



Practical Action Nepal Office
Annual Report 2008/09



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Design and Print : Water Communication 4783696, 4780941
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Message from the Country Director

Last fiscal year April 2008 to March 2009 proved to be challenging for us both locally and globally. The global recession's impact with the depreciation of sterling pound, there was enormous pressure on core fund. Thanks to the sensitive contingency plan we developed with the UK Head Office which helped minimise the potential damage. Locally, strikes called by various political parties, higher gas prices and 18 hours of daily power load shedding delayed the completion of some of our planned activities.

Despite these persistent challenges, Practical Action Nepal Office has been successful in reaching more than 104,699 direct beneficiaries in the last fiscal year. We have achieved significant impact through scaling up activities and influenced for policy changes through a number of projects. We provided technical support to the Ministry of Environment, Science and Technology (MoEST) to develop standards and guidelines on Indoor Air Pollution, which was recently approved by the Government of Nepal as a national legal document. Our initiatives to work together with Department of Local Infrastructures and Agricultural Roads (DoLIDAR) for promotion of complimentary means of transport is bringing encouraging results with DoLIDAR prepared to include gravity ropeways in the annual plan of some districts. Similarly, in consultation with the local and national stakeholders, we successfully assisted the local authorities to finalise the Disaster Management Plans of Bardiya, Chitwan and Nawalparasi Districts. For the first time in Nepal, we demonstrated a successful model of community based Early Warning System (EWS) utilising the data of existing flood monitoring system from Department of Hydrology and Meteorology (DH&M). This has led other Disaster Risk Reduction (DRR) stakeholders including the government to replicate and promote such model in other parts of the country. Our use of Participatory Market Development Systems approach and its tools used to analyse the dairy sector has been duly recognised by USAID and it was highlighted in the Best Practices in implementation paper series (micro REPORT 149).

Climate change adaptation is one of the most pressing and prominent challenges we are facing globally and in Nepal. We are keenly observing the adaptation skills of beneficiaries in Kabilash, Chitwan where a project on "Adaptation to Climate Change" was implemented during 2005 - 2007. Major improvements in the coping capacity of the beneficiaries against the negative impacts of climate change have been observed recently. They have diversified production of climate appropriate crops, and introduced new alternative options such as livestock, poultry farming, horticulture and dairy. Today, villagers are able to save some of their income as they have created a demand for fresh vegetables, fruits, livestock, poultry and

milk in the market luring traders to buy their produces. Practical Action is scaling up leasehold farming activities by training around 188 local Resource Persons and registering the farmer groups in District Agriculture Office enabling them to sustain themselves even after the project phases out. Till the reporting period the beneficiary communities have already leased 1,322 kaththas (around 44 hectares) of land. Though this figure looks small in terms of national perspective, there are opportunities for achieving multiple effects of this initiative, which can benefit a large number of landless and small landholders across the country. We are working with the conflict affected communities in Achham, Doti and Kailali to build the confidence of traumatised victims by engaging them to various livelihood activities. The introduction of Community Peace Centres (CPCs) and Better Life Option Programme (BLOP) has been instrumental for local peace promotion, to mediate local disputes and develop social cohesion between the ex-conflicting parties through collaborative activities, group counseling sessions and ward level discussions. We are also actively engaged in identifying and developing potential sub sector that offer opportunities for small holder farmers.

Last year, we successfully completed two urban focused projects - Sustainable Waste Management (ISWM) and Integrated Urban Development (IUD). We launched a new project SWASHTHA focused on improving the health and well being of the urban and peri urban settlements of Bharatpur, Butwal, Gularia and Tikapur Municipalities. We also started liaising Practical Action Consulting (PAC) UK in Nepal. It is a subsidiary of Practical Action which aims to scale up good practices in the geographic regions where there lacks Practical Action's presence.

We have successfully achieved financial target set for the last year. At project level, we capacitated the budget holders for periodic financial review and strengthened the monitoring system for timely and effective project delivery.

With these glimpses, I would like to thank the funders for supporting our work and other like minded organisations for encouraging us and providing support where necessary to achieve our mission. I would also like to thank my colleagues for their hard work, commitment and effort in reaching the poorest section of the society. Last but not least, I would like to thank all the people in our project areas, who are our inspiration and who have seen some form of hope from our initiatives.

Achyut Luitel
Country Director

Acknowledgement

Practical Action Nepal Office sincerely acknowledges the financial and moral support provided by individuals, organisations and trusts from Europe and elsewhere. We would like to thank following organisations and individuals for supporting us in our mission:

A M Pilkington's Charitable Trust
B & P Glasser Trust
Carlisle Overseas Aid Trust
Caterham Overseas Aid Trust
CBC Charitable Trust
Churches Together Bookham Effingham
CO-OP Bank
Danish Government-RISO
Department for International Development, UK (DFID)
Directorate for International Cooperation (DGIS)
Enid Linder Foundation
European Commission Humanitarian Aid department (ECHO)
The European Union
Evan Cornish Foundation
Farrer-Brown Trust
The Food and Agricultural Organisation of the United Nations (FAO)
George & Margaret Taylor
Haramead Trust
HCD Memorial Fund
Hodgson Charitable Trusts
International Forum for Rural Transport Development (IFRTD)
Isle of Man Government
J H F Green Trust
King/Cullimore Charitable Trust
L D Rope Third Charitable Trust
Mrs. E M Cox
Persula Foundation
Preston Trust
Robin Comyns-carr
Robert Klin Charitable Trust
Rotary club of St Helens
Rufford Foundation
States of Jersey
St John The Baptist Church
Tanner Trust
Triodos Foundation
United Nations Human Settlement (UN-HABITAT)
United States Environmental Protection Agency (USEPA)
Waterloo Foundation
The World Health Organisation (WHO)

Acronyms

BLOP	Better Life Option Programme
CBDM	Community Based Disaster Management
CBO	Community Based Organisation
CCODER	Centre for Community Development and Research
CDC	Community Development Centre
CDMA	Code Division Multiple Access
CEDPA	The Centre for Development and Population Activities
CPC	Community Peace Centres
CSDR	Centre for Social Development and Research
DAO	District Administration Office
DADO	District Agriculture Development Office
DDC	District Development Committee
DDMP	District Disaster Management Plan
DFID	UK Department for International Development
DGIS	Netherlands Directorate-General of Development Cooperation
DH&M	Department of Hydrology and Meteorology
DIPECHO	Disaster Preparedness European Commission's Humanitarian Aid department
DoLIDAR	Department of Local Infrastructure Development and Agricultural Roads
DRR	Disaster Risk Reduction
DWO	Dalit Welfare Organisation
EC	European Commission
ECHO	European Commission Humanitarian Aid department
ENPHO	Environment and Public Health Organisation
EU	The European Union
EWS	Early Warning System
GEWNet	Gender, Energy and Water Network
HH	Household
IAP	Indoor Air Pollution

IDP	Internally Displaced Person
ILISSCON	Improving Livelihood Security of Socially Excluded Communities in Nepal
ISWM	Integrated Sustainable Waste Management
IUD	Integrated Urban Development
KCCI	Kailali Chamber of Commerce and Industries
KIRDARC	Karnali Integrated Rural Development and Research Centre
LDO	Local Development Officer
LIBIRD	Local Initiative for Biodiversity Research and Development
MADE	Multidimensional Agriculture for Development
MoEST	Ministry of Environment, Science and Technology
MuAN	Municipal Association of Nepal
NARC	Nepal Agricultural Research Council
NGO	Non Government Organisation
NPC	National Planning Commission
NTFP	Non Timber Forest Product
PAC	Practical Action Consulting
PCIA	Partnership for Clean Indoor Air
PMG	Permanent Magnet Generator
PMSD	Participatory Market System Development
RKJS	Radhakrishna Tharu Janasewa Kendra
SABAL	Sustainable Agriculture with Bazaar for Advancing the Livelihoods of conflict affected poor people
SEBAC	Social Empowerment and Building Accessibility Centre - Nepal
SWASHTHA	Strengthening Water, Air, Sanitation and Hygiene Treasuring Health
<i>udle</i> /GTZ	Urban Development through Local Efforts
TLO	Tole Lane Organisation
USAID	United States Agency for International Development
USEPA	United States Environmental Protection Agency
VDC	Village Development Committee

Practical Action in Nepal

The renowned economist Dr. E.F. Schumacher established Practical Action in 1966 to prove that his philosophy of 'Small is Beautiful' could bring real and sustainable improvements to people's lives in developing countries. With its Head Office in the UK, Practical Action works through its country and regional offices in Bangladesh, Kenya, Nepal, Peru, Sri Lanka, Sudan and Zimbabwe.

Practical Action is committed to reduce poverty. It supports the efforts of poor men and women to improve their livelihoods by providing appropriate technology options, associated information, knowledge, and skills, and the capacity to organise and use all these to get more control over their lives and livelihoods. The people centered unique and innovative approach of Practical Action incorporates local knowledge and skills, which ensure their wider adoption and replication respecting sustainability, basic human rights, and strategic partnership.

To help achieve its mission and respond to the changing global development scenario, Practical Action has made a major shift in its priority areas for the benefit of the needy people in developing countries. Practical Action's programme objectives are based on the following four International Programme Aims:

AIM 1 – Reducing vulnerability - by strengthening the ability of poor people to use technology to cope with threats from natural disasters, environmental degradation and civil conflict.

AIM 2 – Making markets work - by enabling poor people to use technologies to build secured livelihoods, through improved systems of production, processing and marketing.

AIM 3 – Promoting infrastructure for the poor - by improving access of poor women and men to locally managed services, by developing and disseminating technologies related to water and sanitation, housing, shelter and secure tenure, modern clean and sustainable energy, transport, solid waste and communications.

AIM 4 – Responding to new technologies - by enabling poor people to assess and respond to the challenges of new technologies and to develop and adopt applications that improve their livelihoods.

