Volume: 7, issue 1, January -April 2003

THE Reconstruction

Punarnirman

Rural Reconstruction Nepal (RRN) Newsletter

Supporting ex-Kamaiya to Survive: Farming and non-farming opportunities

Transition from Traditional Energy Consumption to Modern Energy Services, RRN's Initiative in Arun Valley

Prospects and Challenges of Communication Systems: Case from Nepal

The Reconstruction will now be published thrice in a year instead of half-yearly. It will continue to include interesting articles related to RRN programmes; successful case studies and some of the accomplishments of RRN. In addition, continuity will be given to include the critical issues that affect the life of the ordinary people. We would very much appreciate feedback, comments and suggestions on this issue of the Newsletter.

Contents

Cover photo: Kamaiya children: participants of non-formal education programme in Nayagaun, Rajapur

Editorial

Kamaiyas still struggling for survival

Since 1994, different different Human Rights and Humanitarian Organizations, UN agencies and local NGOs in coordination with other social partners have worked alongside the victims of the forced labour system (particularly Kamaiya system) to abolish the practice of forced labour and to press for the full observance of international labour standards. The Kamaiya system is characterized by debt-bonded system under the guise of a permanent farm labour relationship. After continuous struggle by the Kamaiyas supported by different national and international institutions and activists, the system of debt bondage in the form of Kamaiya came to an end.

In 17th July 2000, His Majesty's Government of Nepal through its cabinet decision abolished the practice rendering the system illegal and annulled all hitherto incurred debts by Kamaiya. The recently promulgated Kamaiya Labour (Prohibition) Act, 2002 makes the perpetuation of the system punishable. Until then, this system was most prevalent in Dang, Banke, Bardiya, Kailali and Kanchanpur districts of Mid and Far Western Terai.

After the abolition of Kamaiya system, there has been proliferation of government and non-government efforts to rehabilitate the 'freed Kamaiyas'. Widespread poverty, physical and social exclusion, ignorance, lack of access to power and vulnerability are the key factors that are still forcing the ex-Kamaiyas to continue in their deprived social existence. If they do not have any external or alternative support for keeping up their or their family members livelihoods, they have to go through the humiliation and deteriorated dignity.

Rural Reconstruction Nepal (RRN) has been working both in implementation of socio-economic empowerment, and policy advocacy, networking and lobbying for the liberation of Kamaiyas and other bonded labourers, including child labourers in the all above-mentioned districts since 1994. The envisaged objective of these different programmes was socio-economic empowerment through rehabilitation, education, health, sustainable livelihoods and institutional development. In addition to several other activities carried out by various other organisations, these programmes have proved to be of great significance for liberating the Kamaiyas from their age-old bondage. Not only this, the school enrolment of children, improvement in living conditions, health, economic situation and level of awareness of the programme participants has increased remarkably.

This issue of Reconstruction has highlighted some of the achievements of its one such programme which was mainly focused on socio-economic empowerment of Kamalhari. One article has also tried to bring into the limelight some viable options for the sustainable livelihoods of the ex-Kamaiyas. Other subjects covered by this issue are those, which are prominent for the overall development of the Nepalese society. They are hydropower, water and communication. We are hopeful that the readers will really enjoy reading.

Thank you

Supporting ex-Kamaiya to Survive: Farming and non-farming opportunities

Prakash Kafle

The problems

After declaring the Kamaiya emancipated, His Majesty's Government of Nepal (HMG/N) distributed lands to the landless Kamaiyas (categories A and B). The declaration of the Kamaiya system as illegal, and the writing off of their debt (sauki), was the result of years of agitation and peaceful rebellion by the Kamaiya themselves, and by civil society organisations, human rights organisations and NGOs.

"One of the demands of our movement in 2000 was to secure enough land so that we could produce food to support our families for the whole year", recalls Agnaiya Tharu of Muktinagar village, Banke who was one of the agitation leaders. The government promised to provide five kaththas of land to all landless Kamaiyas, but has provided between one and five kaththas. While a small number of liberated Kamaiyas have received five kaththas, many have received only around two to three kaththas of land.

In addition, not all liberated Kamaiya received land, as some were not able to register their names because of non-cooperative landlords. Some others have still not been able to identify and locate the lands provided to them. They are found languishing in the district land reform offices (DLRO).

Table 1: Land distributed to the landless Kamaiyas

SN	Districts	Total number of families of ex-Kamaiyas (A and B categories)	Total areas of land distributed	Average area
1	Dang	405	74B-15K-8D	3.7 Kaththas
2	Banke	901	119B-16K-6D	2.67 Kaththas
3	Bardiya	3594	695 B-19K-14D	3.87 Kaththas
4	Kailali	4393	784 B-13K-3D	3.57 Kaththas
5	Kanchanpur	2799	686 B-8K-15D	4.9 Kaththas
	Average			3.9 Kaththas

Twenty Kaththas (K) is equal to one Bigha (B)
Thirty K is equivalent to one hectare.
Source: Ministry of Land Reform and Management, 2001

In many cases, the land distributed to Kamaiyas has proved to be infertile, as it is mostly unirrigated upland, or rocky and sandy land near to the rivers. On the one hand, the land is insufficient in itself while, on the other it is infertile. This has further worsened the sufferings of the Kamaiyas. There is no provision for irrigation so the farmers depend on monsoon rain for cultivation. In some cases, the resettled areas are in the foothills of the churiya range where there is an acute shortage of water even for drinking. In addition, the soils of the foothills are very poor, and irrigation is

necessary for successful farming.

