of Pico Hydro Project

S.N	Pico hydro	KW	HH	Total exp	AEPC	VDC/DDC /PDF	Farmer	Labor (No)	RES
1	Bhirkuti	3.5	40	515266	165000	155000	160000	1800	35266
2	Devaki	4	60	762599	220000	175000	318549	2100	49050
3	Damauli	3	34	624192	165000	145000	292000	1564	22192
4	Sandhkhola	6.7	65	1283469	325000	180000	747500	3185	30969
5	Kusunde	2	11	296851	130000	130000	27500	1090	9351
6	SetekholaA	2	15	237244	82500	40000	105000	500	9744
7	SetekholaB	3	29	376298	165000	35000	174000	580	2298
Total		24.2	255	4095918	1252500	860000	1824549	10819	158869

Table: Detail Income and Expenditures of Kusunde Khola Pico Hydro Project

	Expenditures		Income		
	Particulars	No	Amount	Particulars	Amount
1.	Amount pay to the company		261851	1. AEPC subsidy	130000
2.	Construction materials		35000	2. DDC/VDC/PDF	130000
	• Cement		5000	• DDC	25000
	• Corrugated Sheet		8000	• VDC	90000
	• Electrical tools		2000	• PDF	15000
	• Others		10000	3. Farmer	27500
	• Administration		10000	4. RES	9351
	Total		2,96,851	Total	2,96,851
3.	Labor input in no	1090	1,30,800	Labor inputs are kind contribution. Per house contributed @100 labors for successively completion of project.	
	• Construction of canal	217	1090 labor@ NRs.120		
	• Construction of power house	351			
	• Electric pole and cable network	472			
	• Transport of material from road head to site	50			
	Gross total		4,27,651		
Note: Excluding the value of electric pole, stone and sand					

Selection of one regular operator for starting the pico hydro at night and closing at morning and month wise collection of electric charge to pay the operator and saving for the future maintenance shows the sustainability of pico hydro in local level.

The immediate output of this activity is that 255 HHs have left using the kerosene for lighting purposes because of electric light. With initial little investment at once, people are enjoying the lights free of marginal costs other than the nominal operators' fee. In responses to the question on the consumption of the kerosene these days, the local people stated that the kerosene consumption has decreased by at least 90 percent. People are saving money for the kerosene and further the health impact associated with kerosene lighting.

B. CETF Mobilization

For the construction of Pico hydro, user also contributed money. After the completion of project farmers use the electricity but they have financial burden. To minimize their financial burden of pico hydro construction and to improve their livelihood condition, project implement different employment orientated training and mobilize Community Environment Fund through the CBOs and PHUG. CETF was mobilized by the group in income generation activities and picho hydro maintenance and installation. Monitoring team for the monitoring of CETF was formed with involvement of social mobilizer, chairperson of main promotion committee and other innovative users. Monitoring team regularly follow up the income generation activities and revolution of fund with the CBOs member. The CETF was distributed for undertaking different income generation activities such as goat raising, business development, pig and chicken farming, etc. The details of the persons taking the loan from CETF are presented in the below table. Community Environment Trust Funds returned back to the CBOs in installment basis by dept farmer and again remobilized among the new members. Those who had taken small amount of money found satisfactory in loan repayment. Larger depter had not payed in fixed time of installment. Regular monitoring of IGA was conducted to find whether they were properly using the loan or not. During field monitoring it was found that 90% depter had fully utilized the loan for income generation activities and able to pay the received loan while installing pico hydropower project. Where as remaining farmers also ready to invest loan in effective IGAs after convinced them. Training on account keeping was found beneficial for the users to be acquainted on how the CETF will be mobilized. All total 156 farmers were benefit on the basis of official record but in the field other farmers also get benefited due to the repayment fund mobize with in the group at 8 % interest rate.

Table: Name List of CETF Mobilization

S.N.	CBOs Name	Member Name	Objectives	Amount	Issue date
1	***Bikram Baba***	Dharma Raj Kamal	Goat Keeping	5000	2063/5/1
2		Hom Bdr Kamal	Goat Keeping	5000	2063/5/1
3	***Lali Gurans***	Pitambar Kamal	Goat Keeping	2000	2063/5/1
4		Dil Bdr Kamal	Pig farming	5000	2063/5/1
5		Sahabir Kamal	Goat Keeping	3000	2063/5/1
6		Khadka Bdr Kamal	Buffalo farming	6000	2064/9/1
7	***Buddibikash***	Balkumari Kamal	Goat Keeping	2000	2063/5/2
8		Narimaya Kamal	Pig farming	2000	2063/5/2