In Nepal, Practical Action started its work in 1979, initially involved in the micro-hydro sector by developing and transferring technologies, building the capabilities of the local manufacturers and imparting knowledge and skills to the rural entrepreneurs and advocating for appropriate policies and institutions. In 1998, Practical Action formally established its Country Office in Nepal and diversified its activities from the micro hydro sector to the development and promotion of other forms of renewable energy and to the two new programme areas – agro processing and rural transport. Now, Practical Action is working in six broad priority areas in Nepal– 1) securing food for the poor, 2) reducing risk from disaster and climate change, 3) minimising impacts of conflict, 4) increasing rural productivity, 5) sustainable urban environment and 6) healthy homes.

AIM 1

Reducing Vulnerability

Reducing vulnerability programme aims at strengthening the ability of the vulnerable poor people to use technology to cope with disasters from natural hazards, food insecurity, and environmental degradation and adaptation to climate change. In Nepal, this Aim focuses its work mainly in two broad thematic areas – Securing food for the poor; and Reducing risk from disasters and climate change.



Installing shallow tube well



Fencing tomatoes

Securing Food for the Poor

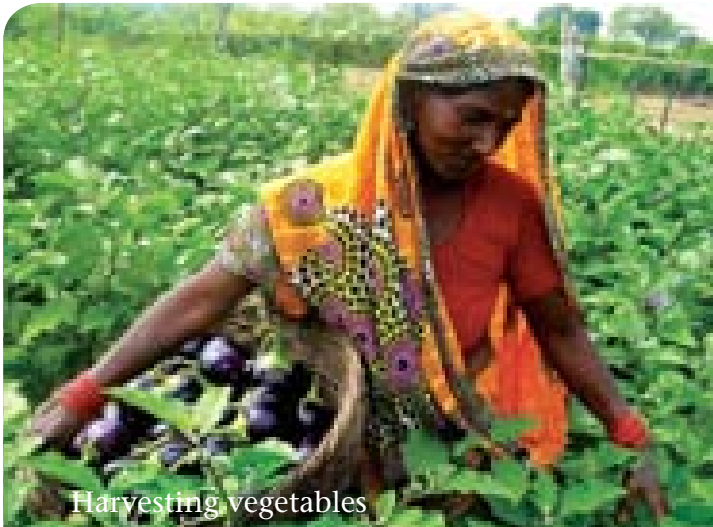
This programme aims to reduce the vulnerability of marginalised and disadvantaged communities by ensuring food security and sustaining livelihoods with increased production and incomes through improved natural resource management, skills enhancement and access to appropriate technologies and resources. Interventions focus on land leasing for productive use, water management, capacity development through networking and skill enhancement training, and developing linkages with the government and non government organisations to help access resources for both self food production and income generation.



Woman signing in the farmer group's register

Project: ILISSCON

Practical Action Nepal Office is implementing the Improving Livelihood Security of Socially Excluded Communities in Nepal (ILISSCON) project since April 2006 with co-funding support from the European Union, Caterham Overseas Aid Trust, Enid Linder Foundation, Hodgson Charitable Trusts and others. The project aims to increase the income of the land insecure, vulnerable and socially excluded households (HHs) by diversifying livelihood options in six conflict affected districts – Banke, Doti, Kailali, Nawalparasi, Rupandehi and Surkhet in western Nepal. The target beneficiaries are *dalits*, minority ethnic nationalities and women headed HHs who possess less than 500 sq metres of land. Project component includes land leasing, capacity building for production, production diversification and enhancement, and technical



Harvesting vegetables



and managerial assistance to target communities with the help of small but innovative technologies. The project is implemented in partnership with NGOs - Local Initiative for Biodiversity Research and Development (LIBIRD) and Welfare Organisation (DWO).

Highlights

A number of integrated approaches were used to enhance the access to resources of vulnerable communities to improve their livelihood security. Leasehold farming, fish farming, nursery establishment, local poultry and goat rearing practices, riverbed vegetable farming, orientation on retail shop/grocery management, agro processing, off seasonal vegetable and farm training, improving traditional skills and establishment of market centres were some of the activities carried out during the past year. Implementation of these activities have significantly reduced seasonal migration, increased income and self employment, increased production and regular supply of fresh and nutritious vegetables, freedom from indebtedness, diversified livelihood options, reduced burden of women and children from HH chores, increased enrollment of school children, enhanced capacity of local service providers and increased social and political capital.



Beneficiary with her produce

Promising practices

This was the third year of project implementation. During this reporting period ILISSCON piloted river bed farming in Kailali and Rupandehi Districts appropriate for landless communities living in or near by the river beds. One hundred and eighty eight leader farmers were trained from various farmer groups to help them become Local Resource Persons for replicating and up scaling the good practices. River bed farming is found suitable for off seasonal cultivation of vegetables of cucurbits family. The project farmer groups were encouraged to register with District Agriculture Development Office (DADO) for sustainable acquisition of government services



Vegetable field

and inputs. After the registration, one farmer group in Rupandehi has succeeded in receiving an irrigation pump set from DADO.

During the reporting period, a total of 13 exchange visits were organised and has helped built confidence of the farmers directly impacting the adoption of certain technologies such as timely use of fertilisers, water supply management and off seasonal vegetable cultivation under plastic house/tunnel. Moreover, intra project collaboration with Practical Action's SABAL project has helped to construct a large market cum collection centre in Kailali District where the local market committee also mobilises resources from Village Development Committee (VDC) and DADO.

Achieving impact at a scale

The total land leased by 69 leasehold farmer groups in project districts reached to 1,302 kaththas (43.4 hectare) till the reporting period. In order to share good practices on leasehold farming approach, the project organised local and national level meetings with district level, private, government and non government stakeholders while at the national level the focus was on policy makers such as National Planning Commission, Ministry of Land Reform and Ministry of Agriculture. Similarly, two farmer networks were



A beneficiary with her ready to sell mushrooms

formed in Kailali to influence the local level stakeholders for better and sustainable acquisition of private, government and non government services and inputs.

Regular sharing of project plan and progress with the District Development Committee (DDC) and DADO during coordination meeting has helped to bring synergy between similar actions in the districts. Some examples of such initiatives are installation of Non Timber Forest Product (NTFP) distillation unit in Banke involving a number of government and non government stakeholders; awareness programmes on *dalits'* rights in Kailali and construction of *tuin* in Doti with financial contributions from respective VDCs.



Vegetable nursery

Technology intervention

The project provided financial and technical support for installation of sustainable micro irrigation technologies such as human foot driven treadle pumps and low wattage electric and diesel pumps. With this support 70 hectares of land were irrigated benefiting 1,123 HHs. The project also benefited 1,300 HHs with improved watermills by replacing wooden shafts and pipes with steel shafts and polythene pipes. This modification has increased the efficiency and life of the four existing watermills in Surkhet and Doti. In collaboration with Nepal Agricultural Research Council (NARC) two millet thrasher/huller machines and 40 corn shellers were provided to two groups in Doti benefiting a total of 130 HHs. Similarly, one cream separator, one sealing machine and two canes were provided to the rural dairy farm run by a *dalit* entrepreneur in Doti. This support has stimulated local milk production and increased income of the small holder dairy farmers and has enhanced the social harmony by accepting the milk processed by a *dalit* entrepreneur.

The project continued supporting Kailali Chamber of Commerce and Industries (KCCI) to disseminate market information using local FM radio. Around 60 per cent farmers in the hills of Kailali, Doti and Kanchanpur are using this

broadcasted information as the base price for selling their vegetables. To further strengthen the market components the project constructed three resource cum market centres one each in Nawalparasi, Rupandehi and Banke Districts. Modified bicycle trailers were provided to two farmers and pairs of bicycle twin crates were provided to 60 farmer groups in Nawalparasi to ease transportation of their produce to the local market. Moreover, the project also provided a modified rickshaw ambulance to a mother group in Nawalparasi as per the community demand. The ambulance can run well on earthen as well as graveled roads and has already transported many expecting mothers to nearby health centres.



Twin crates full of tomatoes

A new home for Phool



Phool Kumari resting beside her due to complete house

Phool Kumari lives in Bankatuwa VDC, Ward No. 8, Guruwagaon of Banke District, with her husband, two children and a sister in law. Phool and her husband were barely providing two meals a day for their family. Earning to provide enough nutritious food, proper clothing and adequate shelter seemed more like a distant reality. But today things have changed after the ILISSCON project interventions; Phool has a regular source of income from selling vegetables produced in her leased land.

“The project provided us training on nursery management, seasonal and off seasonal commercial vegetable production and group management. We also received seeds, fertilisers, water cane and other supporting materials. They even installed a treadle pump in my farm” she explains.

This is one of the many successful cases of ILISSCON project. For Phool and her husband the leasehold farming has proved to be fruitful in many ways.

“With vegetable farming we earn around NPR. 20,000 (£156) per season. With this income I am paying tuition fee for my children and sister in law. We are able to buy enough food and clothes. We even bought an ox,” she claims.

The project has installed a treadle pump in Phool’s farm; with the regular irrigation facility it has boosted the vegetable production. The treadle pump is an appropriate option for irrigation as it pumps more water than a hand pump. The project also provided treadle pump operation and maintenance training to the farmers.

“The leased land has given us a lot. Before we used to sell wooden logs and earned very less. But now we have made so much profit that we have leased another piece of land where we have planted paddy. The treadle pump is exactly what we needed to boost our production, she affirms.”

Phool is now building a new house for her family. “I am relieved because of the sustainable income. We cannot wait to move into our new home,” announces Phool.



Rebuilding embankment

Disaster Risk Reduction and Climate Change

This programme aims to reduce the loss of lives and property of most vulnerable communities from water induced disasters, and addresses the impacts of climate change by identifying and developing adaptation and coping strategies. Based on the lessons from previous projects in Nepal and consolidating international learning, Practical Action in Nepal is focusing its work on preparedness, development and promotion of local practices and early warning systems (EWS) appropriate for flood. The programme further encompasses the promotion of existing natural resource management practices to reduce the impacts of climate change; study of indigenous adaptation strategies, knowledge and skills; promotion of appropriate existing farming system/practices; and strengthening communities' coping capacities through diversifying livelihood options.