"Resettling a very large number of liberated Kamaiyas in one place has caused a 'stockpiling' of people with similar type of skills in one particular area which has produced "a reserve battalion of unskilled labour" causing unemployment" reported Buddhi Ram Tharu, an NGO activist involved in the Kamaiya movement. Buddhi Ram added that before liberation almost all Kamaiyas were employed, but since the relationship between Kamaiyas and landlords is still bitter, the liberated Kamaiyas cannot now work with their previous landlords. "After the declaration [of liberation], farmers have shifted to sharecropping. As we don't have a pair of draft animals for ploughing, we cannot participate in sharecropping" said a liberated Kamaiya of Tesanpur, Bardiya district.

Kamaiyas rarely have skills other than those needed for farming and therefore are unable to take on work other than ploughing of land and sowing of seeds. The only other option available to them is to work as unskilled labour, but this is also problematic because the camps of liberated Kamaiyas are often placed at isolation from the villages and far from the cities. For example Chandev and Shovatal villages in Kanchanpur district are 50-55 KM from district headquarters, and in Kailali, one camp is situated at the foothills of Chure around ten KM from the east-west highway from Sukhkhad. Tthe remoteness of the resettled Kamaiyas villages and the security situation in the past months has adversely affected the Kamaiya rehabilitation programmes of different development agencies. Villages nearer to black-topped road and district headquarters receive much greater support and attention from development agencies than remote and isolated villages. The villagers of Muktinagar (in Bankhet, Banke district along the Nepalgunj-Surkhet highway, about 18 KM from Nepalgunj) now have a more prosperous life as compared to the liberated Kamaiyas of Sinabas of Baijapur VDC, Banke. The latter is situated in a remote area, and villagers have had no significant support since they were rehabilitated. The same situation can be found in Bardiya district too: Dhanuara village is receiving less attention from development agencies as compared to other villages because it is far from district headquarters and away from the canopy of security forces.

Because no work is available in the vicinities of the newly resettled areas, the liberated Kamaiyas are forced to work under the banned Kamaiya system but giving different names. In December 2002, eleven liberated Kamaiyas were reported to have migrated to Dhansinghpur village from the resettled Dhanchauri village of Kailali district. Though their wage is a little better than under the banned Kamaiya system, they are not receiving an appropriate wage as determined by the HMG/N.

"We are traditionally agriculturists doing farming even though not in our own land for a long time. We can't even think other alternatives than agriculture for our livelihood", said a freed Kamaiya of Patharaiya village of eastern Kailali. He adds, "the produce from the land is just sufficient to feed our families for three to four months. For the remaining months, we depend on their unskilled labour which is itself not a regular source of income".

Opportunities

The Kamaiya have received land, though it is often unproductive and insufficient. However, unproductive land can be made productive by adopting some cultural as well as cultivation practices. The alkaline sandy soils could be reclaimed to make them fit for farming. As lack of irrigation is the biggest problem hindering production, provisions for irrigating the land (using shallow tube wells or irrigation canals from the rivers) should be made.

The Kamaiyas are now receptive to new technology and are keen to adopt it for their livelihoods. In their villages they have already

formed functional groups and cooperatives. Bir Bahadur Tharu, a group leader of Patharaiya village of eastern Kailali, has said that with the initiation and support from different agencies they had formed groups and cooperative for addressing the problems they were facing and taking the development initiatives on their own. Moreover, they have very wide knowledge of farming, as they are agriculturists by tradition. Therefore a simple intervention on skill upgrading in farming would bring dramatic changes to their lives. Besides agriculture, fishing is also a traditional occupation of the Tharu ethnic minority to which the liberated Kamaiyas belong. "Besides agriculture our men and women are expert in knitting/weaving of dhakiya (baskets), chhatri (umbrella), chhituwa (small basket), and fishing nets as they are doing these from generation to generation," said Bipta Tharu of Bhimmapur village of Rajapur delta, Bardiya and concluded that "a simple support on marketing could bring a change to our lives"

Some of the liberated Kamaiya villages are situated nearby the roads or cities. Vegetables are now being imported from the hills or India to the cities. In light of this, there are immense opportunities for producing vegetables, as there is a ready market for these crops.

After the declaration of ceasefire by the Communist Party of Nepal (CPN Maoist) and the HMG/N in 29 January 2003, the overall situation (including security situation) in the Kamaiya villages has been drastically improved. As both the warring parties have agreed to peaceful means to sort out their differences it is high time for all of us to do some "concrete" in favour of liberated Kamaiyas and other vulnerable communities.

Recommendations

In the light of above discussed problems and opportunities, recommendations for Kamaiyas on the possible livelihood options can be made:

- **Upgrading of farming skills:** Kamaiyas have wide knowledge and skills relating to farming. Their traditional knowledge can be upgraded by providing them trainings and exposures on improved farming. Since vegetable production has a high potential because there is a well-established market and some Kamaiya villages are near to the roads and cities, market led commer cial vegetable production would be one alternative.