9		Gangadevi Kamal	Buffalo farming	5000	2063/5/2
10	***Chetansil***	Phulmaya Kamal	Goat Keeping	5000	2063/5/2
11		Devi Kamal	Poultry buisness	5000	2063/5/2
12	***Ghrihalaxmi***	Narmata Ranahabat	Buffalo farming	5000	2063/5/1
13		Bhagwati Puri	Goat Keeping	5000	2063/5/2
14	***Dhaulagiri***	Shanti Maya Darai	Goat Keeping	5000	2063/5/2
15		Bindu Maya Darai	Goat Keeping	5000	2063/5/2
16	***Devchuli Kaligandaki***	Sukmaya Kamal	Buffalo farming	5000	2063/5/3
17		Nisha Kamal	Pig farming	2000	2063/5/3
18		Krishna maya Kamal	Goat Keeping	3000	2063/5/2
19	***Bhrikuti***	Himalaya Kamal	Agriculture	5000	2063/5/3
20		Damodar Kamal	Agriculture	5000	2063/5/3
21		Khadka Bdr Kamal	Buffalo farming	30000	2063/9/1
22	***Bijaya***	Bhadra Bdr Kamal	Poultry buisness	5000	2063/5/3
23		Hari Shetri	Goat Keeping	5000	2063/5/3
24	***Shivalaya***	Tikaram Pariyar	Pig farming	3000	2063/5/1
25		Shukra Raj Pariyar	Pig farming	5000	2063/5/1
26		Padam Lal Mischara	Goat Keeping	2000	2063/5/1
27		Mahadev Khandaluk	Buisness	6000	2063/5/24
28		Baburam Gautam	Goat Keeping	9000	2063/5/24
29	***Mankamana***	Pol Bdr Darai	Goat Keeping	5000	2063/5/2
30		Mukta Bdr Darai	Goat Keeping	5000	2063/5/2
31		Juthe Darai	Buffalo farming	7000	2063/6/21
32	***Sip Sirjana***	Tejbir Kamal	Goat Keeping	3000	2063/5/1
33		Rikhe Kamal	Goat Keeping	3000	2063/5/1
34		Tikaram Kamal	Goat Keeping	4000	2063/5/1
35		Shiva Kamal	Buffalo farming	30000	2063/7/11
36	***Sagarmatha***	Padarm Raj Giri	Hardware shop	50000	2063/7/21
37		Gagansing Sushling	Buisness	50000	2063/6/9
38		Narayan Puri	Tea shop	5000	2063/5/3
39		Hasta Bdr Pariyar	small shop	5000	2063/5/3
40		Gam Bdr Khandaluk	Buffalo farming	25000	2063/7/11
41	***Annapurna Kha***	Dhanumaya kamal	Goat Keeping	5000	2063/5/1
42		Shanti Maya kamal	Goat Keeping	5000	2063/5/2
43		Surya Parsad Pandey	shop	50000	2063/8/1
44	***Sirjana***	Gomati Phal Magar	Goat Keeping	5000	2063/5/3
45		Manmaya Pariyar	Tailoring	5000	2063/5/3
46		Phulmaya Pariyar	Buffalo farming	5000	2063/8/2
47		Taradevi Pariyar	Cosmetic shop	50000	2063/8/2
48	***Annapurna Ka***	Buddhilal Pariyar	Pig farming	5000	2063/5/3
49		Lok Bdr Khandulak	Goat Keeping	5000	2063/5/3
50		Keshari Giri	Goat Keeping	4000	2063/9/7
51	***Sip Sirjana***	Rikhe Kamal	Goat Keeping	10000	2064/1/10
52		Tikaram Kamal	Pig farming	40000	2064/01/10
53		Padam Kamal	Goat Keeping	15000	2064/1/10
54	***Lali Gurans***	Khadka Bdr Kamal	Goat Keeping	10000	2064/1/10
55		Dil Bdr Kamal	Goat Keeping	10000	2064/1/10
56		Som Bdr Kamal	Buffalo farming	15000	2064/1/10

