



Government of Nepal



Swiss Agency for Development
and Cooperation



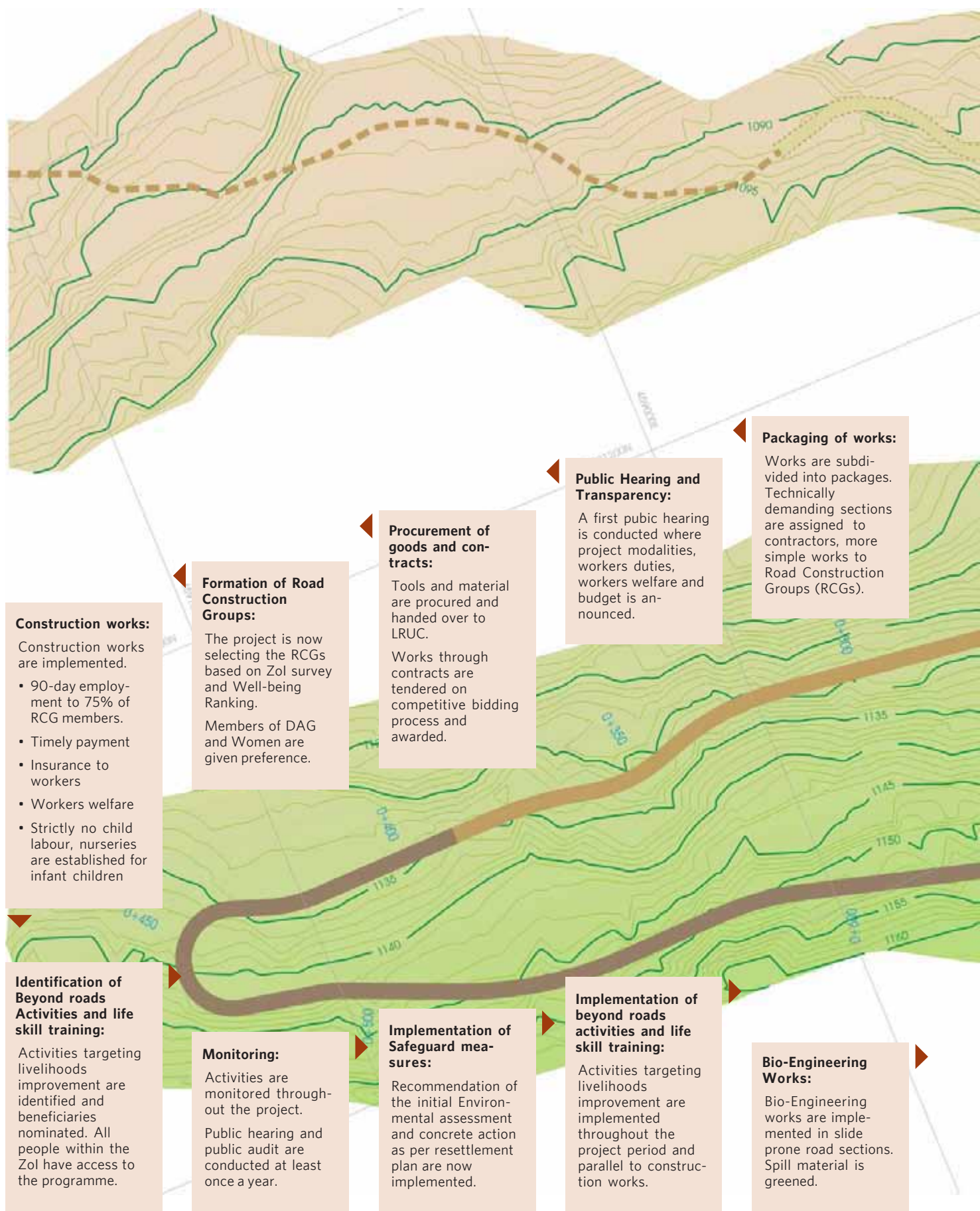
The Road Map to Improved Livelihoods



District Roads Support Programme
FRISA-ITECO JV

END OF PHASE REPORT
2006-2010

The Road Map to improved livelihoods



Formation of District Transport Infrastructure Coordination Committee:

DTICC is formed by the DDC as a subcommittee to the DDC. It is an inclusive team with geographical, political, gender representation.