- **Collective leasehold farming:** Lands of schools, temples, campuses could be traced out and can be used by them on leasehold agreement with the owners. The insurgency has evicted many landlords from the villages leaving their land fallow, which could also be leased out to the liberated Kamaiyas.

- **Goat farming:** Almost all resettled areas are either in the jungle or near by the jungle. The forest can best be utilized by motivating Kamaiyas for goat farming. Goat has very good market potentiality and can be grown both extensively as well as intensively.

- **Fish farming**, more specifically community fish farming could be another successful intervention for liberated Kamaiyas as they have indigenous knowledge on fishing and fish farming. In this case too, a simple skill and knowledge upgrading training could prove milestone for supporting Kamaiyas in their bid for survival. The natural lakes, which are found in plenty in the districts of Bardiya, Kailali and Kanchanpur, can be rehabilitated and upgraded to accommodate high yielding fishes. Artificial ponds can be dug in the potential areas of Dang and Banke districts. As the natural lakes are owned by the local bodies, their sincere

collaborations are necessary.

- **Introduction of new crops:** Some crops such as drumstick, cassava and chayote, which can play a pivotal role in household food security because of their specific characteristics, can be introduced into the Kamaiya villages. Other cash crops like turmeric, ginger etc could also prove beneficial for them.

Besides on-farm (agro and livestock based) income generating activities, liberated Kamaiyas could also be trained and exposed to some of the highly potential off-farm interventions.

- **Masonry:** This is the most high potential off-farm activity because there is high demand for such skilled human resource in the market. Moreover, newly literate and illiterate youths who are most vulnerable to the conflict can be engaged in this programme.

- **Carpentry:** Some of the local Tharu youths are already practicing this occupation and there are plenty of opportunities available for other newcomers as the carpenters from nearby Indian cities have stopped coming to the nearby Nepalese villages.

- **House-wiring:** Another livelihood option for newly literate and school educated ex-Kamaiya youths could be house-wiring. It has greater scope in the context of HMG/N's forthcoming planning of rural electrification.

- **Small-scale forest based income-generating schemes** such as rope making, sal-plate making and others could be technically and financially feasible for ex-Kamaiyas, as these require a small investment.

- **Other innovative enterprises,** both farming and non-farming, could be searched with the active participation of the beneficiaries. An innovative intervention could be wall painting or signboard painting. Some successful enterprises in other areas could be replicated for Kamaiyas too.

- **Quality training** followed by start-up capital, inputs supports and monitoring are a must for them to get into entirely new enterprises. Some of the ex-participants are proposing a network or organisation of trainees so they could share their experiences and learnings among themselves and others. A new livelihood programme should now take into consideration this real need of the trainees.

- **Food for work:** Labour intensive development programmes are best suited for Nepal in general and for liberated Kamaiya in particular. Food for work is the most successful programme for ex-Kamaiya, because it not only provides them with work opportunities, which they need so desperately, but it also keeps the wage rate intact reducing the chances of exploitation of labours.

At last but not least, it is highly recommended that an integrated development programme should be the modus operandi for the overall development of Kamaiya villages in order to deal with a wide range of problems and concerns, which are integrated in nature.

———

PRO-KAMALHARI Programme

Programme for Working Children of Former Kamaiyas and Alternative Livelihood and Rehabilitation Initiatives

The Pro-Kamalhari Programme was implemented in Nawalparasi, Rupandehi, Kapilvastu, Dang, Banke, Bardiya, Kailali and Kanchanpur Districts by RRN from March 2001 to June 2002.

Background

The Nepalese government officially declared the abolition of the Kamaiya system on July 17, 2000. The Kamaiya system, prevalent in the mid and far west Terai of Nepal, was one of the most inhuman practices observed in the form of forced bonded labour. The Kamaiya system was based on the indebtedness of the Kamaiya, or worker to his / her landowner and by the social relations where the Kamaiya sells their labour to the landowner in lieu of a previous loan taken from the landowner in this lifetime or by previous generations. Since there were very few chances of repaying the loan taken by the bonded Kamaiya and no other possible ways to earn a livelihood, the whole family was forced to work for the landlord until the loan was repaid. Thus, not only the Kamaiya but also his family were bonded to work for the landlord for a meagre wage. The children of the Kamaiyas, especially girl children were forced to work in the house of the landlord, performing duties such as cleaning floors and dishes. The majority of former Kamaiya children are deprived of opportunities to go to school, eat adequate food and receive adequate health care.

The decision by the Government to abolish the Kamaiya system and cancel all debts is very much appreciated by all, however, lack of planned and concrete settlement and rehabilitation programmes have created confusion and difficulties for the liberated Kamaiyas. Many former Kamaiyas are facing problems of food and shelter. The liberated Kamaiyas and their children will face an even worse situation if the government and civil society fail to take immediate resettlement and rehabilitation measures.

Based on previous work experiences with former bonded labourers and their children in selected villages of Bardia district, RRN felt the need of intervention with its Action Programme focused towards upliftment of the freed Kamaiyas.

Objectives

To contribute to the elimination of child-bonded labour especially the girl child (Kamalhari) from forced employment and protect their rights.