Project: Banke Bardia Flood Warning Programme (BBFWP)

This 15 month long project was funded by the European Commission's Humanitarian Aid department (ECHO) under the Disaster Preparedness ECHO (DIPECHO) IV Action Plan for South Asia. The project aims to strengthen the capacity of vulnerable flood prone communities and district authorities to respond to and mitigate the effects of flood in Banke and Bardia Districts. Project component includes advocacy and public awareness, infrastructure support, mitigation, develop and establish EWS and capacity building of vulnerable communities to strengthen their resilience to respond to risk. The direct beneficiaries are people living alongside



Local woman learning to use the hand siren



Indicating flood level

west Rapti River in Banke and Babai River in Bardia. The implementing partners of the project are Centre for Social Development and Research (CSDR) in Banke and Radha Krishna Tharu Jana Sewa Kendra (RKJS) in Bardia. The Department of Hydrology and Meteorology (DH&M) provided technical support to establish community level flood gauge stations.

Highlights

The project successfully demonstrated community based flood EWS developing linkages of upstream DH&M gauging station with downstream communities. Combination of simple information flow channel, hand operated siren and involvement of communities and local stakeholders to disseminate the upstream water level information and possible flood risk to the downstream vulnerable communities proved very effective. Various awareness campaigns, small scale mitigation activities and low cost, replicable infrastructures were promoted to assist community level Disaster Risk Reduction (DRR). Community Based Disaster Management (CBDM) plan in target communities and District Disaster Management Plan (DDMP) for Bardia District are prepared. Sharing lessons from the project helped in up scaling EWS approach in other areas by government and non government stakeholders. Change in existing flood risk monitoring and



A cultural programme contest organised to raise awareness on EWS

early warning at community and institutional level has benefited 40,317 people in Banke and Bardia Districts.

Promising practices

The project considered communities as an integral part of the EWS and involved them in designing the action plan including the participatory vulnerability assessment, identification of problems and activities, and sharing of resources. Participation of senior citizens, women, youth and people with disabilities was ensured by holding open discussions with them on their special requirements for EWS. This participatory approach has empowered the communities on



Rescue equipment handover

the importance of EWS to cope with floods. In project's initiation and active participation of the community, the DH&M flood monitoring data was successfully used as early warnings for the first time in Nepal. As a result of the efficient information dissemination channel and the communication system put in place by the project has increased the response time at least by three hours. With real time EWS experience coupled with project activities has substantially increased the potential of EWS to limit the impacts of flood by increasing the response time by the communities in the vulnerable areas.

Achieving impact at a scale

The project has sensitised the community, government and non government stakeholders on the importance of EWS in Disaster Management Strategy. EWS is now being discussed nationally in various workshops, seminars and fora. Government institutions have already started to incorporate EWS into DRR and development plans and programmes of Banke, Bardia, Chitwan and Nawalparasi Districts. Similarly, CBDM plan is in implementation in four VDCs and four wards of Banke and Bardia focusing on disaster preparedness and EWS. Altogether, 15 VDCs have incorporated EWS into their annual activities and mobilised funds for strengthening and sustaining EWS. With the

implementation of the plan, the communities are now better equipped to respond to flood through provision of improved evacuation routes, boats and other response materials. The communities have improved critical infrastructures such as bridges, culverts, machan and rescue shelters at strategic sites.

Practical Action provided technical inputs to Mercy Corps to incorporate EWS in their Kailali Disaster Risk Reduction Initiatives. The DIPECHO IV partners - Action Aid Nepal, CARE Nepal and Danish Red Cross Nepal have shown their interest in integrating EWS into their new DIPECHO action plans. These partners have requested Practical Action for technical support to establish EWS in their working areas.



A workshop on CBDM plan preparation



ECHO visit



Application of bio-engineering technique to strengthen Babai river banks

Technology intervention

Under the DIPECHO III Action Plan, EWS was established in Chitwan and Nawalparasi Districts based on the visual flood monitoring system at the site of impact by erecting flood monitoring towers equipped with electrical sirens. This system provided a limited warning time for evacuation to a safer place. Under the DIPECHO IV Action Plan in Banke and Bardia

Districts, the EWS was improved by monitoring and disseminating the upstream water level information to downstream communities using telephone, hand microphone and hand sirens which provided longer time for preparedness and evacuation. Through this project 37 hand sirens, 20 hand microphones and 5 CDMA telephones, 121 life jackets and 25 boats were supported to the vulnerable communities. Nine bio-engineering dyke/spurs with river bank slopping technology at two places, 24 culverts/bridges at strategic sites and 8 shelters were constructed in the target districts.

The linkage of upstream DH&M gauging station with downstream communities is the basic technique followed by the project to establish river basin based EWS. The appropriate upstream gauging stations were selected in consultation with district authorities, stakeholders and communities. Providing enough response time was a major criterion for this selection. At the downstream, community resource maps were prepared to develop community level information dissemination and relay systems in which location of CDMA telephone, hand operated sirens, hand microphones and relevant stakeholders and volunteers were indicated.



Newly constructed Kanjarawa Nala bridge

Nobody will lose their loved ones now

Tika Ram Tharu, resident of Bhaishahi village, Mohamadpur VDC in Bardia District lost his wife in the 1988 flood. So far seven people have died and almost every family has lost their properties. Mohamadpur VDC, in the east bank of Babai River is flooded almost every year but no measure was taken to safeguard the VDC from recurring floods.

But today, people of this VDC can be safely evacuated during the monsoon using recently constructed concrete bridge over the infamous Kanjarawa Nala. During one of the meetings while community development issues were being discussed; local participants prioritised activities to minimise the impact of annual flooding. A construction committee was formed including members of the Disaster Management Group for the construction of pedestrian bridge at Kanjarawa Nala. Total cost of the bridge construction was NPR. 854,000 (£6672) out of which the project supported NPR. 627,000 (£4898) and remaining NPR. 227,000 (£1773) was supported by CBDMP of UNDP. Due to the joint effort of BBFWP and CBDMP the bridge was constructed in two months.

Tika Ram is happy to see the newly constructed bridge and turns emotional when he says, “nobody will lose their loved ones now.”

The VDC was once barely accessible even though the Nepalgunj-Gulariya highway passed close to the village. Today the new bridge serves as an evacuation route during the monsoon and has given hope to all the villagers.

“We would never dare to go to school during the floods as we had to use wooden logs to cross the Kanjarawa Nala. But now we have a strong bridge and we can go to school during the time of flood close the inverted comma i.e. flood,” says Moti Chaudhary a 17 year old studying in grade IX in Nepal Rastriya Secondary School, Gulariya.



Wooden logs were used to cross Kanjarawa Nala before the bridge construction



Drilling to install shallow tube well



Communities working together to install shallow tube well

Project: Mainstreaming livelihood centered approaches to DRR

Practical Action is implementing the project since 2007 with financial support from the UK Department for International Development (DFID). The project focuses on the current threats of prevailing hazards as well as increasing resilience of the communities to cope with future potential disasters. The project component includes community level integrated DRR and development planning for different hazards such as floods, landslides, wildlife intrusion and fire.

The project also strengthens local communities' capacity to protect themselves from different hazards, identify and implement appropriate land use and farming technologies to increase livelihoods resilience, reduce risks of crop failure and promote productivity in the longer term. The project is implemented in Chitwan and Nawalparasi Districts in partnership with MADE Nepal and SAHAMATI.

Highlights

Livelihood improvement activities help the vulnerable communities to reduce the risk to disaster. Last year the project focused on establishing small scale irrigation technologies for several communities to increase agriculture production. Erection of electric fencing to decrease crop loss due to wildlife intrusion from the Chitwan National Park; improved embankment by depositing soil, aggregates along the banks for better spillway in Baulaha Khola helped protect arable land of marginalised communities. Regular follow up of Community Forest Users Group and Shifting Cultivation Control Awareness Group to minimise the shifting cultivation has helped reduce landslide. Upstream plantation has decreased erosion and plantation along the stream has strengthened the banks.



Upstream plantation

Promising practices

Due to the project's initiatives, DRR is integrated in the VDCs annual planning and is considered one of the most important aspects to look into while developing local community plans. The DRR integration has proven very effective as it requires very little rescue effort compared to the cost of relief as was the case in the past. With the improved irrigation facilities, around 50 per cent of 700 targeted HHs are now growing additional varieties of improved crops with better harvests. Visible impacts on livelihoods of the target beneficiaries due to the irrigation from shallow tube well helped sensitise about the importance of technologies among the stakeholders. Similarly, participatory approach in developing community based VDC level Disaster Management Plan has helped raise awareness and built capacity of the concerned communities and stakeholders to cope with potential risks.

Management of small scale irrigation infrastructure and its improvement resulted in increased income of vulnerable communities that helped build their resilience including reducing the effect of drought. With the implementation of DRR activities in the target areas, the understanding level of the communities and local authorities has improved particularly

on preparedness and risk reduction, disaster management, and relief and reconstruction.

Achieving impact at a scale

The project is closely working with the local government authorities mainly the DDCs and VDCs on formulating the Disaster Management Plans. To date, the project has assisted in finalising Disaster Management Plans of Chitwan District for 31 VDCs and one municipality. Similar plans for 26 VDCs in Nawalparasi District were finalised with consultation from other participating stakeholders at VDC and district level.



Local youths adopting black smith work as their occupation after off farm training



Water for irrigation

The project has influenced the DDC and VDCs to integrate DRR into the overall development plan of the district and the VDCs. Throughout the implementation phase, concerned officials from district line agencies, ministry and development organisations, visited and participated in different events to internalise the importance of the project approaches. Sharing of project learning with local authorities has helped to sensitise local level policy makers about DRR and its linkages to livelihoods, and to raise awareness and build capacity of the concerned communities and stakeholders. Moreover, involvement of media and other relevant stakeholders in sharing the project learning has helped to disseminate the lessons to wider audiences.

Technology intervention

The project has supported construction of 14 shallow tube wells and improved one natural lake with dam construction. The project also enhanced the irrigation facilities improving three irrigation canals and a well. Similarly, one stream was trained through improved spillway with embankment dams on both sides benefiting more than 676 HHs. Through the project promoted

technologies, beneficiaries have improved agricultural and livestock rearing practices; decreased sensitivity to different diseases, pests and other physical damages, and increased production thereby increasing their resilience.