57	***Bhrikuti***	Lok Bdr Khandulak	Goat selling	50000	2064/1/10
58		Gam Bdr Kamal	Buffalo farming	60000	2064/1/10
59		Shridhar Kamal	Buffalo farming	20000	2064/1/10
60	***Damauli Khola***	Hemati Kamal	Pico hydro installation	2500	2064/10/1
61		Mina Kamal	Pico hydro installation	2500	2064/10/1
62		Luk Bdr Darai	Pico hydro installation	2500	2064/10/1
63		Madhav Darai	Pico hydro installation	2500	2064/10/1
64		Pol Bdr Darai	Pico hydro installation	2500	2064/10/1
65		Nar Singh Darai	Pico hydro installation	2500	2064/10/1
66		Shanti Maya Darai	Pico hydro installation	2500	2064/10/1
67		Shreedhar Darai	Pico hydro installation	2500	2064/10/1
68		Juthe Darai	Pico hydro installation	2500	2064/10/1
69		Janga Bdr Darai	Pico hydro installation	2500	2064/10/1
70		Mukta Bdr Darai	Pico hydro installation	2500	2064/10/1
71		Chet Bdr Darai	Pico hydro installation	2500	2064/10/1
72		Khem Raj Darai	Pico hydro installation	2500	2064/10/1
73		Chhabilal Kamal	Pico hydro installation	2500	2064/10/1
74		Santa Bdr Kamal	Pico hydro installation	2500	2064/10/1
75		Padam Bdr Kamal	Pico hydro installation	2500	2064/10/1
76		Bal Bdr Kamal	Pico hydro installation	2500	2064/10/1
77		Dhan Bdr Kamal	Pico hydro installation	2500	2064/10/1
78		Rishi Ram Kamal	Pico hydro installation	2500	2064/10/1
79		Dharma Raj Kamal	Pico hydro installation	2500	2064/10/1
80		Peblal Kamal	Pico hydro installation	2500	2064/10/1
81		Bhim Bdr Kamal	Pico hydro installation	5000	2064/10/1
82		Moti Lal Kamal	Pico hydro installation	2500	2064/10/1
83		Bishnu Lal Kamal	Pico hydro installation	2500	2064/10/1
84		Gopal Kamal	Pico hydro installation	2500	2064/10/1
85		Gore Kamal	Pico hydro installation	2500	2064/10/1
86		Ruplal Kamal	Pico hydro installation	2500	2064/10/1
87		Dhan Bdr Kamal	Pico hydro installation	2500	2064/10/1
88		Sushmita kamal	Pico hydro installation	2500	2064/10/1
89		Til Bdr Kamal	Pico hydro installation	2500	2064/10/1
90		Sahabir Kamal	Pico hydro installation	1875	2064/10/1
91		Hem Bdr Kamal	Pico hydro installation	2500	2064/10/1
92	***Devaki***	Tribhuvan School	Pico hydro Maintenance	3200	2064/8/15
93		Gobinda Gautam	Pico hydro Maintenance	1600	2064/8/15
94		Hari Shetri	Pico hydro Maintenance	1600	2064/8/15
95		Padam Lal Mischara	Pico hydro Maintenance	3200	2064/8/15
96		Nun Prasad Some	Pico hydro Maintenance	1600	2064/8/15
97		Bhabilal Pariyar	Pico hydro Maintenance	1600	2064/8/15
98		Lok Bdr Phal	Pico hydro Maintenance	1600	2064/8/15
99		Surya Kamal	Pico hydro Maintenance	1600	2064/8/15
100		Baburam Gautam	Pico hydro Maintenance	3200	2064/8/15
101		Chitra Bdr Pariyar	Pico hydro Maintenance	3200	2064/8/15
102		Atilal Sushling	Pico hydro Maintenance	3200	2064/8/15
103		Bhuvani Shankar Rijal	Pico hydro Maintenance	3200	2064/8/15
104		Gam Bdr Khandaluk	Pico hydro Maintenance	3200	2064/8/15

105		Krishna Raj Puri	Pico hydro Maintenance	3200	2064/8/15
106		Huma Nath Nanda	Pico hydro Maintenance	3200	2064/8/15
107		Narayan Puri	Pico hydro Maintenance	3200	2064/8/15
108		Shiva Raj Puri	Pico hydro Maintenance	3200	2064/8/15
109		Padam Raj Giri	Pico hydro Maintenance	3200	2064/8/15
110		Gagansing Sushling	Pico hydro Maintenance	3200	2064/8/15
111		Dansuraj Rijal	Pico hydro Maintenance	3200	2064/8/15
112		Rudra Bdr Ranabhat	Pico hydro Maintenance	4800	2064/8/15
113		Shukra Raj Pariyar	Pico hydro Maintenance	4000	2064/8/15
114		Jas Bdr Pariyar	Pico hydro Maintenance	1600	2064/8/15
115		Raju Giri	Pico hydro Maintenance	3200	2064/8/15
116		Lekhanath Giri	Pico hydro Maintenance	1600	2064/8/15
117		Som Bdr Kamal	Pico hydro Maintenance	800	2064/8/15
118		Durga Bdr Kamal	Pico hydro Maintenance	1600	2064/8/15
119		Lal Bdr Ranabhat	Pico hydro Maintenance	3200	2064/8/15
120		Hemalal Kamal	Pico hydro Maintenance	800	2064/8/15
121		Buddhilal Pariyar	Pico hydro Maintenance	3200	2064/8/15
122		Rekh Bdr Khandaluk	Pico hydro Maintenance	3200	2064/8/15
123		Purna Bdr Ranabhat	Pico hydro Maintenance	3200	2064/8/15
124		Surya Bdr Ranabhat	Pico hydro Maintenance	3200	2064/8/15
125		Rambadevi Khandaluk	Pico hydro Maintenance	3200	2064/8/15
126		Bir Bdr Kamal	Pico hydro Maintenance	1600	2064/8/15
127		Prem Bdr Kamal	Pico hydro Maintenance	3200	2064/8/15
128		Kul Bdr Kamal	Pico hydro Maintenance	4800	2064/8/15
129		Bhakta Bdr Kamal	Pico hydro Maintenance	3200	2064/8/15
130		Surya Prasad Pandey	Pico hydro Maintenance	4800	2064/8/15
131		Nar Bdr Kamal	Pico hydro Maintenance	3200	2064/8/15
132		Padam Pariyar	Pico hydro Maintenance	3200	2064/8/15
133		Bishnu Kamal	Pico hydro Maintenance	800	2064/8/15
134		Shreedhar Kamal	Pico hydro Maintenance	1600	2064/8/15
135		Moti Ranabhat	Pico hydro Maintenance	1600	2064/8/15
136		Aananda Ranabhat	Pico hydro Maintenance	3200	2064/8/15
137		Til Prasad Ranabhat	Pico hydro Maintenance	1600	2064/8/15
138		Rikhe Kamal	Pico hydro Maintenance	3200	2064/8/15
139		Krishna Bdr Kamal	Pico hydro Maintenance	1600	2064/8/15
140		Man Bdr Kamal	Pico hydro Maintenance	3200	2064/8/15
141		Chudamani Kamal	Pico hydro Maintenance	3200	2064/8/15
142		Damodar Kamal	Pico hydro Maintenance	3200	2064/8/15
143		Prem Bdr Pariyar	Pico hydro Maintenance	800	2064/8/15
144		RishiRam Kandel	Pico hydro Maintenance	1600	2064/8/15
145		Shiva Prasad Kandel	Pico hydro Maintenance	3200	2064/8/15
146		Dhan Bdr Gharti	Pico hydro Maintenance	4800	2064/8/15
147		Tikaram Pariyar	Pico hydro Maintenance	1600	2064/8/15
148		Bhadra Bdr Kamal	Pico hydro Maintenance	1600	2064/8/15
149		Dhola Raj Pandey	Pico hydro Maintenance	1600	2064/8/15
150		Pabitra Ranabhat	Pico hydro Maintenance	1600	2064/8/15
151		Narmal Kamal	Pico hydro Maintenance	4800	2064/8/15
152		Shishir Gautam	Pico hydro Maintenance	4800	2064/8/15