Activities

The Action Programme concentrated on issues of health, livelihood and education. The Out of School (OSP) programme provided an opportunity for children who have not attended school due to socio-economic or cultural reasons. This programme was conducted for the freed Kamaiya children falling within the age group of 10 and 16. Formal education support was provided to OSP graduates as well as to children between the ages of 6 and 9. Further, vocational and skill development training was imparted to OSP graduates of 14 to 16. The womenfolk of the freed Kamaiyas were given entrepreneurship and micro-finance management training plus preventive health education. Legal aid and counselling services were also provided to the freed Kamaiya families.

The Major Achievements

- Baseline survey and preparation of the VDC Profiles of the 13 VDCs of the eight project districts. The profile contains the status of children and working children in the VDCs. Socio-economic status of the former Kamaiyas and other vulnerable communities in the VDCs. Age-wise and sex statistics of the children of ex-Kamaiyas viz. 6-9 years, 10-13 years and 14-16 years. Similar information of the working children and their families.

- Workshops for awareness raising were organised two times in eight districts to sensitise the VDCs and DDCs representatives, local school teachers, local office of land reform, trade unions, Kamaiyas, landlords, and child labourers on Kamaiya child labour issues, legal conventions on child / human rights, gender issues etc. Local NGO/CBO representatives, school teachers, INGOs, local government line agencies, trade unions, representatives of the political parties, university teachers etc participated in the workshop. The major achievements of the workshops were:

  i. Shared the objectives and activities of the action program among the district level stakeholders (government agencies, (I) NGOs, Trade unions, political and social leaders).
  ii. Existing situations and possible remedies of the child labour were discussed in the district level workshops.
  iii. Feedbacks were received from the action program stakeholders.
  iv. In the district level workshops outcomes of the action program were disseminated among the participants.

- Eight hundred working children from the eight project districts were identified and OSP was conducted for 500 children of 10-16 years age group, and school mainstreaming for 300 children of 6-9 years age group in eight districts of the action program. A total of 20 OSP (Out of school programme) classes were conducted in the eight districts. Similarly, 20 OSP facilitators were selected and provided with ten days residential training at Kohalpur Banke. The OSP classes were conducted for a period of nine months.

- Provided vocational and skill development training to 200 (grown up children) OSP graduates. The grown up children either not interested or unable to continue their education were provided with appropriate vocational training both for male and female. Based on the availability of training courses, enrolment of OSP graduates was arranged to various selected vocational training institutions. Among them are Bheri Technical School, Nepalgunj and Palpa Technical Institute, Tansen, Palpa. Others included seven local private training centres. The subjects of the vocational training were: House wiring, Masonry, automobile, bicycle and rickshaw repair maintenance, sewing and cutting, cooking and beautician (decoration and beauty parlour).

  After receiving the training five young girls from Dang started their own businesses by establishing a beauty parlour and cosmetic shop in their villages. The people's cooperatives provided loans to start the enterprises.

- The 312 OSP graduates were enrolled in school mainstreaming in 23 different schools of the eight districts. The school-mainstreamed children were provided with books, stationery, uniforms, and school fees to support their study in formal schools.

- Provided functional education to the 500 ex - Kamaiyas and the vulnerable community in Kapilbastu, Ruandehi and Nawalparasi districts. Five hundred ex- Kamaiyas were enrolled in twenty NFE centres.

Learning From the Pro- Kamalhari Programme

The freed Kamaiyas were provided with a small piece (a maximum of five Kaththas[1] land), which is insufficient for them to earn a livelihood. The parents were aware and have knowledge about education and child labour but due to poverty they are not able to send their children to schools.

The freed Kamaiyas are traditionally farmers. They don't have other skills than farming. Therefore income-generating programmes should be designed in a way that their indigenous knowledge could be used to transform their socio-economic status. In the programmes, not only the parents of the target children but also the other adult ex-Kamaiyas should be included. The

[1] Thirty Kaththas of land is equivalent to one hectare.

non-formal functional education programme has widened their knowledge and they are now in the position to say that they could earn a livelihood from occupations other than farming.

Due to poverty, the children of freed Kamaiyas are forced to leave school to earn a livelihood. The continuation of support for such children is necessary to wipe out the recurrent child labour problem. Most of the older children are used by their parents as the caretaker of their small children, therefore a community based childcare centre might be a sustainable alternative to tackle the problem. The people's cooperatives can be mobilised for this purpose.

There is a strong and urgent need to link the vocational training with the job markets (both individual and organisations). To address the problem of lack of entrepreneurship skills of the freed Kamaiyas, two types of training modules are recommended. They are: vocational training for entrepreneurial skill development and employment skill development training. Against the backdrop of Kamaiyas' poor education and low level of awareness, the study suggested that the duration of the training should be long enough to impart the new skills to them, while on the other side refresher trainings should be organised to re-activate their skills.

Labour related mobility is restricted for women. Therefore, they could be involved in agro and forest based income-generating activities. These could be off-seasonal vegetable production, fish farming, rope-making, sal-plate making etc.

Cooperatives seem to be successful change agents in the society. Besides saving credit mobilisation, they could be used for transmitting the useful message of personal health, hygiene and community sanitation.