Preparation of District Transport Master Plan:

DTMP is prepared under the guidance of the DRCC to prioritize road construction and road maintenance works in the district. The DTMP is part of the District Periodic Plan.

Road is selected for construction or rehabilitation by DDC.

Walk Over Survey:

Team consisting of members from the District Technical Office, the Project Support Unit and local leaders walk over the proposed road alignment. A first technical feasibility of the project is assessed.

Road is confirmed technically feasible and affordable. (Benchmark NRs./ Km 10 to 12 million.

Road Construction Survey:

The PSU conducts a detailed road construction survey. Center line is pegged and for the first time land owners are assured of precise Road alignment.

Formation of Local Road User Committee:

LRUC is selected through Mass Meeting.

- **Environmental Assessment**
- **Resettlement Plan**
- **Zone of Influence Survey (Zol)**
- **Well-being Ranking**

All above surveys are conducted parallel to the technical survey and design works.

The four studies assure least environmental damage, transparency in the planning process and protect land owners.

Zol and well being Ranking are tools to select the workforce and to monitor project outcomes and livelihoods improvement throughout the project.

Road Survey and design:

The PSU, together with the DTO conducts a detailed road survey and design. Throughout the process, members of the LRCC are actively involved.

Formation of Local Road Construction Committee:

A first mass orientation is called in the road corridor informing inhabitants within the zone of influence about the upcoming project and the projects modalities. The LRCC is formed through the DDC with the representation of all the political parties.

All weather road construction works:

Depending on the importance of the road and availability of budget, bridges & culverts are constructed. Pavements are improved with stone soling and cobble pavements.

Road opening:

Sections of roads are officially open after three to five years of construction.

Road Maintenance:

A Length Worker is mobilized and trained on each 3-km section of completed road. LRCC together with DTO takes responsibility for maintenance management and operation.

Changes in the lives of the people in the road corridor:

The project observes the change in livelihoods throughout and beyond the programme and records the outcome of the project intervention.

Hindrances:

Non adherence to DTMP
Non-engineered road construction through Bulldozer.
Cartelling in the bidding processes
Cartelling Transport services.

Imagine



You are a farmer in rural Nepal. You own a fairly comfortable house. It is a simple house which provides you with shelter from the monsoon rains and protects you against the harsh winter winds. You grow potatoes, maize and barley on your meagre share of land. Your mother, your wife and two children, your brother and his wife all live together as an extended family. Your children go to school; ; you need food, clothes and medicine for your family. The harvest from your land covers your family's basic needs for four months in a year, but you need extra food to sustain them during the hard times and are desperate for a cash income.

The nearest road head is a three-hour walk over difficult terrain. The health post is some distance and the primary school for your two children is in the neighbouring village. The only comfort you and your family share is a simple radio and a solar panel, one square-foot in size, which powers two 40-watt light bulbs.

Being a Dalit¹, you are likely to be socially discriminated within the community. You and your family only have restricted access to religious activities. You lag behind in education and in access to other opportunities. You find it extremely difficult to benefit from government services and employment is not easy to come by.

Having no vocational skills you have three options to improve your life:

- a) You and/or your brother seasonally migrate to Kathmandu, India or the Middle East where you can earn up to a \$150/month for simple work, or*
- b) You consult a money lender and most likely have to sell another piece of your property within two years to repay the debt, or*
- c) If you are lucky, a development programme with longer-term employment and a livelihoods component invests in your community.*

What can District Roads Support Programme (DRSP) do for this farmer?

A road near the farmer's home will significantly increase his access to resources and opportunities. A single public vehicle plying on this road would shorten travel time for so many people in his community; schools will be easier to travel to; more public utilities and services will be accessible; decrease in cost of freight will decrease price levels in local shops and make more goods available for locals; ambulance service will finally access patients in the community.

Since DRSP employs locals in road construction and high priority is given to disadvantaged groups, this Dalit farmer

will more than likely be selected to work in the road. He will acquire skills on-the-job, and receive fair wages, timely payment, and accident insurance. He, like numerous other DRSP road workers could finally pay back his debt from this income; not to mention all the basic necessities that will at last be affordable for him.

DRSP's saving and credit groups will provide him access to credit, where interest rates are less than half of what he would receive from the money lender. He will be given the opportunity to enroll in DRSP's skill-training programmes, providing him a source of income even after the road work finishes. At the same time, this farmer's wife or his brother could also get work on the road and get enrolled in DRSP's community development initiatives, such as literacy and gender empowerment programmes. Work on the road being inclusive, this couple will be able to work and socialise with other members of the community without any barriers.