153		Bhakta Kamal	Pico hydro Maintenance	1600	2064/8/15
154		Ramsharan Khandaluk	Pico hydro Maintenance	3200	2064/8/15
155		Anil Pariyar	Pico hydro Maintenance	1600	2064/8/15
156	***Sagarmatha***	Gagansing Sushling	small shop	50000	2064/3/1
Total				**1014875**	

** CBO = Community Based Organization*

III. ACTIVITIES UNDER OBJECTIVE 3

(Support rural communities in implementation of socio-economic development activities that are directly related with sustainable livelihood)

Table: Summary staus of Socieo-economic development activities

S.N.	***Activities on proposal***	***Status***	***Remarks***
1	Orange juice Production	No	Lack of sufficient orange production
2	NTFP collection and trade	No	Lack of NTFP in project area
3	Beekeeping and honey trade	Yes	25 Bee hive support
4	Formation of ecoclub	yes	Two eco club formation and about 1200 students are involve in the ecoclubactivities
5	Furniture support to school	Yes	Support for two schools
6	Establishment of pico hydro service center	Yes	With train manpower Simple problem can be solve in local level
7	Drinking water scheme	No	No Demand
8	Erosion Control work	Yes	Controlling the landslide in canal and forway tank of Stekhola A, Devaki, Brhikuti and Damulikhola Pico Hydro
9	Information Centers Establishment	No	Remaining
	Extra Activities (not include in proposal)		
10	Child care Center Establishment	Yes	No school facility near the village, 20 children are directly benifted at present
11	Community forest support	Yes	Fencing of Devaki community forest
12	Turbine repair and maintenance	yes	Turbine failure in Setekhola A and landslide destroy the power house in Devaki were maintained

A. Eco-club formation

To aware the environmental activities among the school children two ecoclubs were formed in the Bullingtar area of Nawalparsi district. High school level and primary level ecoclub were formed in Tribhuvan higher secondary school and Budhibikas primary school respectively. In order to facilitate the students, Teachers' representative were selected as the Advisors of the Club. Ecoclub regularly conducted school cleanliness program and extracurricular activities like speech, Poetry and essay competition. Similarly they have conducted awareness program about electricity in the village level with the support of project. The winners were awarded by the project at a special occasion of environment day. Sport materials were provided by the RAEL, the implementing organization of PHPP to the TEC. These included volley balls, volley net, volley pumps, playing rings, etc. In the mean time, similar sporting materials were also provided to the local Youth Environment Club.

B. Furniture Support to Schools

In order to ensure that there is ownership over the project activities from all levels of stakeholders in the community; furniture support was provided to the Buddi Bikash and Tribhuvan school. This types of support helps to infrastructure development of remote school.

C. Child Care Center Establishment

None of the users have higher-level education in Kusunde Khola Pico Hydro Power User Group. Most of the children are not joined in the school because Primary school is located far away from the village i.e. it takes about 2 hours. For developing the habit of going school, Childcare Center was establishment in the occasion of happy New Year 2064 at Gotdanda. Local villagers also construct child care center with the support of pico hydro promotion project and RAEL has supported one year salary of local teacher then after District Education Development Office will continue for the support of teacher salary. Students are able to understand devnagari letters. 20 children below 5 years age from 11 households are studying in this center.

D. Erosion control work (support for canal maintenance)

In already established pico hydro units, the status of the culvert (canal) was not very satisfactory. It was realized that if the canal was not maintained even during the rainy season, generation of electricity would be stopped. It was observed that there were many places which were prone to the erosion along the canal bank. Water pressure during the monsoon could push the canal edge. So by organizing a meeting with the members of Four PHUCs, maintenance of the electricity canal was proposed and agreed. Based on these agreements, PHPP supported the pipe and gabion boxes to the PHUC for maintenance of canal in critical places. Regular flows of water from the canal maintain the constant electricity production in the pico and there is no chances of water seepage and land slide in canal.