Though the cooperatives' role is defined as the change agent for freed Kamaiyas in society, they need to operate more effectively and efficiently. They are found to be weak in terms of organisational management. Because of to the emphasis the project has given to the cooperatives, the study has recommended areas where immediate and urgent attention is required. They are: administrative management and book keeping, linking of the cooperatives with other agencies, resource mobilisation, operation of more saving credit schemes, advocacy, networking and negotiation, leadership development and monitoring and evaluation. The improvements in these activities are necessary so as to enhance the people's confidence to the institution.

Finally, the Action Programme, though it succeeded in raising the burning issues of freed Kamaiyas and their children, lacked the activities that enhanced the capacity of community-based organisations (CBOs) and other financial institutions. As the project has short-duration activities, the strengthening of CBOs is vital for the sustainability of the output of the project. The study suggested that this should be included as a phase-out strategy of the project.

SUCCESS STORY

Kamalhari enrolled in formal school

Basanti Dagaura, 13 years old is the daughter of Mr. Jureli Dagaura and Mrs. Lautaniya Dagaura. They are residents of Ojhakhali freed Kamaiya camp in Daiji VDC, Kanchanpur District. Basanti worked as a Kamalhari in a landlord's house in Mahendra-nagar for one year. She was illiterate and it was her dream to be able to read and write.

She was a Kamalhari when RRN started its work, in the freed Kamaiyas camp. RRN counselled her father to release Basanti from child labour. She then enrolled in OSP classes for nine months and after graduation from the OSP Basanti began to study in class four at her local public school.

Basanti is very happy that she has the opportunity to study in class four. She ranked second position in the half yearly examination of 2002. Basanti says that she will continue her education at least until Intermediate level and she envisions herself to be independent and self-reliant in the future. She is looking forward to continuing her education in the coming years. RRN is supporting the stationery, books, uniforms and school fees for her education. Basanti is thankful to RRN for it kind support and for providing her with the opportunity to attend the national consultation meeting on child labour elimination, organized ILO/IPEC in Kathmandu. ———

Transition from Traditional Energy Consumption to Modern Energy Services, RRN's Initiative in Arun Valley

Ram Prasad Dhital

Introduction

Nepal has been considered as one of the rich country in hydroelectric potential (83000MW) in the world. In spite of having high per capita hydroelectric potential, per capita energy consumption is as low as 336 kgoe and only 0.5 percent of gross hydropower potential has so far been tapped. The share of biomass in total energy consumption is about 87 percent, which is very high in comparison with other countries having same economic status [Economic Survey 98/99]. Fuel wood is mainly consumed in rural areas, contributes about 78 percent of the total energy consumption followed by cattle dung 6 percent and agriculture residue 4 percent. Electricity from hydropower fulfils only 1 percent of the total energy requirement. About15% of the population has access to electricity and in the rural areas this figure is even less than 5 percent [AEPC 2000]. National grid line passes basically through plain region, connects major towns, regional head quarters and some district headquarters in mountain and valleys. Extension of electricity grid to the scattered and isolated settlement in the hills and mountains of Nepal is unfeasible due to high initial investment and low rate of return. Realising the fact, efforts are being made to promote decentralise renewable energy systems in hilly and mountainous region. Various governments and non-government's organisations are committed to meet the target of government's10th plan[1] through modern energy service at local level.

Energy Consumption in Arun Valley

The study conducted by RRN in three VDCs i.e. Num, Hatiya and Pawakhola where RRN is implementing Arun Valley Sustainable Resource Use and Pilot Demonstration Project shows that fuel wood is the major sources of household energy use. Peoples in the project area use fuel wood for various purposes such as cooking, burning, space heating, drying the foods etc. They use traditional cook stoves, which is less efficient and unsafe for human health especially for women. The sources of fuel wood are from farmland, community forests and government forests. The detail of yearly average fuel wood consumption per household (HH) and sustainable forest yields in the project areas are given in table 1. The household survey shows that the highest fuel wood consumption in Pawakhola VDC i.e. 324 bhari[2] per year where as fuel wood consumption per household in Num VDC is the lowest i.e. 105 bhari per year. The higher use of fuel wood in Pawakhola VDC is directly related with the climatic condition of the area because people need more fuel wood to warm their houses to protect from cold. The table shows that fuel wood consumption in Hatiya and Pawakhola VDCs is higher than sustainable yield where as in Num VDC, supply and consumption is almost same which could be due to higher forest area and comparatively lower household consumption. The trend shows that existing culture of livelihoods in project areas is not sustainable causing rapid degradation of natural environment.

[1] The government of Nepal in its 10th plan has targeted to generate 10 MW electricity through micro hydro power

[2] 1 Bhari fuel wood equals 30 kg

Table 1: Yearly Fuel wood consumption and sustainable yields

VDCs	Forest Area ha	HHs benefited	HH consumption in kg	Sustainable yield in kg[3]	Total consumption in kg
Num	3785.87	767	3150	2612250.3	2416050
Hatiya	483.59	129	4530	333677.1	584370
Pawakhola	2919.5	476	9720	2014455	4626720
Total	**7188.96**			**4960382.4**	**7627140**

People use kerosene for lighting and dry cell for playing radio and cassettes. The cost for kerosene and dry cells are very high due to transportation difficulties. Annual average household consumption of kerosene and dry cells per household was found to be 30 litres and 36 numbers.