Project trained bee keeper with his bee hives



Sumitra with her grain stock

Building embankment boosts farming

Land erosion and deposition of debris due to frequent flooding has left many Bote families in a peril living near the banks of Baulaha River in Nawalparasi District. Among the affected is Sumitra's (47) family, she lives with her husband, a son and a daughter.

In the last decade, livelihoods of Bote community's – fishing and ferrying people across the rivers-slowly perished due to river pollution, frequent flooding, and construction of bridges and culverts among others. After much endurance to sustain their livelihoods, like many, Sumitra and her family opted agriculture as their main occupation but unfortunately, frequent flooding has caused them to lose their crops every year forcing them to work as daily wage labourers. "The year 2006 was the most painful one, as the flood destroyed our paddies and deposited debris in our land, I was unable to harvest a single grain of crop," she recalls.

Sumitra and her family collect and sieve sand and aggregates for selling but the work is very tedious and earns far less compared to farming. Disaster caused by frequent flooding has shifted the settlement of

Bote communities (known as Bote Tole) two km away from the main highway. Practical Action in partnership with its local implementing partner - SAHAMATI started implementing DRR project in 2007 along the settlements of Baulaha River. In 2008 winter, communities, project staff and concerned stakeholders agreed to construct a 1.8 km long embankment along both banks of the Baulaha River. The new embankment has helped protect 40 hectares of arable land out of which Sumitra's family owns one hectare.

"After the project helped us build embankment, we renovated our farms and transplanted paddies. We produced 800 kg last year," she says. "The produce is enough to fulfill our year round rice supply. There are now other families who have also started cultivating their land."

Sumitra smiles and further says - "I have received training on different methods of growing vegetables. We consumed the vegetables planted in our 200 square meter yard last season and sold only the remaining and still earned NPR. 5000 (£45). With the money, I bought utensils and spices and have saved half of it for emergency."



Tomato field

Project: Climate change

Practical Action is implementing activities from its own resources to better understand the impacts of climate change in Doti, Kailali, Nawalparasi, Dhading, Rasuwa and Jumla Districts. The project expects to help 97,000 poor people cope with risks due to floods, landslides, drought and impacts of climate change.

The activities under the programme and the communication materials produced are reaching the target groups at policy and community level. A climate change booklet and a policy paper in Nepali were published to raise awareness about the impacts of climate change. Several workshops were organised to share information on climate change and to build the capacity of other stakeholders. The UNFCCC COP 14 in Poznan, Poland was also participated where slides were presented in two side events on community based adaptation and integrating climate change adaptation and DRR.

The observed climate data of Nepal from 1976 to 2005 was analysed with technical support from Society of Hydrologists and Meteorologists (SOHAM). The analysis showed a diverse climate changing situation in the country. Although the

overall annual temperature is in increasing trend, there are some pocket areas where temperature is in negative trend. It leads to the need for further understanding this science of climate change. The data analysis activity has been followed up by a field study covering six field sites in Jumla, Doti and Kailali in western Nepal and Nawalparasi, Dhading and Rasuwa Districts in mid Nepal. The study was conducted to understand the community's perception on climate change and the impacts of climate change on their livelihoods. These studies have helped understand the issues related to climate change at local level which is useful for further development of the climate change adaptation programme in Nepal.

Past year, the Glacier Trust a UK based non government organisation and Practical Action Nepal Office agreed to collaborate for undertaking integrated water resources management approach for climate change adaptation. Similarly, a group of INGOs including WWF, IUCN, CECI and NAVIN (National Association of VDCs in Nepal) have developed a consortium to prepare a standard methodology for climate change vulnerability assessment. The consortium is led by Practical Action and is currently applying to ADB TA Package II programme for Nepal.

AIM 2

Making Markets Work

Aim 2 works with small holder farmers to help increase access to established markets. It supports poor communities by making market work for them and by exploring a participatory and systemic market development approach to reduce vulnerability and secure livelihoods by applying technology for better production and networking skills to engage effectively in fairer markets. Aim 2 in Nepal mainly works under one thematic area – Minimising impacts of conflict.



Watering vegetables



Minimising Impacts of Conflict

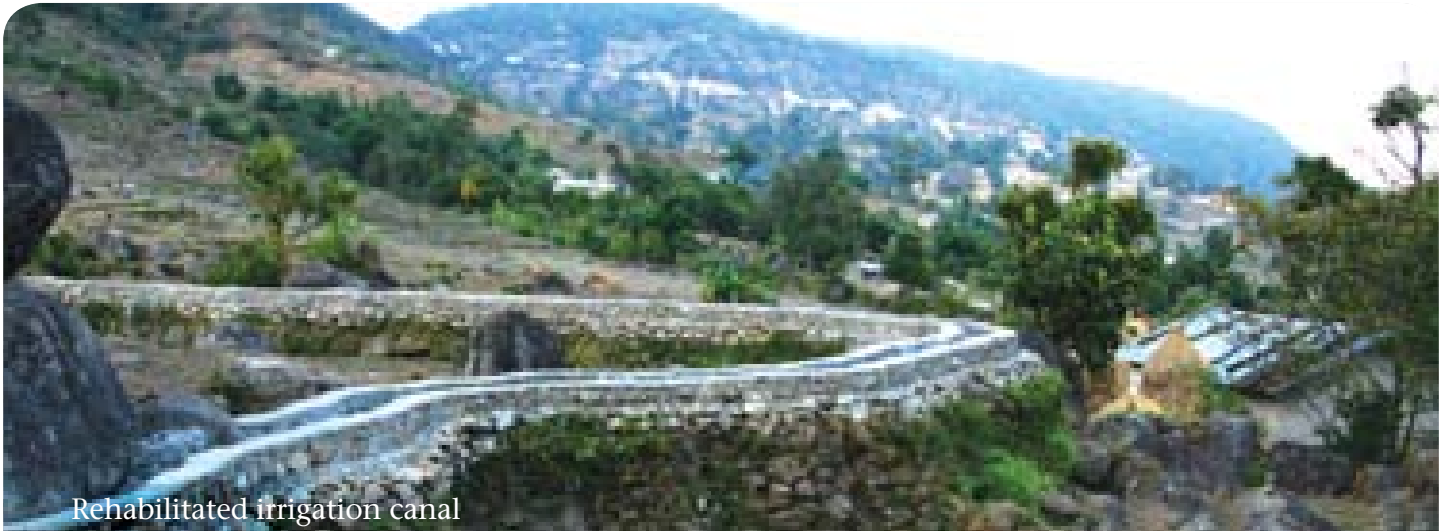
This programme aims to improve the livelihoods of poor communities affected by the conflict. It rehabilitates the socio economic situations of the poor communities by building confidence through mediation and later implementing activities to increase their livelihood. The programme focuses on the promotion of youth peace promoters to strengthen the project's key messages of peace, reconciliation and conflict mitigation along with the promotion of local agro products, optimising marketing and management strategies and addressing under utilisation of potentially valuable and marketable products.



Catching fish from community managed fish pond

Project: SABAL

Practical Action is implementing SABAL- Sustainable Agriculture with Bazaar for Advancing the Livelihoods of conflict affected poor people project since January 2008 with co-financing support from the European Union. The project aims to improve socio economic conditions, promote social harmony and rehabilitate the defunct basic service systems. It applies two pronged approaches – starting with “confidence building activities” and leading to “quick return complementary livelihood activities” which is considered to be appropriate for post conflict development work. Target beneficiaries are the youths, *dalits*, ethnic minorities and marginalised communities comprising of women headed HHs, IDPs, ex-combatants, returnees, and survivors of conflict.



Rehabilitated irrigation canal

The project is implemented in partnership with Social Empowerment and Building Accessibility Centre (SEBAC) - Nepal in 26 VDCs of Achham, Doti and Kailali Districts.

Highlights

Past year SABAL was launched organising district and VDC level inception meetings. The project started with repeated behavioural change interventions using psycho-social counseling through Community Peace Centres (CPCs), ward level discussion and Better Life Option Programme (BLOP) to reduce potential conflict and to reinforce the project's key messages. The CPCs are already showing promising results and qualitative analysis has yielded plentiful examples of local mediation of conflict. It is planned to link the most effective CPCs with the government initiated Local Peace Committees for sustainability and institutional support.

Moreover, BLOP training to 1,800 youths as the local ambassadors for peace has helped to mobilise youths in the local peace building process and conflict mediation.

In the high conflict prone areas and amongst most vulnerable groups, the project has initiated capacity building activities for group enterprises such as community fish farming and



Watering vegetables and helping quench her sister's thirst

riverbank farming. In addition to the technical support, these groups received training on good governance for equitable benefit sharing. There are altogether 51 community fish farming groups involving 786 HHs and 5 riverbank farming groups involving 133 HHs.

Promising practices

The project successfully demonstrated usefulness of the Participatory Market System Development (PMSD) approach in post conflict market development. Using the market mapping exercise, the project brought together diverse market actors and stakeholders to discuss common problems. The joint action planning facilitated and endorsed the community



Cauliflower plantation

approach to build collection centres in key project sites through assistance from local government and other stakeholders. Riverbank farming in a short period has also yielded considerable benefits for landless *dalits*.

The project is currently analysing the promoted enterprises to ensure that the incomes are sustainable and the linkages and institutional structures created will remain to provide long term benefits for the poor. The project is also collecting a wide variety of qualitative data through case studies, interviews and participatory video on project impacts in peace building for wider dissemination.

Achieving impact at a scale

The project has already reached 9,300 HHs directly. The project will indirectly benefit 150,000 people from the neighbouring VDCs through its activities – development of 90 Local Resource Persons, 26 Community Agriculture and Livestock Assistants, 6 collection centres, 1,800 youth peace ambassadors, 52 street drama performances and the transformation brought through participatory engagements with the local market stakeholders.

The project is deeply engaged with the DADO and DDC, and regularly shares project approaches, impacts and results. The lessons from this project has been able to develop a clear understanding on some of the issues related to conflict affected market development, which will be useful in future programme development in peace building and conflict sensitive market development.