Table: Pico hydro involve in erosion control work

S.N.	Pico hydro	Problem	Project support	Results
1	Brhirkuti	Water seepage from the tank and canal	Pipe and cement	Regular flow of water and high electricity production
2	Dmauli khola	Land slide in the canal	Pipe	Regular flow of water in the canal with out disturbance
3	Devaki	Massive landslide in the power house and canal	Pipe and Gabion boxes	Establishment of canal and Power house site
4	Setekhola A	Landslide near the intake	Gabion boxes and Cement	Protect intake and no chance soil erosion

E. Establishment of Pico hydro service center

One pico hydro service center has been established with the aim of repairing turbine and other pico hydro tools in local level. For that one Electric technician have been preaped by the project in the bullingtar areas with the simple maintenance equipments.

F. Beekeeping and Honey Trade

After conduction bee keeping training 25 bee hives were supported by project for the replacement of traditional type of bee hive. Only poor and marginalized people were selected for this purpose. Now they are able to earn money by selling honey in the local market and other peoples are going to adopt same bee keeping technology.

G. Community Forest Support

One pico hydro of Bullingtar lies inside the community forest. Community forest helps to conserve soil and maintain the canal and power house location site from landslide. Similarly, it provides future supply of electric pole while it needs replacement. For maintaining the forest condition and controlling free cattle grazing project has support for fencing the Devaki community forest.

H. Turbine Repair and Maintenance

Turbine of Setekhola A failed due to the irregular flow of water. Misunderstandings among the users rose due to lower power production and increasing use of television in the villages. Pico Hydro Promotion Project negotiates the conflicts among the users and proper use of Pico hydro through social mobilization. After the maintenance of turbine, people again get to chance of electric light. Similarly, landslide in rainy season destroyed the powerhouse of devaki pico hydro .Pico hydro project initiates for the reconstruction of powerhouse and maintenance of turbine. People become very happy after the regular supply of power and building good relationship among the villagers.

2.4. ACTIVITIES UNDER OBJECTIVE 4

(Create awareness and enhance the capabilities of rural communities and stakeholders in order to effectively addressing global environmental problems)

Summary of Capacity Building Activities

S.N.	*Training*	*N0*	*Male*	*Female*	*Nature of participants*	*Times*
1	Social mobilization Training	1	1		Social Mobilizer	1
2	Basic orientation to operator	14	2	2	Members from PHUGs	7
3	Pico hydro Repair and maintenance Training	7	7	0	Innovate Members From PHUGs	1
4	Pico Hydro Utilization Training	171	104	67	Members from PHUGs	3
5	CBoManagement Training	52	28	24	Chairpersons and Managers of local 27 CBOs	2
6	Leadership development Training	56	29	27	C/M of CBOs and Chairperson of PHUC.	2
7	Account keeping Training	28	15	13	Manager of CBOs	2
8	NTFP Mgt Training	27	15	12	Innovative farmer	2
9	Enterprise Development Training	16	9	6	Poor farmer	1
10	Advance Enterprise Development Training	6	6		Innovate farmer	1
11	Orange orchard mgt Training	30	20	10	Farmer involve in orange cultivation	1
12	Bee keeping and honey harvesting Training	11	11	-	Involve in traditional bee keeping	1
13	Institutional Development Training	40	20	20	CBo members of Sandkhola and Kusundekhola	1
14	Exposure visit	37	24	13	Representatives from CBOs, PHUC and Main PHUCC	1
15	Chairman Manager				Chairman and Manager of CBOs and Chairperson of	5

	Conference				PHUC	
16	Environment Day Celebration	1200 LS	650 LS	550 LS	Eco-club members of two ecoclub	2
17	Learning and Review Workshop	21	14	7	Main promotion committee, male and female based CBOs, 6 Pico hydro user group, NGO, local teacher	1
18	Review workshop				The chairperson and manager of all 16 CBOs, committee member of three Pico hydro projects, representative from Community Development Group Coordination Committee, teachers and village level political leader.	2
19	Village level planning workshop	32	18	14	Members of CBOs and PHUC	1

A. Social Mobilization Training

Social mobilizing if is done in efficient way it is experienced that it adds much more ease in any sort of community based project works. In the case of Pico Hydro power Project works the same experience has been gained. For proper and efficient way of community mobilization number of consideration regarding the social, economical, political, technological, cultural and many other factors related to the community are to be understood and analyzed at the beginning. Unless those factors are understood the mobilization can never be a complete one. Once those factors are understood then mobilization plan is to be made so that people gets motivated by self willingness toward the work that is expected from the community. Community mobilizer if selected from the community then it is believed that it will be easier for him/her for understanding the mentioned factors. So a CM from the targeted community is selected and is sending for social mobilization training. The training was organized by IRDC, YSN, Pragati-Nepal at Bharatpur, Chitwan. The training was of 5 days long and was organized from 2063/08/10 to 2063/08/14. Mr. Shiva Kamal, Community Mobilizer from Nawalparashi was selected for the training and he is doing well in his work field.

B. Basic Orientation to Operators

Each PHUC selected two persons each for looking after the Pico hydro power house and for operating it. A basic orientation on the Pico Hydro was provided to these two members and orientation was provided in the power house itself by the Rural and Alternative Energy Pvt. Ltd. Technicians. They were informed on how to handle the

instruments, how to manage the water supply, how to clean the equipments, etc. As a result of the basic orientation, the operators are performing satisfactory. 14 operators are trained from the 7 Pico hydro user group. Each pico hydro has one regular operator in salary basis which is paid from the electric charge collected from the users.