Micro-hydropower Development in Arun valley

In an attempt to change the traditional energy consumption to modern energy consumption pattern, Rural Reconstruction Nepal (RRN) has implemented Arun Valley Sustainable Resource Use and Management Pilot Demonstration Project (AVASRUM PDP) in the Sankhuwasabha district of Arun Valley since February 2001. The project is funded by GEF/UNEP under biodiversity conservation focal areas. The project aims to improve the livelihoods and protect the natural environment through the installation of micro hydropower in 3 VDCs viz. Num, Hatiya and Pawakhola VDCs of Arun Valley. The rural electrification with micro-hydro schemes is the most important step towards relieving human population pressure on mountain forest ecosystem for fuel-wood energy. The development of the micro-hydro schemes to supplement the fuel-wood energy not only have domestic/local benefits but also the cross- boundary significance as well because it will help to reduce pressure on the adjacent forest biomass and help to conserve the bio-diversity in the area.

The project emphasizes genuine participation of beneficiaries from the very beginning of the project to operation management and repair maintenance. Community people of the project areas have been mobilized based on RRN's four-fold integrated rural development approach, which includes education to combat ignorance, livelihood to fight poverty, health to fight diseases and self-government to combat civic inertia. Women are given special priority for formation of local organization since they are still deprived and socially oppressed in rural communities. It is mandatory that at least one person of all beneficiaries' households be represented in community-based organizations.

Water resources potential in the project areas was identified first and an independent consultant conducted preliminary study of 9 potential sites but recommended 5 projects for detailed study. The detailed feasibility study of two peltric sets and 3 microhydro power projects were carried out in winter 2002. The total power output, expected energy consumption and households to be benefited from the proposed projects are shown in tabular form as below. 40% and 25% are taken as plant factor[4] for micro hydro power plant and peltric sets respectively and expected yearly energy consumption has been calculated as below.

Table 2 Micro hydro projects and expected energy consumption through micro hydro

VDCs	Name of Project	Power kW	Household	Yearly energy consumption (kWh)
Num	Neguwa	22	139	77088
	Thulo Khola	13	115	45552
Hatiya	Bhote Khola	17	146	59568
	Namase peltric	2.7	36	4818
Pawakhola	Ghatte peltric	2.2	22	5913
Total		**56.9**	**458**	

[3] 0.69 ton/ha has been taken as sustainable forest yields for coniferous species with crown density 40-70%

[4] The plant factor is the ratio of the power generated and the power that could have been generated if the turbine is operated continuously.

The electromechanical equipments of two peltric sets have already been transported to the sites and installation works has also been started. It is expected to commission both the projects by the mid March 2003. Electromechanical equipments of rest of the projects are being fabricated. Micro hydropower users committee has been formed to ensure successful implementation and sustainability of the schemes in all sites.

The introduction of electricity will help in replacing the use of kerosene and dry cell and it will also reduce existing fuel wood consumption pattern. As mentioned already, annual average household consumption of kerosene and dry cells was about 30 litres and 36 pairs respectively. Micro hydro electricity will completely replace kerosene and dry cell. The prevailing price for kerosene per liter in Num is NRs. 60. Thus NRs. 1800 per year will be saved. With this simple calculation, if all 458 households save at the rate of NRs 1800 per annum, the total expenditure saved with project area would be worth of NRs 824400 with the supply of electricity. Electricity will save expenditure on battery worth of NRs 329760 (36 battery*NRs 20*458).

Electricity brings happiness

Ram Kumar Bhote, who lives in Namase, a beautiful village of Hatiya VDC of Sankhuwasabha district is very happy with the installation of peltric sets in his village. He did never imagine that his village would be electrified from the small stream flowing through the village. He could be right in his thinking since his village is situated at an altitude of 2000m and about 3 days walking distance from Khandbari, the headquarter of Sankhuwasabha district in the eastern Nepal. Electricity from the Namase peltric project has been generated after the continuous efforts of RRN and villagers. It was the first day when technician switched on the electricity. Ram Kumar was so excited that he could not stop his feeling of happiness. He was crying “How come this white electricity from such a small amount of water.? Look! My house is full of dirt”. I have been staying in such a dirty place for decades. Electricity has opened my eye. Now I can easily see tiny particles here and there, which could be possible only because of electricity. He further added “Electricity has brought lots of change in our village. Now we can do evening chores under bright light. It has helped our children in their studies and improving our health”. This is how rural livelihoods have been changed from the small-scale hydropower projects in the village.

Conclusion

The effects of micro hydropower on energy consumption can be seen easily as it will reduce monthly fuel wood consumption and shifts the use of traditional lighting (kerosene) and dry cell. The availability of electricity will create ample of economic opportunities for improving rural livelihoods and will create congenial environment for the promotion of health, education and communication.