Technology intervention

The project has tested and installed Multiple Use Systems in areas where communities needed water for multiple uses. These systems were initially designed by IDE Nepal and the project has adapted them to suit the local requirements. The technology is designed to utilise local sources of water with a low cost storage and distribution system. The project is providing drinking water and water for irrigation for most needy rural and remote communities. Altogether 17 irrigation and drinking water systems rehabilitated, three rain water harvesting systems installed, and 52 plastic ponds and 811 individual irrigation systems (drip and sprinkler irrigation) were supported. The improved irrigation is providing facilities to 422 hectare of land benefiting 3,912 HHs.



Mature cauliflower field

Riverbank farming: a new practice

Chuwa VDC lies near the east west Mahendra highway of Kailali District. SABAL project started riverbank farming in this VDC to improve the livelihoods of freed bonded labours known as *Kamaiyaas*. Vegetable farming is promoted in two sites of the VDC; Baghmara where 22 members are involved in 'Mukta Kamaiya Bagar Kheti Samuha' and Piparkoti with 28 members involved in 'Charela Bagar Kheti Samuha (CBKS).'

"In the beginning, our team faced difficulty in convincing the landless to start farming in a riverbank because they did not believe that a riverbank could be fertile enough to grow vegetables," informs Tilak Bohara, Community Mobiliser. "We had to give many examples to convince them to start farming in the banks of Charela River."

The project supported the landless communities to promote cucurbit crops in 1.53 hectares of land. The landless farmers are now mainly growing watermelon, squash, cucumber and bottle gourd. "After planting vegetables they saw the produce and are now confident that they can survive by farming in riverbanks too," states Tilak.

Today the river banks are flourishing with vegetables and the farmers are selling their produce in the markets. "We never farmed in the riverbanks before; initially we did not believe we could. Now, we are able to earn significant amount of money by selling the vegetables. So, we decided to increase the area for farming in the coming year," opines Sashi Devi Chaudhary, Chairman, CBKS.

The notable practice we can see there is the barter system. People come to the production site in the river bank and exchange wheat with the same quantity of vegetables. The farmers are pleased with the land and consider it a gift of nature. This approach has shown that farming at the riverbank can contribute to poverty reduction if we treat it as a resource to benefit landless people.

"We used to work on daily wages and did not know where we would eat our next meal. Now, we do not worry. All the group members have started farming in the riverbanks," says Chhote Lal Dagaura, Chairman of another group. "We are now interested in cultivating vegetables by leasing more land from the earned income but we will need continued support."



Uprooting radish

Programme Development for Market and Livelihoods

Project: Increasing the competitiveness of dairy sector

The new programmatic focus of Aim 2 in Nepal is on “Increasing the competitiveness of dairy sector” by working with over 100,000 small holder dairy farmers in Chitwan, Tanahu, Dhading and Gorkha Districts considered as “Dairy Belt”. This programme is focused on strengthening the dairy sector in Nepal by fostering the development of conducive policies, increasing the coordination and collaboration amongst market actors and by stimulating the growth of effective and efficient inputs and service providers. A project entitled “DAULAT- Dairy for Assisting Transformation and Uplifting Livelihoods for Poor People in Nepal” is developed. Although Practical Action in Nepal has just begun to use PMSD approaches for market development, already the lessons of the dairy sector in Nepal was highlighted in the USAID’s Best Practices in Implementation Series as a best practice on value chain development with major focus on the market mapping exercises and its outcomes.

Project: Linking rural and remote farmers to rewarding markets

Under its programme development objectives, the Market and Livelihoods team have focused on enhancing the livelihoods of rural and remote small holder farmers mostly in far west Nepal through an integrated approach of value chain development and Business Development Service (BDS) market development for Horticulture and Non Timber Forest Products (NTFPs) sector. The programme focuses on developing the capacities of small holder farmers to access appropriate services along with better linkages to local and regional markets.

The project has analysed the value chains for high value vegetables, spices, fruits and selected NTFPs like essential oils based on the increasing demand and the abilities of small holder farmers to respond to market opportunities. Aim 2 team is currently developing two separate projects on both of these sectors for scaling-up key activities and interventions.

AIM 3

Promoting Infrastructure

Aim 3 strives for increasing poor people's access to, control over, and choice of appropriate and sustainable infrastructure services. It works through promoting partnerships between marginalised people, the public and the private sector, to plan, deliver and sustain infrastructure services. The Aim facilitates these actors to demonstrate innovative models of service delivery with a positive impact on poor people's livelihoods. Based on learning, this Aim helps uptake good models for attaining impact at scale by influencing concerned authorities for pro-poor policy changes. Aim 3 focuses its work in three broad thematic areas – Increasing rural productivity; Attaining sustainable urban environment; and Creating healthy homes.



Unloading vegetables from gravity ropeway



Participants of participatory video

Increasing Rural Productivity

This thematic programme aims to increase productivity of rural people and their access to other basic services and markets through use of complementary means of transport services and small decentralised renewable energy systems. Interventions include the scaling up of technologies such as, cable river crossing (*tuins*), gravity goods ropeways, bicycle trailers; decentralised renewable energy technologies focusing on the development of wind energy systems and strengthening their manufacturing bases. An integrated approach is an integral part of this programme promoting partnerships with stakeholders including local governments, NGOs, CBOs, and private organisations at all levels to increase uptake and help influence for conducive policy environment.



Inaugurating gravity ropeway in Achham

Project: Access for opportunities

Practical Action is implementing 'Access for Opportunities' project since February 2007 in four western districts with financing support from the European Union and the UK based trust funds. The project aims to improve socio economic conditions of poor and marginalised people in the target villages by maximising benefits from services; through increased social and economic interactions with external communities and stakeholders; increasing and diversifying income; gaining additional income from community management of transport services; and strengthening the capacities of local community based institutions to select, manage, operate and lobby for pro-poor transport services and policies. The target beneficiaries of the project are socially



Plastic pond for irrigation

excluded, disadvantaged and marginalised and women headed HHs, HHs with disabled members, IDPs and conflict affected communities. The project is implemented through its local partners – Centre for Community Development and Research (CCODER) in Gorkha, SEBAC - Nepal in Achham, Karnali Integrated Rural Development and Research Centre (KIRDARC) in Kalikot and NGO Network in Tanahu.

Highlights

This year the project completed installation of three gravity ropeways and six *tuins* benefiting 14,636 people from 2,366 HHs. Various institutional capacity building and skill development training were organised including; project planning focused on ropeways/*tuins*, construction management, account keeping, operation and maintenance of ropeways and *tuins*, value addition of agro products, interactive meetings between producers and major market chain actors in vegetable trade. In addition, appropriate simple irrigation technologies like plastic pond, pipe irrigation, sprinkler and drip irrigation together with agro inputs were introduced on the basis of Participatory Market Chain Analysis findings. These supports were provided to intensify agriculture productivity that has potentials to be marketed using the infrastructures built by the project.

Promising practices

Focus on institution building of producers/ marketing groups as CBOs is a good practice for this hardware driven project. These CBOs are facilitated to save part of their incomes to promote local economic development initiatives and also to conduct regular monthly meetings to keep their institutional bond tied together. They were also capacitated to take responsibility for managing and maintaining gravity ropeways, and Resource Centres at the upper ropeway stations. Capacity assessment tool was used to identify the technical and managerial training needs of the CBO members throughout the institution building process. On the basis of this assessment, the project supported CBOs to enhance their capacities and make them able to voice their opinions to local authorities – VDCs and DDCs. This tool proved to be an effective approach to motivate and strengthen CBOs to increase their ownership on project activities which is a key to sustainability of actions.

The project is providing inputs to enhance agricultural production in and around the gravity ropeway upper stations. The installation of irrigation supports has resulted in a high yield of crops and vegetables such as tomatoes, onions, cauliflowers and beans in all the gravity ropeway sites.



Tuin in operation

As a result, farmers' income has increased in the areas. In the last six months only, Rabindra Gurung of Tanahu and Mannaje Saud of Achham earned additional NPR. 30,000 (£235) and NPR. 26,000 (£204) respectively.

Achieving impact at a scale

Practical Action is developing technical standards and guidelines on ropeways in collaboration with Department of Local Infrastructure Development and Agricultural Roads (DOLIDAR). These technical guidelines will help other government and non government organisations to design and install ropeways in Nepal and help scale up the technology widely. On site job training during the installation of ropeway and *tuins* was organised for eight DOLIDAR engineers from different districts including the Access project districts. At the local and district levels, the project provided technical supports to DADO for replication of gravity ropeway technology. As a result, DADO Syangja has started installation of a ropeway in Syangja. Likewise, Shree Lower Secondary School, Darechowk, Chitwan has completed the detail survey design for a ropeway installation with support from the project.

Technology intervention

The project completed installation of three gravity ropeways - one each in Achham, Gorkha and

Tanahu District and one in Kalikot is in final stage of installation. Similarly, it also completed installation of six *tuins* – one each in Achham and Gorkha and two each in Kalikot and Tanahu Districts. During these installations, the project improved the technical designs of the ropeways and *tuins* considering user's adaptability and safety measures. The major improvements are in the arrangement of hauling cable sheave and replacement of the wooden anchorage with Reinforced Cement Concrete (RCC) towers. These improvements have increased safety of operation, strengthened foundations and enhanced the aesthetics. Similarly, the improved *tuins* with multiple sag control devices are now able to cover a stretch of 140m where as the old design can work efficiently up to 100m span only. The major improvements were in hauling of carriage, sheave and sag control of track cables.

The project supported construction of 16 plastic ponds in Achham, Tanahu and Gorkha; three drip and 23 sprinkler irrigation sets in Gorkha and piped gravity flow irrigation facilities in Kalikot. Three community Resource Centres and one audio tower were established at gravity ropeway sites to provide daily market price of agro products and other agriculture related information to the farmers so that they can better negotiate with traders and middlemen to claim fair value of their produces.