Imagine the sense of empowerment this farmer will have; the new sense of identity his wife will have; and most importantly, the access to resources and opportunities this farmer's family will have. This is just what DRSP can do for this farmer and his family.

¹ Dalits are people from castes who are deprived economically, socially, culturally, educationally etc. They are also discriminated against as an 'untouchable' caste.



Project Background

The hilly, landlocked Nepalese terrain, although stunning to the eyes, has historically limited the access of local rural populations to essential services such as schools, health centres, and markets, constraining economic development and social inclusion. Understanding the grave need for roads in these areas of Nepal, District Road Support Programme (DRSP) was initiated by Swiss Agency for Development and Cooperation (SDC) in 1999, since when it has strived to provide motorable access to resources and opportunities for remote rural populations.

DRSP uses a labour-based, environment friendly, participatory approach (LEP) in road construction, ensuring that majority of workers belong to disadvantaged groups (DAGs) living in the road corridors. Through this approach, DRSP has generated employment and income for socially and economically marginalized locals and vitalized their communities with roads at the same time. DRSP operates through already existing district and local institutions, while building their capacity to plan, design and implement the maintenance, rehabilitation and construction of district roads, following acceptable levels of workers welfare. In addition to roads DRSP has initiated numerous community development programs,

providing income generating and livelihood enhancement skills for those who really need it.

Through three phases of operation since 1999, DRSP has focused its operation in six districts of Nepal: Okhaldhunga, Ramechhap, Kavrepalanchowk, Dolakha, Sindhuli, and Sindhupalchowk; and provided all-weather access on 500 km of district roads. DRSP is currently in its fourth and last phase of operation (2010-2013), where it will focus its activities in Okhaldhunga, Ramechhap, and Sindhuli, enter Khotang and phase out from the remaining three districts.

DRSP primarily focuses on achieving two Outcomes:

- i) The remote rural population benefit from motorable access to resources and opportunities; and
- ii) Institutional capacity is strengthened at all levels to ensure effective delivery of local transport infrastructure services following acceptable levels of workers welfare.



Summary of Output Achievements

OUTPUTS

Output 1: Accessibility to motorable roads is extended to the remote rural population in all participating districts

Output 2: Livelihoods of disadvantaged groups living in the road corridors are enhanced through improved social infrastructure.

Output 3: Local level institutional structures and capacity to construct, maintain and operate the rural road network are enhanced in an equitable and inclusive way.

Output 4: Institutional capacity at all levels is improved and strengthened to ensure good governance and acceptable levels of workers welfare.

Output 5: The coordination and cooperation mechanism between central and local level is enhanced.

Output 6: The process for information sharing and policy development is further enhanced between all development partners at the central level.

ACHIEVEMENTS

- 45.2 km of new motorable roads were constructed and 337 km rehabilitated in remote areas.
- Operation of public transport services in the forms of buses and jeeps in all completed roads with average cost of transport within Rs. 2.5 /Km.
- 500 km of remote all-weather roads were brought to motorable condition by 2010.
- 114.4 Km of roads were maintained periodically, and 9.2 km of foot-trails were maintained.
- 110 km of additional roads constructed thru RCIW; 150km of new road constructed and 100 km of road rehabilitated through DRILP.

- The Programme was not successful in providing 90 days employment to the majority of workers, although the proportion of people from disadvantaged groups is high.
- 131 savings and credit groups were formed with savings of at least Rs. 25,000 in a group and 17% are converted into cooperatives by 2010.
- 1'046'000 person-days (37% women) employment was generated during Phase III. Out of which 73% were from DAG. In addition 3 million person days of employment was created through Decentralised Rural Infrastructure and Livelihoods Project.
- People in ZOI have increased access to markets and services. Out of a total population of 825,000, a total of 285,000 people had access within 2-hours walking distance through Strategic Roads, where as the DRSP network increased access to additional 186,000 people or 53% of the total population.

- DDCs regularly plan and prepare the budget for road sector. However, maintenance of the existing roads remain still very weak. Though, some districts have started preparing Annual Road Maintenance Plans.
- Proportional representation: Each of the LRCC/LRUC has at least two female members; overall 45% to 55% of the members are from disadvantaged groups.
- 72% of all the RCG-members are from disadvantaged groups.