References

1. AEPC 2000, An introduction to alternative energy technology in Nepal, His Majesty’s Government of Nepal, Ministry of Science and Technology, Alternative Energy Promotion Centre (AEPC), Kathmandu

2. MoF (1999) Economic Survey for FY 1998/99, His Majesty’s Government of Nepal, Ministry of Ministry of Finance (MofF, Kathmandu

3. NPC (2002) Concept paper on 10th five-year plan, His Majesty’s Government of Nepal, National Planning Commission (NPC), Kathmandu

4. RRN (2002) Substantive Report, Arun Valley Sustainable Resource Use and Management Pilot Demonstration Project

5. WECS (1991/92), Energy Resources Use and Consumption Pattern of Eastern Development Region. His Majesty’s Government of Nepal, Ministry of Ministry of Water Resources, Water and Energy Commission Secretariat (WECS), Kathmandu

Prospects and Challenges of Communication System: Case From Nepal

Prem Kala Nembang

Introduction

In the changing world scenario, information is now the key to both power and wealth. It seems that the twenty-first century is the age of Information and Communication Technology (ICT). Technological facilities like the Internet, e-mail, fax, mobiles and pagers have opened the gateway of communication for idea and opinion exchange. Today, information and communication is the fastest developing field in the world.

ICT is providing a vital tool in helping link new civil society networks around key issues, from global warming to women's empowerment to attempts to make globalisation more responsive to the needs of developing countries and the poor. It is a dynamic new way to help connect people to their governments and communities. It concerns the techniques and skills for the production and distribution of knowledge to accomplish human progress and has the potential to modify the values of education, governance, business, agriculture, tourism, health care, civic participation and social interaction.

ICT and Nepalese Society

In 1960 the American Defence Ministry (Source: Nepal Samachar Patra, Tuesday, January 28, 2003) developed the Internet for exchange of military information, and today the Internet has become the medium for information exchange for ordinary people. It is difficult to imagine the present human world without the Internet. Now, the Internet has become both the fuel and the vehicle for a dramatic spread in democracy, intensifying demand for and supporting the spread of genuinely transparent and participatory and more efficient systems of governance at local, national and global levels.

To communicate information to every corner of Nepal, different communication centres, magazines and newspapers, Nepal telecommunication, advertising agencies, book distributors, video graphics, radio and television, printing press, cable network, Internet, e-mail, phone card and e-phone and news agencies are sufficiently available in the urban centres either in the private forum or in public sectors. Nowadays, ICT has brought a type of revolution. There is talk about the Internet more than about computers. The Internet was first introduced into Nepal in 1993 in a venture of the Royal Nepal Academy of Science and Technology (RONAST) and a private company, Mercantile Office Systems (MOS). In 1994, after RONAST ended its ERNET project, MOS acquired the technology and set up the first commercial e-mail service with a link to Australia. When Internet, e-mail and computers first started in Nepal among the users nearly 80-90 percent were foreigners, INGOs and funded organizations. However the situation today is opposite that 90 percent of the users are local community and local professionals. The level of use and profile of users has changed significantly since 1997. There are now more than 25,000 Internet accounts in the country (History of the Internet in Nepal: 2003). There are numerous Internet cafes in Kathmandu and other urban cities (Biratnagar, Pokhara, Nepalgunj and the like), and many individuals rely on these for access. The cost of access at these cafes is extremely low, less than around 25 cents per hour. According to the CAN (Computer Association of Nepal) 500 thousand people only use computer and email in Nepal. Young people in particular, are being drawn to the use of e-mail and the Internet. Chat groups are particularly popular with young people. Older people use e-mail to keep in touch with colleagues, and relatives overseas.

In Nepal, computerised networking of local private offices, government ministries and departments is gradually introducing transparency in their activities and operations and creating a bridge between the state and society. This process is expected to build a culture of trust. In other words, technology has a key role in governance. Nepal has identified three areas (Source: Information Technology for Development: Its Policy and Strategy Papers for Nepal, 2001, National Planning Commission, His Majesty's Government of Nepal) of importance in formulating its information technology strategy and they are: universal access to information and

communication technology, education and training necessary for ICT, and identification and adoption of ICT applications.

Importance of ICT in Nepal

To convey relevant messages and facilities to different places and to people in Nepal and export and increase market sector there has been the establishment of e-commerce, which is a contribution of ICT. The information and communication medium although in limited extent has played a significant role in conveying information to remote and urban areas of Nepal. If there is information flow concerning agriculture and its marketing, tourism, cottage industry, education, health and other social services there will be help to decrease the poverty of the country. In this context ICT can play a vital role in the development of the nation. Though our nation is backward in the world's two major revolutions; agricultural and industrial revolutions for these, the venture of ICT could play a significant role to reduce poverty, discrimination and unreported status.

Information and Communication Technology is important for people to make choices regarding their participation in the state, the market and the civil society. Sufficient information helps people to decide rationally and take the right course of action beneficial to them. The development of ICT equally helps in socialisation of people into citizenship, democratisation of the State and political society, institutionalisation of civic culture through unfettered flow of information, and rationalised use of power in social relations. Flow of information from different channels of communication, including the news media, can help to promote a culture of responsibility, accountability and credibility at all decision-making levels.

Problems and Challenges

There is fast development of ICT in the world. However Nepal being a country with complicated geographical conditions and a large percentage of the population living in poverty, the Nepalese face many problems and challenges. Availability of few telephone lines, lack of technical manpower, urban oriented technological development, lack of communication skills (English and computer language) in rural people, high infrastructure cost, monopoly of Nepal Telecommunication (NTC) in the communication sector, lack of integrated policy at the central level to make use of ICT in different development projects and lack of accessibility to all people are some of the problems and challenges hindering the development of ICT in Nepal.