Rabin in his vegetable garden

Farming replacing foreign jobs

Rabin Gurung (38), resident of Devghat VDC ward no 1, Tanahu District is a farmer by profession. He is energetic and is determined to set new examples for improving livelihoods in his own village. His daily activities are not only limited to farming but he is also actively involved in the community development initiatives.

Eight years ago, he had migrated to India looking for better opportunity. But in India, his job earned him barely enough to sustain his family back home. After working for years, he could not save enough; and it prompted him to return to his village. Without any prospect for jobs locally he started tending to his farm. His perception on farming changed once he participated in an exposure visit to Palpa and received training on vegetable farming from Access Project.

“The visit taught me how plastic ponds could be used for irrigation purpose because without water we would not be able to grow anything. Now, I am determined to use my learning into practice to secure better livelihood with my little farm,” he states.

With financial assistance from the project, Rabin and his fellow farmers built a 60,000 liters plastic pond after returning from the visit. The pond is providing 24 hours irrigation facility to the community. Rabin planted different kinds of vegetables utilising newly gained knowledge on farming techniques. “The assistance from the Access project has been very instrumental to enhance our production,” he explains. “Last season, I earned a total of NPR. 30,000 (£235) by selling vegetables. Initially, I invested NPR. 8,000 only but the return is huge and I am very happy,” he added.

He is also a beneficiary of the newly installed gravity ropeway in his village. The gravity ropeway has helped transfer his produces to the market faster and fresh. “Now within a few minutes we can take our produces to the market saving us 70 per cent in transportation cost. The installation of gravity ropeway has motivated the villagers to embrace vegetable farming more seriously than ever,” he proclaims happily.



Fresh produce for market

Project: Renewable Energy Village (REV)

REV Phase II project, implemented in Bhumlichowk VDC, Gorkha District since 2006 was continuously expanded to 11 more villages promoting appropriate technology and renewable energy services. The project aims to provide practical solutions to the target villages and demonstrates various low cost and community managed renewable energy options – solar power, wind power, biogas and improved cooking stoves (ICS). The project is very instrumental in



Solar drier in use

raising awareness of the beneficiaries on various technological options to optimally use the available natural resources. Target beneficiaries of the project are the disadvantaged communities including Chepangs, Magars and Bishwokarmas (*dalits*). The project activities are implemented in partnership with a local partner - CCODER in close coordination with the VDC. The project is funded by the UK trust funds and individual supporters.

Highlights

The project promoted cost effective white LED lamps powered by solar and wind energy. Integrating other livelihood activities with energy, the project promoted plastic ponds for effective irrigation and water supply, provided community solar dryers for preserving the local produces and organised community exposure visits to link local produces with the markets in Nawalparasi and Chitwan District. The project also capacitated the community on better hygiene practices by promoting low cost Sulav toilets and raising awareness on health and sanitation.

Promising practices

The project empowered poor and women headed HHs to establish a community bank to



LED combats darkness

save part of their incomes. The bank provides micro credits to the poor for promoting income generating activities as well as accessing services including renewable energy technologies. The bank has 274 actively participating members with a total capital of NPR.1,262,168 (£10,975) out of which NPR.1,211,700 (£10,537) is being used for investment. An individual participant saves around NPR.100 (£0.87) per month. This programme is further promoted in other adjoining villages for improving access to renewable energy technologies.

The project works with local community groups as Community Development Centres (CDCs) to create opportunity to work in new and innovative technological areas, transferring skills and building capability of local people. There are altogether 11 CDCs operating in the target areas and one umbrella coordinating committee overseeing all 11 CDCs represented by women and marginalised groups from the CDCs.

Achieving impact at a scale

The project supported targeted HHs with cost effective wind and solar rechargeable LED lamps for lighting. Improvement in health and education has been clearly demonstrated due to the clean energy use. Moreover, technology

improvement areas were identified and technology standardisation process started for wider up scaling.

Practical Action and Alternative Energy Promotion Centre (AEPCC), a government apex body signed a MoU for further promotion and development of wind energy technologies in Nepal. Users' guidelines on small scale wind energy system, Wind Permanent Magnet Generator (PMG) generator manufacturing manual and Wind Rotor Blade manufacturing manual were published with an objective to scale up the technologies. In addition, four wind data loggers were installed to gather monthly wind data at four different windy places in three districts. The collected data will serve as an asset for future interventions on small wind energy systems.

Technology intervention

The project installed six flat type community solar driers, 216 improved mud cooking stoves, 214 single pit Sulav latrines, 12 plastic irrigation ponds, 12 improved bee hives and maintained 75 units of solar and wind powered LED lamps in 11 villages of Bhumlichowk. The CDCs are learning to operate, maintain and sustain the systems as these technologies are new to them.



Tika determined to set examples

Tika an influential figure at 40

To be a leader at the age of 40 is a dream come true for Tika Maya Bishokarma. She was born and brought up in Bhumlichowk VDC-9 and had never dreamt that she could influence her village in anyway. She belongs to a marginalised *dalit* group.

REV encouraged social interaction between the community members so that each and every member could seek information on solar and wind electrification, indoor air pollution (IAP), advantages of biogas, and information on health and hygiene focusing on better sanitation practices.

Tika was an ardent observer and a listener. She never missed a single meeting and always spoke her mind. Due to her interest and portrayed enthusiasm, she is now the Vice Chair of the Coordination Committee and also manages the wind energy charging station for her community members.

“Darkness, indoor smoke and poor sanitation were some of our problems in my village - Devasthan,” she says.

“With all the information we received during the community meetings, I decided that time had come to combat these problems.”

Tika set an example in her village by being the first person to construct a low cost toilet and install an ICS. She actively shared the advantages of a toilet and the ICS in the community meetings.

“I told the participating members how easy it was for me to go to the toilet during the night and my house is free of smoke and flies that could potentially make my children sick,” she adds smiling.

The enthusiasm portrayed by Tika has influenced other villagers to construct toilets. Today all the HHs in her community have toilets and many have installed the ICS. Open defecation is no longer a problem in her village. She is proud to see her village transform to a cleaner village and is even more determined to carry out her duties as the Vice Chair to influence many more that need help in neighbouring villages.



ISWM orientation

Sustainable Urban Environment

This thematic area aims to improve urban environment and the livelihoods of the urban poor through promotion of sustainable waste management and, water and sanitation (WATSAN) services. The interventions focus on demonstrating innovative models of waste management and WATSAN technologies and approaches, by building effective partnerships with local governments, CBOs, NGOs and the private sector. In addition, activities under this area promote livelihood options for the urban poor by building their capacities in developing business opportunities from waste. It provides poor communities with opportunities for additional income and socio economic development to take place, through the adoption of a community managed decentralised approach.

Project: ISWM

In December 2008 Practical Action completed the “Strengthening Local Capacities in Integrated Sustainable Waste Management (ISWM)” project which was implemented in small and medium Municipalities namely; Bharatpur, Birendranagar,

Nepalgunj and Vyas. Respective municipal offices, *udle/gtz*, Municipal Association of Nepal (MuAN) and WASTE Netherlands were the implementing partners of the project. The project was supported by the European Union under the programme – EC Asia Pro Eco II.

Highlight

The project reached over 19,000 direct beneficiary HHs in four municipalities and more than 60 municipal staffs. The project developed the capacity of municipalities and stakeholders in assessing wastes, and analysing opportunities together with constraints. The project strengthened the institutional capacity of municipalities on planning and implementation of ISWM plans by setting up environmental wings that contained knowledge and resources gained from ISWM project. Scaling up and sustainability



A practice of disposing garbage appropriately in Chitwan



Preparing ring composting

of the project was ensured through disseminating project learning, establishing links between international good practices and setting up central ISWM Resource Centre in MuAN. Linkages with other municipal association including European cities were strengthened through MuAN's existing networks.

Promising practices

The project mainly focused on capacity building of the beneficiaries. City and Ward Level Waste Management Coordination Committees developed participatory ISWM plans in their respective municipalities. The plans were later endorsed by the municipalities to collect and recycle wastes at small scales at the community levels. While doing this, environmental wing of each municipal office were strengthened with equipment, knowledge and resources on ISWM approaches/techniques. Development of local level institutions and endorsement of ISWM plans by municipalities has ensured sustainability of the ISWM approach.

Achieving impact at a scale

Formation and strengthening of City and Ward Level Waste Management Coordination Committees and the development and institutionalisation of ISWM plans have changed the conventional way and practices of

municipalities in dealing with waste management system. Introduction of three key ISWM dynamics - identification of stakeholders; assessing and analysing waste elements; and finally institutional, technical, financial, socio cultural, legal and political aspects have been well internalised by the municipalities and their stakeholders. It is expected to continue as municipalities have endorsed the plans and is ready to allocate their annual budgets. The most important aspect is the involvement of all stakeholders in closing the loop of waste stream from waste generation to final disposal by promoting 3Rs (reduce, reuse and recycle) practices.

The project knowledge was instrumental to include ISWM approaches in the new strategy and Solid Waste Management Act under formulation by the Ministry of Local Development. The central ISWM Resource Centre was established in MuAN and ISWM website developed.

Technology intervention

The project supported the targeted beneficiaries with various materials ranging from concrete and metal waste segregation units at community levels, community containers, biogas plants, plastic collection centres, ring composting units and community composting units totaling to 79 physical outputs in the targeted communities.



Tulasa with her award

Tulasa awarded in Innovation Symposium

Tulasa Gyawali from Syauli Baazar, 10 Bharatpur, won first prize in a national innovation fair and was asked to share her story in an international symposium for her continuous effort on utilising waste in urban agriculture.

“I was honoured when I received the first prize. In my house, I have a compost bin and pits and I practice vermin composting too. I do not throw decomposable waste; instead I convert them to resources and use them to grow organic vegetables, she smiles.” ISWM project in collaboration with Bharatpur Municipality had earlier distributed compost bins in Syauli Baazar.

Residents of the community do not throw wastes in the street corner as before. People are making compost from organic waste. They separate plastic in their homes and they sell them to the plastic collectors.

According to Tulasa, “this is one of the positive changes from the project. Waste management training to the community has changed people’s attitude toward disposing waste. Now we think waste as a resource.”