- Public hearings and public audits are being held in each road corridor every year.
- The group accidental insurance to cover all workers is in place.
- 100 % of workers received full payment within 30 days of measurement.

- The cluster approach has improved synergy with other SDC projects.
- The periodic reporting from the district to Dolidar and DoLIDAR to Ministry/NPC is timely.
- PICC meetings are called irregularly and are therefore not effective management-steering tool.
- The budget authorisation from the centre to districts is being forwarded in the period of November during Phase III. This is an improvement over the last phase.

- Rural Roads Forum (RRF) continues to actively support policy development and information sharing among programmes in this sector on monthly basis, and is now run by an independent secretariat.
- Draft Workers welfare strategy prepared has been prepared by RRF for all rural road sector projects. This strategy is expected to be endorsed by the department as a part of SWAp preparation in 2010.
- DRSP-Community Development Strategy has been prepared in December 2009.

Our Team

During the first three phases of the programme, the Swiss joint venture FRISA-ITECO in association with Skat provided the team members for PSU and DRSP's district programmes. FRISA has now withdrawn and during the fourth phase the programme is being led by ITECO. ITECO has a total of 250 local staff, out of which 210 are district based.

The Programme Support Unit (PSU), based in Kathmandu, manages the overall, planning, implementing, monitoring and administration process of DRSP. The PSU directly hires engineers, sub-engineers and social workers and assigns them to the partner districts. Following an active staff diversity policy, PSU now has more women and people from discriminated groups than at its inception.

In addition, the PSU also provides technical assistance to DoLIDAR and eight DDCs in the implementation of DRILP (Decentralised Rural Infrastructure and Livelihoods Programme) and implements RRRSDP (Rural Reconstruction and Rehabilitation Sector Development Programme) in four districts. The use of the existing DRSP management structure for DRILP and RRRSDP has created synergies and lead to substantial resource savings. Some staff mem-



bers overlap to work in all the programmes. Similarly, the partnership with the RCIW (Rural Community Infrastructure Works) project, funded by the World Food Programme, also allowed both programmes to maximise their inputs in the districts. PSU provided technical assistance and social development expertise to RCIW in four DRSP districts. The partnership with RCIW ended in July, 2009.

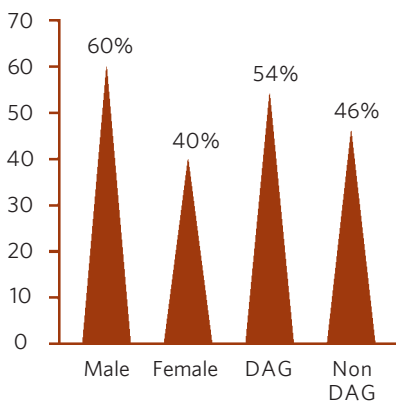
By hiring more women and people from discriminated groups, PSU has set an example for others to follow and has created awareness among local communities on the importance of education. Where an employee from a disadvantaged group cannot be found, PSU tries to employ a trainee or intern from the same group to compensate. Although the rural roads sub-sector is not highly attractive for a long-term career (especially for young women); the trainees and interns gain quality experience. The staff turnover within PSU was relatively high during the last Phase. This should be taken as a positive development because as a result of the experience and development gained with DRSP, many PSU staffs are moving on to higher positions and obtaining employment opportunities overseas.

Partnership

The District Development Committees (DDC) of Kavre, Sindhupalchowk, Dolakha, Ramechhap Okhaldhunga and Sindhuli are the implementers of the Programme. Each of the districts operates as per the yearly programme approved by district council on the basis of the overall District Transport Periodic Plan, the District Transport Master Plan and the overall resources available. A Yearly Plan of Operations is prepared and endorsed by the DDC. Each of the districts nominates a District Roads Coordination Committee (DRCC) and in each of the road corridors a Local Road Coordination Committee (LRCC) manages the programme.

The Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR) is the programme coordinator. DoLIDAR acts as planner and controller of the overall district infrastructure development programme.

Frisa-Iteco Joint Venture (JV) represents the interests of the Swiss Agency for Development and Cooperation (SDC). Through its specialised employees the JV supports the district in the management and implementation of the Programme.



Gender and DAG (DRSP)

► This report represents the view of the Programme Support Unit (PSU) and our observation may not always be shared by the partners.