Local access points for Internet and e-mail are available in most larger towns and cities in Nepal; however, 83 percent of the total population of Nepal lives in rural areas and 80 percent of population are living without electricity or phone connections. The cost of a local telephone call to stay connected to the Internet continuously for one full working day would exceed the monthly Internet Service Provider (ISP) subscription fee. Hence, information technology is not benefiting most of the people in Nepal because they are poor and illiterate. It is a difficult task to implement information systems in our country where the importance of information technology is not yet fully realised.

A further challenge of ICT development in urban areas is that it has increased the gap between "have" and "have not" inside the country. It has the potential to be used as a tool to reduce the gap between urban and rural areas through the equal access to information and opportunities, but so far only those who already have access to information and are in the mainstream of development received more opportunities. People who live in urban areas like Kathmandu, Pokhara and Biratnagar have received the new media to link them to the global market and are using communication facilities up to the standard of those in developed countries. ICT may have reduced the gap between the people of New York and those of Kathmandu, but within Nepal, it is creating the two types of citizen and two levels of development.

Conclusion and Recommendation

We are truly in an information society, information needs to be exchanged in the most economic and convenient way and there is a pressing need to exchange a vast amount of information over great distances in the fastest possible way. We cannot imagine life without communication in one form or another. There should be adequate

communication policy and programmes tailored to meet the needs of a democratic society to function effectively in its endeavours for a better quality of life. The present day is considered the age of information and communication. Many countries have achieved a high degree of success on this score while many more are moving towards obtaining similar success. In a country like ours even investigation of business, commerce and education is carried out through information systems. Even though schemes like telephone, fax, mobile phone, e-mail and internet are being used by government offices, court, government or non-government organizations, companies, industries, and people, the developing countries have not been able to obtain advantage from these sectors as per expectation. Nepal should not lag behind and should narrow the gap between the information-rich and the information-poor.

Public knowledge and access to information tools are essential not only to access government information but also to access social services, industry and business services. These tools empower citizens to make important choices. The government should encourage the interested entrepreneurs. There is need of a governmental policy to attract foreign Nepalese investors by providing special benefits, such as loans and tax holidays.

To take advantage of the progress of the ICT sector, enabling ordinary people to use the service and thus achieve the aim of socio-economic development and good governance, three factors are necessary and they are:

1. Access to essential skills and education to educate all people,
2. Access of ordinary people to different means of information and technology,
3. Use of new technology along with its development by local people.

If we are to be successful in making information technology and educational development move forward in relation to each other, there will be fast development of both sectors, which promotes the people and the nation.

Information technology is a tool and like all tools its users determine its functions. Advocates of globalisation like Fierheller see information technology as facilitating the spread of electronic networks that will connect nations. Critics of globalisation's effects argue that information is being packaged for consumers and that less access to information will be the result. However, if we look at how information technology has been adapted and used by groups such as the Zapatistas we can see these technologies can counter the effects of globalisation. The gains by the poor in information control are indeed real. Yet the rich are getting information richer too and, since they can pay, perhaps they are getting it even faster. It is still possible that relative inequality could actually increase despite the information advances made by the poor. It is this information gap that causes concern for those who believe that information belongs in the public and not private sphere. The growing concentration of media will result in an even smaller pool of information in the public sphere as corporations attempt to create multimedia empires. Already marginalised voices are not being heard in the stampede to become the fastest. Globalisation will progress, technology sales will increase but I question whether this access to information technology will benefit anyone other than the elites that it already serves.

References

1. September 2001 CHOICES (Magazine)
2. National Planning Commission, His Majesty's Government of Nepal, Information Technology for Development: Its Policy and Strategy Papers for Nepal, 2001
3. Lamshal Bhupendra and Wagle Dinesh, 15-29 January 2003, Vol. 3 Issue.11, Page 42-47, Where are we in Internet, Nepal (Magazine),
4. http://www.nepalnews.com
5. History of the Internet in Nepal: 2003, History of the Internet in Nepal, http://www.nepalmedia.org 2003.
6. Nepal, Shisir: Legends of Internet, Tuesday, January 28, 2003**,** Nepal Samachar Patra (Newspaper),

RRN has subscribed the philosophy and principles of the International Rural Reconstruction Movement. The rural reconstruction ethics and philosophy is encapsulated in the following credo.

Go to the peasant people
Live among the peasant people
Learn from the peasant people
Plan with the peasant people
Work with the peasant people
Start with what the peasant people know
Build on what the peasant people have
Teach by showing, learn by doing
Not a showcase but a pattern
Not odds and ends but a system
Not piecemeal but integrated approach
Not to conform but to transform

If undelivered, please return to:
Rural Reconstruction Nepal
P. O. Box: 8130, Lazimpat,
Kathmandu, Nepal

For more information, please contact

Publisher
Rural Reconstruction Nepal
GPO Box 8130
Lazimpat, Kathmandu, Nepal
Tel: 977-1-4415418,
Fax: 977-1-4418296
E-mail: rrn@rrn.org.np
Webpage: http://www.rrn.org.np

Advisors
Dr. Arjun Karki
Sarba Raj Khadka

Editor
Prem Kala Nembang
Ruth Segal