C. Advance Training on Pico Hydro repair and maintenance

An advanced training in Pico Hydro repair and maintenance was provided to the 6 members from Bullingtar and two members from Raipur. The purpose of 7 days training was to build the capacity of pico hydro repair and maintenance in the local level for the sustainability of project because previous pico hydro project practiced to maintain their destroyed turbine and other electrical tools in the city which takes long time and more costly. The participants who attended the training are given in below

Table: Participants in the advanced Pico Hydro Training

S.N.	Name of the participants	Name of representing PHUC
1	Nirmal Kamal	Bullingtar, Nawalparasi
2	Chun Bahadur Kamal	Bullingtar, Nawalparasi
3	Shukadev Kamal	Bullingtar, Nawalparsi
4	Dil Bahadur Kamal	Bullingta, Nawalparasi
5	Khadka Bdr Kamal	Bullingtar, Nawalparsi
6	Yam Bdr Thapa	Raipur, Tanahun
7	Chok Bdr Thapa	Raipur, Tanahun

The training was provided by Universal Consultancy Service, Kathmandu in Pokhara. These days, Khadka Bdr kamal, a trained user from the project, work as electrical technical in RES. After seeing the pico hydro installation at his own pico hydro and attain in pico hydro maintenance training, he was involved in the kusundekhola and sandhkhola electric wire network and power house installaion.

D. Pico Hydro Utilization Training

One day pico hydro utilization Training was organized in each pico hydro project to aware about the simple precautions and sustainable technology and community mobilization for the maintenance of pico hydro in the future. Training also focuses on the regular saving and nominal electric charge collection for the operation and maintenance of project. Total of one hundred Seventy one users were participated in the training including men, women, children, youth and old persons from the six pico hydro user groups. The detail about pico hydro utilization training is presented below.

Table: Status of Pico hydro utilization Training

S.N.	Date	PHUG	Participants
1	2064/9/14	Bhrikutikhola	35 (F:15, M:20)
2	2064/9/15	Devaki	55 (F:22, M:32)
3	2064/9/12	Damaulikhola	30 (F:13, M:17)
4	2064/9/17	Kusundekhola	11 (F:03, M:08)
5	2064/9/24	Setekhola A	20 (F:08, M:12)

6	2064/9/25	Setekhola B	20 (F:06, M:14)
Total			171(F:67,M:104)

E. CBO Management Training

Nature of the participants:	Chairpersons and Managers of CBOs Community members with interest in managing the CBOs
Objectives of the training:	A. to capacitate the Chairpersons and Managers with tools to manage the CBOs B. To share the approaches of CBO planning, programming including budgeting, monitoring, and evaluation
Expected Outcome:	The purpose of working in CBOs, benefits of group dynamics understood by C/M Appropriate CBO planning, budgeting, monitoring and evaluation of the CBO activity accomplished.
Frequency:	2 times (one from the member of 16 CBos and another from the member of 12 CBO in two times)

F. Leadership development Training

Nature of the participants	Members of main PHUC Chairperson of CBO Community members with showing interest in leading the CBOs
Objectives of the training:	A. To capacitate the members of main Pico Hydro Users Committee, Community forest user groups and eco clubs in undertaking the leading role in linking their groups and clubs to the project objectives B. To equip information to the participants in building the networks and collaborations with other organizations for generating co-funding
Expected outcome	Ownership developed over the project activities Network and coordination established with the local institutions and other organizations CBOs facilitated with the leadership tools and techniques in organizing CBO meetings and project related programmes
Frequncy:	2 times (one from the member of 16 CBos and another from the member of 12 CBOs in two times)

G. Account Keeping Training

Nature of the participants	Managers of CBOs

Objectives of the training:	A. To capacitate the Managers, of locally established CBOs to keep the records of the financial matters related to the CBOs B. To share the approaches of account keeping including CETF status, community saving and its mobilization
Expected outcome	The system of double accounting understood by the participants Appropriate CBO budgeting
Frequncy:	2 times (one from the member of 16 CBos and another from the member of 12 CBOs in two times)

H. NTFP Management Training

Nature of the participants:	Poor farmers from three PHUC Members
Objectives of the training:	A. To identify the potential NTFPs that can be produced in the local CFs so that they can support in the income generation of the users B. To disseminate common practices of growing NTFPs for wider benefits. C. To locate the areas where the Pico electricity could be used in processing the NTFPs
Expected outcome	NTPFs grown and marketed by CFUGs Increased income of the CFUG members Use of the Pico electricity for drying of the NTFPs
Frequncy:	2 times (one from the member of 16 CBos and another from the member of 12 CBOs in two times)

I. Enterprise Development Training

Nature of the participants:	Poor farmers from the CBOs
Objectives of the training:	A. To identify the potential business potentialities that can be practiced in the local community to achieve economic development. B. To inform the ideas to succeed in the enterprises undertaken by highlighting the key issues of a successful entrepreneur. C. To teach the farmers to prepare the business or enterprise plan so that it will be easy to release the CETF.
Expected outcome	Realistic enterprise plan for borrowing loan from CETF. Motivated farmers to undertake the enterprises that benefit them.