District Roads Coordination Committee (DRCC)

The programme requires that each partner district forms a DRCC, having inclusive representation in terms of geography, gender, ethnicity, local businesses and political parties of the district.

DRCC's are instrumental in guiding the DDC in the preparation, and subsequently the implementation, of the District Transport Master Plan (DTMP).

Of late, the composition of these committees has become increasingly politicised. The composition changes with each meeting, leading to loss of institutional memory. The DRCC, as the guardian, of the district road network management, is ineffective since these recent developments, which is largely demonstrated through construction works of non-engineered roads and inadequate focus on road maintenance management.

Looking Back and the Roads Ahead

Nepal, ranked among the poorest countries in the world, has perhaps the biggest development potential in the South Asia Region. Just to mention a few, agricultural production can be increased, hydro power tapped and developed, and health and education further improved. Above all, the rural population, most of whom are dependent on subsistence agricultural production or earnings through migration, must be provided with access to longer term incomes, better education, improved health services, and markets to trade local goods and commodities. It is simple to see that lack of roads hinders economic and social development in Nepal, especially in remote areas where some villages are as far as 13 days walk from the nearest road.

In addition to the physical challenges, there is a scarcity of capital resources, as well as the ingrained problems of poor governance in Nepal. Yet, Nepal does have the distinct advantage of having very honest and hard-working rural population and the principles of the District Roads Support Programme (DRSP) rely on this foundation.

It was due to the enthusiasm and dynamism of the people in each road corridor that DRSP managed to grow and contribute to the overall development of each district. Originally planned to work in three districts, DRSP quickly expanded its activities to six districts. There was little experience of planned rural road construction in Nepal in 1999, so DRSP decided on a policy of learning by doing. This involved immediately engaging with the districts by constructing or maintaining roads. It inevitably involved making some mistakes but most importantly it helped in learning from those mistakes and improving on them.

As the Programme went forward, it quickly became evident that roads were in high demand in all districts. However, the temptation to build roads had to be tempered by the requirement to maintain quality and integrity of existing roads, so that they would be motorable and sustainable. So, over the first year of the Programme, a strategy was formulated which included following government procedures together with the Labour based, Environmentally friendly and Participatory (LEP) approach, whilst ensuring transparency, good governance and empowerment components.



This was in contrast to the traditional way of constructing rural roads in Nepal, which usually involved very little engineering or planning and use of inappropriate heavy machinery, along with indiscriminate decisions on alignment and virtually no consultation with affected people.

Roads Plus

Before DRSP, community development, environmental safeguards and land compensation or resettlement aspects, were seldom considered in rural road projects. DRSP has changed this attitude by introducing extensive community development and safeguard policies, such as:

- ▶ **Social Mobilisation:** The GoN approach outlines how communities should be involved in road works. DRSP used this approach and improved on it to establish a system of local groups who work on the road, whilst targeting the most disadvantaged groups in Nepali society to be involved in the work. However, despite earning a good wage on the road, it has proven difficult to provide long term benefits to the poorest people and lift them out of the poverty trap.

- ▶ **Social Interventions:** Working on the road brings short term benefits to people from the wages they are paid. DRSP realised that further measures were necessary to ensure that people benefited more into the long term. This was achieved by giving them life skills they could use to provide for their families long after the road work was complete. DRSP had to implement many different types of social intervention before an appropriate solution was found.

- ▶ **Environmental examination and mitigation measures:** Road works in the fragile geography of the Himalayas can cause great environmental destruction if not managed properly. DRSP carries out Initial Environmental Examinations (IEEs) in each road corridor, whilst ensuring that the necessary mitigation measures are initiated and monitored as required by GoN rules. Unfortunately this principle has yet to be institutionalised within the local authorities and non-engineered roads persist. Bioengineering is a highly cost-effective environmental mitigation measure initiated in DRSP roads. In addition to stabilizing fragile slopes, bioengineering provides various social benefits, including employment to locals. (refer to Bio-engineering, page 14)

Preparation of District Transport Master Plan (DTMP)

Each district in Nepal has prepared a DTMP. DRSP facilitated the six partner districts in their DTMP preparation.

The document has a 20 year perspective outlook and a more detailed five year action plan. After initial data collection and existing road network surveys, a draft plan with basis for prioritisation is prepared. This draft is widely shared through mass meetings in three to four locations in the district, where first hand needs are integrated into the plan. After revision and first approval by DRCC, the DTMP is presented to the District Council for approval.