Tulasa and other community members were taken to India for waste management exposure visit. “The visit was educating and motivating for me and to my neighbours. We observed the good practice in Forum of Recycle and Environment (FORCE), Mumbai and now we have replicated that practice in our community.”

In Tulasa’s community, 10 HHs have built a masonry compost pit in order to accommodate more organic waste and to sell the compost to the local nursery and farmers. This is an example of how awareness can make a difference.



Methods of waste disposal



A beneficiary in front of her organic vegetable garden

Project: Integrated Approaches to Urban Development (IUD)

The “Integrated Approaches to Improving Urban Environment in Asia” a three year project was completed in December 2008. This was a regional project focusing on reducing the environmental threats to health and livelihoods of urban slum dwellers in four towns of three countries - Sri Lanka, Bangladesh and Nepal.

The project was co funded by the European Union under its EC Asia Pro ECO II programme, UN-HABITAT’s Water for Asian Cities programme

and DGIS. In Nepal, the project was implemented in Butwal Municipality of Rupandehi District. The project activities were carried out in eight squatter settlements.

Highlight

The project set a good example by actively engaging the municipality in the development and delivery of neighbourhood plans in partnership with CBOs and other stakeholders. The project developed innovative and appropriate waste management, water and sanitation facilities and low cost building technologies. It increased the access to other basic services for urban poor communities and improved housing for residents by raising awareness and influencing policies on environmental issues. Total beneficiaries of the project are 2079 HHs.

Promising practices

In participation of slum community members and the municipal authority, eight neighbourhood plans for slum settlements were developed using various participatory tools. Training on participatory learning enabled the communities to conduct participatory planning and revise the plans independently as per their requirements within a period of three years. The increased participation from community



Mixing biogas components

has helped create ownership of the community assets built in support of the project. Similarly, the beneficiary community adapted simple techniques/technologies to manage their waste and sanitation problem after an exposure visits to Bharatpur, Hetauda and Kathmandu Municipalities.

Achieving impact at a scale

Development of participatory neighbourhood plans and strengthening of city level slum forum has helped the community members to implement and deliver the plans with financial support from municipal authority and other stakeholders. For example, community members of Manakamana 1 constructed a footpath with financial support from *udle/GTZ*, electric power supply was provided to Ekata Tole from the Electricity Authority and members of other settlements raised demands based on the neighbourhood plans during the ward level meetings. These plans consist of priority issues of eight project settlements and are prepared both in Nepali and English language. These plans guide the communities, municipal officials and other development stakeholders in designing and allocating resources for the upliftment of environment and livelihood conditions of the beneficiary settlements.

The participatory approach has further created a

close bond between municipal staff and project beneficiaries. One of the unregistered project settlements - Pragatinagar A sector is now registered which has enabled the settlement's access to resources and services provided by the municipality. The project has also capacitated local human resources (trained on managing compost plants, technical trainings such as masonry, plumbing and house wiring) who are now engaged in other development as well as alternative livelihood activities.

Technology intervention

The project supported 5 community shelters, 62 water and sanitation facilities (55 HH toilets, 4 public toilets, 3 water points) and 35 waste management points (28 compost bins, 1 compost plant, 6 containers).



Gudgudiya hand puller for waste collection



Participatory neighbourhood planning

Participatory neighbourhood plan empowers communities

Ekata Tole, a squatter community was one of the project settlements situated between Tinau River and Siddhartha Highway in Butwal Municipality. In 1997, thirty three poor squatter HHs occupied marginal land along Tinau River, since then they have been residing in the locality by forming a homogenous community with a total population of 133 HHs.

Being a squatter community, they lacked authorised electricity supply for the past 12 years. “The frustration was valid,” says Punam Legal, Treasurer, Tole Lane Organisation (TLO). “No body paid any attention to our plight.”

Project’s participatory approach helped members of Ekata Tole to participate and voice their issues in front of the municipal staff, CBOs and other stakeholders, during the neighbourhood planning meeting.

“We did not have an authorised electric supply so we borrowed electricity lines from the neighbouring Tinau settlement. We paid

NPR. 10 (£0.08) per unit (kwh),” says Manju Pradhan, Chairperson, TLO. The amount paid by the local residents was 25 per cent more than the prevalent government rate. The authorised electricity supply issue to Ekata Tole was prioritised as the top most issue in their participatory neighborhood plan. Upon the request of the TLO and as recognition to the plan, the municipality sent recommendation letter to the electricity authority which later complied by providing electricity metre to each house in the community.

“We now have authorised electricity and we are paying the actual rate,” says Manju. “We are free from the fear of illegal connection which was risky.”

This is a successful case where the municipal authority recognised a squatter community to provide better access to basic services. It also portrays an example of municipal good governance on part of Butwal Municipality which worked indiscriminately for the welfare of urban poor.



Smokehood in use

Healthy Homes

This thematic area aims to improve the health conditions of women and children living within poor HHs by improving indoor air quality, access to clean HH energy, HH sanitation, and providing safe drinking water facilities. Interventions focus on integrated service approach considering multiple indicators affecting health. The technologies and processes mainly focus on IAP reduction, improved ventilation and stoves, on site sanitation, water treatment at storage and at point of use. These HH interventions are supported beyond HH levels by raising awareness on hygiene behaviour, advocacy and influencing through partners and network such as National and Regional Forum for Smoke, Health and HH Energy, GEWNet and NGO Forum for Water.



Local smokehoods manufacturer inspecting the hoods

Project: Scaling up of indoor smoke alleviating technologies

The project is implemented in Gorkha and Dhading Districts since March 2008 with financial support from USEPA's Partnership for Clean Indoor Air (PCIA) and DGIS. The project aims to reduce major health risks of women and children from kitchen smoke. It also ensures mechanisms to increase access to quality smoke reducing devices through sustainable market promotion and capacitating reliable manufacturers and suppliers. The project facilitates linkages of customers with appropriate credit facilities through revolving fund mechanisms, local micro finance institutions and other financial intermediaries. The project beneficiaries are 3000 women and children. The project is implemented



House with chimney

in association with Winrock International Nepal through local NGOs Goretto in Gorkha and Prayash Nepal in Dhading.

Highlights

The project is scaling up proven indoor smoke alleviating technologies earlier tested in the high hills of Rasuwa District. The major highlights of the reporting period was raising awareness on impact of indoor smoke by organising door to door awareness campaigns in more than 2500 HHs, exposure visits and installation of 200 smokehoods. These installations have significantly reduced the level of IAP and its impacts on human health incurring less medical expenses to the

Practical Action is hosting the secretariat of the National IAP and Health Forum (IAPH), the project facilitated to establish district IAPH networks in both project districts – Dhading and Gorkha, to advocate on district level IAP issues. Moreover, with support from Practical Action the IAPH Forum recently received grants from GEF/SGP-UNDP for the implementation of “Improving Households Energy Management Practices in Sacred Himalayan Landscapes Langtan National Park - Rasuwa” project. The Forum is implementing this project in Saramthali VDC of Rasuwa with nominal technical support from Practical Action.

families. Shifting from traditional stove to new and improved ones and changes in behaviour has helped ease work in the kitchen and saved time for fire wood collection and consumption.

Promising practices

The project has developed a revolving fund mechanism to promote smokehoods in the districts. Provision of smokehoods supported by revolving fund is a new concept in both districts where ten cooperatives were trained on managing the fund. The local cooperatives provide easy loans to the interested consumers as well as non cooperative members to help them install smokehoods. Likewise, the project also uses social marketing tools to create demand for smokehoods, and is building capacities of the local suppliers based on the value chain study to ensure smooth supply of smokehoods. For continuous supply of smokehoods, the project trained 28 local smokehood manufacturers out of which 22 are actively engaged in hoods installations. These approaches ensure sustainable market of smokehoods in the project areas and also help generate local employment.

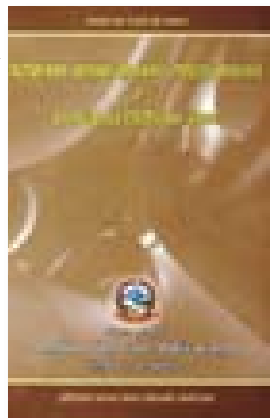
Achieving impact at a scale

This year, Practical Action provided technical support to the MoEST to develop the National Indoor Air Quality Standards and Implementing



Traning on indoor air quality

Guidelines. Three regional workshops and one national workshop were held to create awareness on IAP and collect feedbacks to finalise the standards and guidelines. The guideline is now approved by the Government of Nepal and is published as the national gazette. MoEST has approved the guidelines and published in Nepali and English version for wider dissemination.



A training manual on IAP and its health impact was developed with an objective to build capacity of the Female Community Health Volunteers (FCHVs) for disseminating information on indoor smoke and health related issues to the rural communities. More than 300 FCHVs from Rasuwa, Dhading and Gorkha Districts were trained to use the manual.

Technology intervention

The project installed 200 smokehoods this year in the implementing districts. To increase the efficiency, the performance of smokehoods was tested at Aprovecho Laboratory in USA. The test result indicates IAP reduction by 95 per cent.

New project: SWASHTHA- Strengthening, water, air, sanitation and hygiene treasuring health

Practical Action has recently launched a new project SWASHTHA since January 2009. The project aims to develop and promote integrated approaches by addressing major environmental health risks, such as indoor air quality, water quality, sanitation facilities and hygiene behaviours to create healthy homes benefiting 30,000 women and children in urban and peri urban settlements of Bharatpur, Butwal, Gulariya and Tikapur Municipalities. The project also addresses a few urban environmental problems of neighbouring municipalities and small towns, i.e., Ratnanagar, Ramgram, Sidharthanagar, Sunawal, Bardaghat and Kawasoti. The four year project is co-funded by the European Union under its Non State Actors in Development (NEPAL) programme, the UN-HABITAT's Water for Asian Cities Programme and Isle of Man Government. The project is implemented through its local partners – Environment and Public Health Organisation (ENPHO), MuAN, respective municipalities and small towns.

Bhume - an emerging entrepreneur

Bhume Lama (30) is a successful smokehoods manufacturer, an entrepreneur and a trainer from Rasuwa District. "My life was not like this. I used to work on a daily wage basis, my income was very little and sometimes it was difficult to find a job," he explains.