J. Advance Enterprise Development Training

Completion of a Pico Hydro Project can not be sustainable until the users have ideas about the possible use of the PHPP.. It is believed that the training programme will show them several ideas about enterprise development. The training was organized by IRDC Bharatpur in association with UNDP/GEF/SGP. The training was scheduled for 2063/08/24 to 2063/08/29. All together 6 participants from Rural and Alternative Energy Pvt Ltd were participated in the training.

Table: Name list of Participants in Enterpise Devlopment Training

S.N.	Participant Name	CBos Name	Address
1	Rehire Kamal	Bikram Baba	Bullingtar -4
2	Khadka Bdr Kamal	Laligurans	Bullingtar-4
3	Narayan Puri	Devaki	Bullingtar -4
4	Dharmaraj Kamal	Damaulikhola	Bullingtar -4
5	Kul Bdr Kamal	Damaulikhola	Bullingtar -4
6	Damodar Kamal	Brikuti	Bullingtar -4

L. Orange Orchard Management Training

In the Raipur VDC of Tanahun district, there is a high chance of orange cultivation. Orange trees were grown in the terrace of bariland in the traditional way. Although orange juice making training is included in the proposal but there are not sufficient orange for the juice making .Orange orchard management training were organized for the commercial and scientific cultivation of orange among the Setekhola A and Setekhola B PHUGs.

M. Bee keeping and honey harvesting Training

Local people practiced bee keeping in traditional type of hive and honey production from these type of hive is very low where as the possibilities and marketing of local honey are high. For optimizing the production of honey, three days training was organizing about bee keeping and honey harvesting. All total 11 traditional hives were replaced with modern hives during training period. The coverage of training are:

- Introduction about bee keeping
- Importance of bee keeping
- Description about the types of bee and their roles
- Feeding management techniques
- Honey harvesting time and methods
- Quality honey production
- Processing of honey
- Packaging
- Replacing traditional hives with modern hives

Participants are able to replace the bees from traditional hive to modern hive and optimum honey production technology.

N. Institution Development Training

Three days institutional development training was organized among the Users of Sandkhola pico hydropower users group. All together 40 Participants were presented in the training. Mainly institutional development, leadership development, resource mobilization and sustainability of project were discussed during training period.

O. Chairman Manager conference

Series of Chairman and Manager Conference were organized among the Chairman and manager of CBOs for discussion about the saving and credit, CETF mobilization, income generation activities, CBO management, Project Achievement etc.

I. Environment Day Celebration

Two Environment days were celebrated by Tribhuvan ecoclub by conducting school cleanliness program and Extra curricular activities like school level poetry competition, speech competition and easy competition.

Table: Environmental Extra Curricular Activities

S.N.	Type of Activity	Nature of Participants	Topic	Number of participants
1	School level poetry competition	Students from the local schools	Related to "nature and environment"	22
2	School level debate competition	Students from the local schools	Role of students and youths in local environmental conservation	11
3	Community level essay competition	Local community members, students from local schools	Significance of rural electrification in rural development	9

J. Review and planning Workshop

Before starting the implementation of the new Pico hydro project, RAE called a meeting. In the meeting the technical body of the company, Consultant of the company, Community mobilizers, Community members and the company managerial staffs were called. With this vision, the new PHPP has been started for implementation. Other than the group division, the meeting also recommended for standardizing the Supply Chain Management of the company.

Similarly one village level review and planning workshop was organized at the mid term of project by calling the chairperson and manager of 16 CBOs, committee member of three Pico hydro project, representative from Community Development Group Coordination Committee, teachers and village level political leader. The main agenda of the meeting was to discuss on the experiences that the stakeholder of the project felt till then. The experiences that were discussed on the meeting were both bitter and sweet. During the discussion session several plans were made so as not to fell bitter experience

in the days to come. They were facing great challenged while properly implementing loan mobilization and during the maintenance of pico hydropower turbine. Local people have planned to establish one financial cooperative including all CBOs for sustainable mobilization of CETF. They also developed provision for the maintenance of pico hydropower project from the benefit of cooperatives. They showed their interest for the mobilization of CETF through cooperatives. It was consensus view from the meeting attendants that such a group formation and independent, specific and measurable task assignment will help to reduce conflict among the work team and motivate the group to complete the assigned work on time.

2.5 ACTIVITIES UNDER OBJECTIVE 5

(Institutional Development)

Summary status of Institutional Development

S.N.	Activities	Status	Remarks
1	Formation of Pico hydro Promotion Committee	yes	Apex body of pico hydro promotion committee was formed among the chairperson of all CBOs and PHUC in Bullingtar areas.
2	Constitution preparation and registration of PPC	yes	All the Pico hydro had prepared and registered in the District Development Committee.
3	Office Establishment and operation of PPC		Village level office had been established and will continue in the building of Rural Community Development Center, Bullingtar, Nawlparasi and all the official work are done from this office.