DTMP is an excellent planning and decision making tool. It allows the district to set priorities based on their annual road maintenance and construction budget.

Observation: *DTMPs are vastly neglected by the authorities in general lately. DDC, DoLIDAR, NPC, MoF do not follow it while allocating budget due to increased political pressure. Donor agencies adhere to it to the extent it meets their priorities.*

The districts authorities, ex. the local politicians, like to spread the scarce financial resources on to too many projects. Maintenance, the top priority activity in DTMPs, is of lowest priority, leading to emergency maintenance responses instead of planned maintenance.

Walk Over Survey

Once a road is selected for the programme a team consisting of an engineer, an overseer, environmental specialist, a social specialist together with representation of DRCC and/or local people walk along the existing/proposed alignment. In case of new road construction, starting, ending, and obligatory points along the alignment are identified and are finalised by discussing with the DDC.

A first assessment of technical feasibility including preliminary indicative cost estimate, environmental screening and social data are compiled.

The work requirements, the values of the programme and programme resources are also considered for DDC to make a decision.

It is also the time that for the first time, landowners and local population are made aware of the upcoming road rehabilitation/ or construction programme.

Observation: No doubt, Walk over survey is a very strong feature of the programme. It is a transparent tool to alert the local population, the land owners and provides the DDC assurance that the project is technically and financially feasible.

► **Land compensation and resettlement guarantees:** It is not acceptable to simply take people's land, or to force people to donate land for a road. This is generally the case in the traditional method of road construction. Important decisions on the road construction, such as road alignment, are made without the involvement of the local community in the traditional method. In contrast, DRSP involves the local community in the decisions on where to site a road and ensures that if vulnerable people are seriously affected, they are compensated or resettled and that they are no worse off as a result of the road. The overriding principle is that no one should be worse off as a result of the road. This is a departure from the traditional way of road construction in Nepal, but it is slowly gaining the respect and cooperation of local people as well as local government. However, a significant challenge lies in district authorities being reluctant to pay compensation for land as they are of the view that districts do not have sufficient resources to compensate all the land owners along the road.

DRSP has been the sub-sector leader in community development for rural roads and has set the standard for

other projects to follow. In doing this it has not only built the roads, but has left the footprints of its methodology and interventions for others to follow. The experience will be fully documented and disseminated by the end of the Programme in year 2013.

The benefits of the programme cannot be counted simply in Swiss Francs or kilometres of road. The rate of returns calculations will not show the full picture. More appropriately, the success of the Programme can be felt by the smile of the local people, by the increased frequency with which they travel to the local health centre or by the growing number of school children who attend the district school. When you talk to the local people it becomes obvious how their lives have transformed. Increased awareness and self confidence among the locals is evident.

The programme generated 1,046,000 person-days (37% women, 73% DAG) of employment during Phase III. This translates to an average of 261,500 person-days of employment per year. DRSP has made provision for the future of workers by empowering them socially and economically. Over the years, DRSP has influenced the district authorities and central government to maximise its benefits to the local population through road construction and maintenance and transparent social interventions.





Local Road Coordination Committee (LRCC)

An LRCC is formed in each road corridor; members are nominated by the DDC and are ex-officio VDC representatives from the road corridor. During construction one member is always present at site. These committees are instrumental to the success of the project. They help to solve alignment disputes, run mass meetings and hold elections for the Local Road User Committee (LRUC).

DDC at the Forefront

While DRSP provides technical assistance and capacity strengthening, DDC and local institutions are the implementers of the programme. DRSP ensures these institutions are able to meet the technical, managerial, and social responsibilities associated with the implementation. At the central level DRSP supports institutional development of Department of Local Infrastructure Development and Agriculture Roads (DoLIDAR) and assists in strengthening its policy making capacity. Work is implemented through these existing bodies to ensure sustainability after DRSP phases out.

Using this approach DRSP enhances the technical capacity of the districts by placing counterparts in the district offices in a training and advisory role. District technical staff works closely with DRSP engineers in road maintenance, rehabilitation, and construction, while acquiring necessary skill and knowledge to carry out the work independently. DRSP also assists the district in reviewing and updating the standards, methods and systems that are the basis for district road works. This approach has helped in building confidence among the district technical staff. Additionally, administration and financial procedures for DRSP use the district system, rather than a parallel system.