In 2006 Practical Action was implementing DFID-KAR funded indoor smoke alleviation scaling up project in Rasuwa. The project was encouraging and supporting local entrepreneurs to start business on indoor smoke alleviating devices. Bhume was one of the participants.

"I saw good potential in the business so I participated in the training. I received training on smokehoods manufacturing and marketing," he says. After the training, he started manufacturing smokehoods and assisted in installing them. To date, he has installed around 550 smokehoods.

"There is enough demand for smokehoods" he adds. "My daily income is about NPR.500 (£3.90) which is very good compared to what I earned in the past." With the steady income, Bhume plans to send his brothers and sisters to school. He has 11 members in his family. "I get immense satisfaction with what I do, customers thank me for making their kitchens smoke free," he smiles. "I am proud of my work. I disseminate information about the hazards of indoor smoke too while installing hoods."



Bhume sharing smokehoods experience

Currently, Bhume also works as a trainer, he trains potential manufacturers from other districts. Recently, he provided training to 28 potential local manufacturers from Dhading and Gorkha Districts under Practical Action's "Scaling up of Indoor Smoke Alleviating Technologies in high hills of Nepal" project. According to one of the trainees, Bhume knows the problems, concerns of users, issues and is aware about their skill level which puts them at ease.

Association with Practical Action's project has increased Bhume's confidence and networks. Today, he is also involved in community development activities. Recently, a cooperative and a dairy were established in his village under his leadership. "I am very lucky and it is my luck that made me attend the training provided by Practical Action in 2006. My life has changed for the better since then."

AIM 4

Responding to New Science led Technologies

Work under Aim 4 is comparatively in its initial phase. The Aim is planning to develop work on Information and Communications Technology (ICT), biotechnology and nanotechnology as potential sector for interventions together with other Aim works. These sectors were identified after an exploratory study of the potential areas focusing on the prospects, issues and suitability in the context of Nepal. To strengthen the collaboration in the identified areas Practical Action signed a MoU to develop and implement joint programmes in the future with the High Level Commission for Information Technology (HLCIT) - an autonomous government body to look after the ICT issues. Similarly, Aim 4 supported to establish a telecentre in Nawalparasi under the management of Kumarwanti Krishi Cooperative. Aim 4 also jointly organised a workshop on “Arsenic problem and use of nanotechnology” with the Government of Nepal and UNICEF. The main objective of the workshop was to bring together all the relevant stakeholders (scientist, development and beneficiaries) so that a process can be paved to deal with the problem especially on arsenic sensing through nanotechnology.



Participants of “Arsenic problem and use of nanotechnology” workshop

Practical Action Consulting (PAC) Asia

PAC is a subsidiary of Practical Action. Over the reporting period, a liaison office of PAC UK has been established within Practical Action Nepal Office. The main objective of PAC Asia is to expand and scale up Practical Action's successful technologies, approaches and modalities in Afghanistan, Bangladesh, Bhutan, India, Pakistan and Nepal of the Hindukush Region.

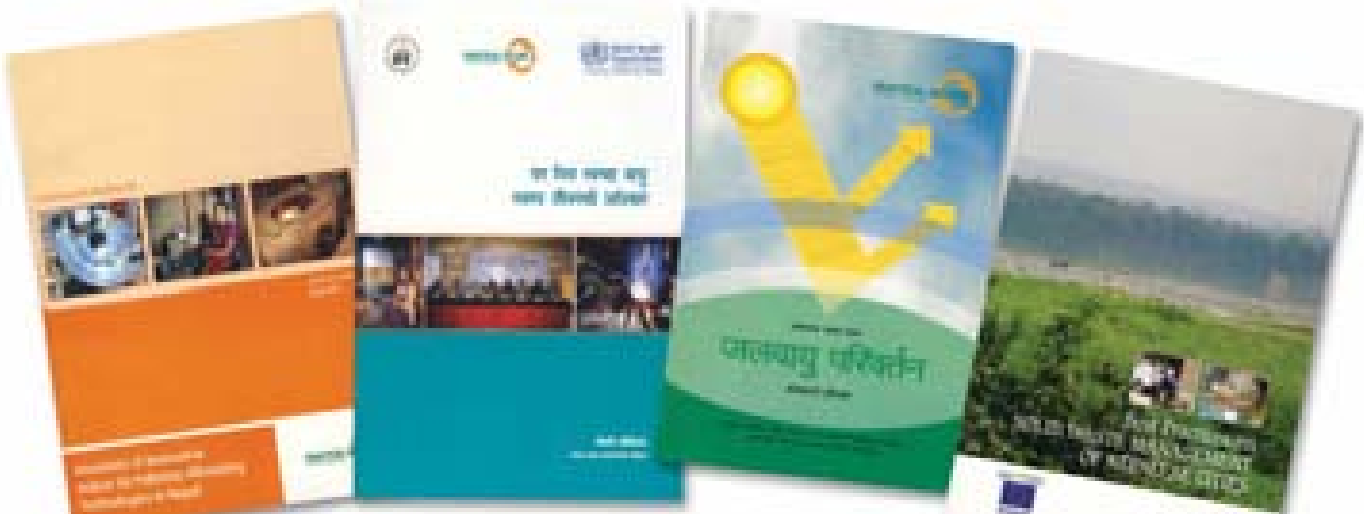
PAC specialises in assignments that add value to the development work of Practical Action, contribute to knowledge based development and enable the dissemination of ideas and good practices throughout the region. The income from the consultancy services is being used to test the new ideas and support to achieve Practical Action's vision and mission.

Within a short period of time PAC Asia has been successful in providing technical support to scale up gravity ropeway technologies, DRR and adaptation to climate change approaches, and micro-hydro technologies. PAC together with IT Transport UK has successfully completed Transparency and Accountability in Construction study assigned by DFID and is currently working on Disaster Risk Management Plan for four districts in Nepal (with FAO support); Climate Change Adaptation and Disaster Risk Assessment; and Rural Reconstruction and Rehabilitation Sector Development Programme (with DFID support).

PAC is proving to be an important vehicle to fulfill Practical Action's ambition to help the poor communities in the mountainous region beyond Nepal. With FAO's support, PAC is introducing the technology of gravity goods ropeways in the Chittagong Hill Tract of Bangladesh. PAC team visited the Meghalaya state of India and conducted pre feasibility studies and organised awareness sessions for promotion of gravity ropeways together with Meghalaya Rural Development Society which was funded by IFAD and ICIMOD.

Similarly, discussion is ongoing with Agriculture Machinery Centre of Royal Government of Bhutan to introduce the same technology in Bhutan as well. PAC is also involved in rehabilitation and expansion of Gereshk Hydro Plant in Afghanistan together with ENGAGE funded by DFID. Capturing the rich experiences on climate change adaptation works from Nepal and other countries, PAC is also involved with ISET Nepal to prepare climate change Scenario in Nepal funded by DFID. This will provide a strong basis for the national delegates to influence the discussions on critical international climate change negotiations in Copenhagen.

We are excited with the initial results and hope to contribute to the rural communities through technical assistance to fight poverty with appropriate and affordable technological means.



Knowledge products published last year

Best Practices on Solid Waste Management of Nepalese Cities **V**, 51p ISBN 9937 2 0940 3

Inventory of Innovative Indoor Air Pollution Alleviating Technologies in Nepal **Vii**, 72p ISBN 978 9937 8135 1 8

Policy Research on Household Energy & Indoor Air Pollution in South Asia **Vii**, 72p ISBN 978 9937 8135 0 1

Brief on Promoting Adaptation to Climate Change in Nepal **12p**

Integrate Urban Development's Health and Hygiene Toolkit **42 p**

IAP annual workshop report **20p**

Integrated Urban Development – collection of case stories **12p**

Bardia District Disaster Management Plan **80p**

Early Warning Saving Lives **28p** with CD and DVD

Publications by Practical Action Nepal Office staff

Shrestha, BR 'Ecological sanitation in Nepal: a case study of working with the Chepang Community' February 2009
<http://www.dewpoint.org.uk/article.aspx?ArticleID=970>

K.C, Jivan 'A simple and cheaper means of river crossing system in Nepal' June 2008
<http://www.mtnforum.org>

Hada, J 'Gravity Goods Ropeways Changing Lives of Hill Communities in Nepal' January 2009 e-net ISSN 1800-3680

Financial statement for the year ending March 2009

	Restricted £	Unrestricted £	TOTAL 2009 £	TOTAL 2008 £
Source of Income				
Overseas Government Grants	1,069,979		1,069,979	752,102
NGO (out of country) Grants	9,775		9,775	
Other Grants	49,002		49,002	47,901
Donations	51,494		51,494	85,048
Other Income		(920)	(920)	482
Sales of Materials		40	40	1,535
External Consultancy Fees		11,552	11,552	2,200
Internal Consultancy				1,470
Bank Interest		1,866	1,866	562
Income Transfer				3,659
TOTAL INCOME	1,180,250	12,538	1,192,788	894,959
Expenditure Headings				
Marketing and Fundraising		16,455	16,455	3,397
Reducing Vulnerability	413,855	68,623	482,478	506,350
Making Markets work for Poor People	237,366	45,029	282,395	90,306
Improving Access to Infrastructure Services	487,896	7,709	495,605	377,012
Responding to New Technologies	-	-	-	-
Country Directorate, Finance, Admin, Personel & IT	11,129	101,991	113,120	144,401
TOTAL EXPENDITURE	1,150,245	239,808	1,390,053	1,121,465

Note: A consolidated audit report was signed at organisational level in the UK. The figures provided are as per the consolidated financial report for 2008/09.

Vision

A sustainable world free of poverty and justice in which technology is used to the benefit of all.

Mission

To use technology to challenge poverty by:

- building the capabilities of poor people,
- improving their access to technical options and knowledge, and
- working with them to influence social, economic and institutional systems for innovation and the use of technology

Core Principles

- Putting people first
- Working in partnership
- A concern for future generation
- Respect for diversity

Practical Action Worldwide

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