RESULTS

I. Accomplished objectives of Agreement

Poor and underprivileged group such as kumals, Magar, dalit and women are organized to carry out GEF/SGP focal area activities. Thirty two CBOs were formed for the implementation of income generation activities out of which 15 CBOs were female based. 522 peoples are involved in CBOs, out of which 417 are janajati, 66 are dalit and 39 are belongs to Brahmin community. Disadvantage people like magar, kumal and dalits are involving in different income generation activities.

Activities	**Achived**
CBo formation	32 (male: 17, Female: 15)
Programme orientation	7
First and second dialogue	7

Now, 1654 people of 255 households from bullingtar and Raipur are able to get electric facility in their houses. All total 7 Pico hydro are installed and 24.2 Kw electricity were produced. The initial capital required for pico hydro installation is high. Peoples have invested huge amount of capital inspire of their poverty for the production of electricity in local level. Project provided loan without any collateral in group basis for implementing income generation activities to pay the loan of Pico hydro and also provide credit for pico hydro installation and maintenance. 156 people involve in income generation activities from the loan of project. CBOs are involved in the saving and credit programme also.

Activities	**Achieved**
Installation of pico hydro	7
Formation of PHUG and PHUC	7
Formation of PHPC	1
Electricity production	24.2
House hold benefits	255 HH and 1654 peoples
CETF Mobilization	156 peoples

Formation of eco club in two schools, furniture support to school and development of child care center helps to foster the education of local community. Soil conservation work in the pico hydro site and repair and maintenance of two pico hydro maintain the regular production of electricity. Establishment of pico hydro service center in the local level with train man power helps to solve the maintenance of electricity in the local level at low cost and proper time.

Table: Achievement of socio-economic development Activities.

S.N	Proposed activities	Targeted	Achieved	Achievement %	Remarks
1	NTFP Collection Packaging and Marketing	1	No feasible	-	
2	Orange Juice Making	1	No feasible	-	
3	Beehive support	500	25	5	no co

					funding
4	Support to Eco- Clubs	2	2	100	
5	Furniture support to school	3	3	100	
6	Drinking and Water scheme	6	No demand	-	No demand
7	Erosion control and culvert construction	6	6	100	
8	Turbine Repair and Maintenance		2	As per need	
9	Establishment of Pico Service Centre	3	1	33	Ongoing
10	Establishment of Information Centre	3	-		Remain
11	Community Forest Support		1		
	Total	525	40	8	

Basic orientation to the operator, Pico hydro repair and maintenance training and pico hydro utilization training devlop the capacity of local people for the sustainable utilization of pico hydro. Social mobilization, CBo Management, leadership development, account keeping and institutional development training develop the capacity of CBOs for the management of group. Skills of disadvantage people improve after the conduction of bee keeping, enterprise development and orange orchard management training and people are involve in commercial cultivation bee keeping and orange orchard.

Table: Achievement in socio-economic development activities

S.N	Proposed activities	Targeted Number	Achieved Number	Achievement %	Remarks
1	Social Mobilization Training	2	1	50	Completed
2	Project Orientation Programmed	120	293	244	Completed
3	CBO Management Training	40	52	130	Completed
4	Account Keeping Training	40	28	70	Completed
5	Leadership Development Training	80	56	70	Completed
6	NNTP's Cultivation Collection Training	30	27	90	Completed
7	Orange orchard management Training	20	30	150	Completed
8	Bee-Keeping and Honey Harvesting Training	50	11	22	Completed
9	Pico-Hydro Repair and Maintenance Training	15	21	140	Completed
10	Enterprise Development Training	20	22	110	Completed
11	Institutional Development Training	25	40	160	Completed
12	Exposure Visit	30	37	123	Completed
13	Chairman Manager Conference		5 times		As per need
14	Environment Day Celebration	3	2	67	As per need
15	Review and learning workshop	9	4	44	As per need
17	Pico Hydro Utilization Training	300	104	35	Completed
	Total	**784**	**728**	93	

II. Benefits Received by the communities

Despite the lack of national grid in the remote and scattered villages, local people using the electricity generated from their own water resources. After the electricity has been

generated, in their own words, their life has changed. Their children are able to study for a longer period of time and involved in productive purposes. Farmers are able to save the expenditure of kerosene and female are also feeling comfortable for conducting indoor and kitchen works. People have realized that electricity through this system has been very useful to build up social harmony. They have developed the abilities to work in groups and they have begun to believe in themselves. With the installation of the Pico hydro, local community people have obtained better opportunities to listen to the radio, TV, cassette, etc using electricity. From the CETF, they are involve in income generation activities like pig farming, taloirng, small shops, and livestock keeping which improve their income level and generate employment opportunities. Regular Saving in monthly basic helps to get loan at any time with nominal interest rate without any collateral. Different training launched by the project develops their capacity and skills for the community management.

III. Long term benefits

- Saving of kerosene helps to the minimization of fuel crisis in national level
- CBOs involve in community development activities maintain the national economic growth, development and poverty reduction.

NEW DEVELOPMENT AND UNEXPECTED DIFFICULTIES/PROBLEMS

New Development: Electricity can be generated by utilizing water of streamlets and demand of energy can be fulfilled
Unexpected difficulties: Land slide destroyed the power house and canal of pico hydro

LESSON LEARNED

Local initiatives can fulfill the increasing demand of electricity with community involvement and maintain the global warming by replacing the kerosene consumption.