The DRSP Approach

Community Involvement and Empowerment

Community involvement is ensured through Local Road Coordination Committees (LRCC), Local Road User Committees (LRUC) and Road Construction Groups (RCG).

The LRCC is the committee for a specific road; it selects the alignment, coordinates between VDCs and helps resolve issues during implementation. One of their most important roles, especially when the country was locked in conflict, was to organise public hearings and public audits. As they are part of the local community, their opinions and decisions are trusted, which helps in making the programme transparent to the public. This way, most of the problems raised during the work are solved locally.

The mass meetings to select LRUC and process of the formation of RCGs is a time of great anticipation for the people. For many of them it would be the first opportunity to participate in decision making process and also to work - for earning a wage.

Local Road User Committee (LRUC)

Committee members are selected from the community through mass meeting and they are responsible to form RCGs. They enter into contract with the DDC and individual RCGs. They make public payment for their work. They are inclusive with 33% representation of women and proportionate representation of DAGs.

Observation: Throughout the programme, there has been a very good experience with LRCCs and LRUCs, they have had mostly committed members with only a few cases reported of using RCGs as hidden contractors.

Road Construction Groups (RCGs)

An RCG, a group of 15 to 20 persons, is formed from the people who live within the road corridor. The group mainly comprises DAGs and the poorest of poor people, including women. As a rule, one from each such household are encouraged to participate in the RCG. The group formations are initiated by DRSP's social mobilisers in association with the LRUC. The DRSP team provides orientation about their job and also trains them to work in groups for their optimum performance, constantly mentoring them on the job.



Road Survey and Design

10 years back we designed district roads with a simple abney level for horizontal control and with measuring tapes and ranging rods for vertical control. We verified alignments through the opening of a 1.5m wide track and shifted alignments as needed.

Today we survey the whole road corridor as a single exercise, using GPS and Total Stations. The data is then brought to PSU where the technical staff design the alignment on a computer.

After the completion of design, we transfer the data into the field through centre line pegging. Field level specific adjustments are made at this stage.

This is the most crucial time for the designer, community and specific landowners along the road alignment. The alignment is now fixed and clear and transparent to all.

The survey data is so accurate that the district authorities can use the same data for land transfers and land compensation payments.

The most important aspect of this part of the process is that the RCGs are properly representative of the poorest and most disadvantaged groups in society. The household surveys with participatory approach of 'well-being rankings', designed to determine the poorest people of the community forms the basis for the formation of RCGs.

Transparency and Accountability

The public hearing helps to disseminate information and to give a clear picture about the Programme. It covers not just the physical work and budget; but also worker's duties, their welfare schemes and possible negative effects from the road. It is also an opportunity for local people to ask any questions they may have. Public audits are held at least once a year in each road corridor, where issues such as targets and progress, individual payments, expenditures etc. are made transparent to all the workers and the community. This also helps in keeping the district and local institutions accountable.

Social Inclusion and Equity

The programme's pro-poor and gender sensitive approach has enabled more equitable distribution of employment opportunities to the poorest communities. Disadvantaged groups are fairly represented in

committees and groups and have a real say in how things work at the community level.

After identifying such people, DRSP facilitates 75% of employment opportunities to DAGs, minimum 90 days work and 40% workforce for women during the construction work through RCGs. DRSP strictly prohibits child labour, in line with government regulations. Generally, the technically demanding sections are assigned to contractors and more simple works to RCGs.

DRSP has pushed with partners for many years to provide as much work as possible to Road Construction Groups (RCGs), rather than contractors. This provides much more opportunity to influence local people's livelihood, as RCG members are from the local community, compared to the contractors who usually import labourers.

Although the workers are keen to start work, it is important that they undergo introductory orientation and training. This includes basic workers duties and rights, safety on site, payment modalities and most importantly: sanitation, health and first aid training. As work proceeds, depending on its nature, RCGs are trained on the job in the construction of simple retaining walls, water management structures and the strengthening of



pavements. Identification of Life Skill Training is also done to provide an opportunity to road workers to improve their livelihoods. These activities are implemented throughout the project period and parallel to the construction works.

Conflict Minimization

DRSP has embraced Conflict Sensitive Programme Management (CSPM) both at central and district levels. An effective CSPM has been the core reason why the project could perform well even during a very fragile political situation. CSPM entails that the project remains inclusive, transparent and communicates its programme proactively to all of its stakeholders. DRSP has a well-established network in the districts and is able to quickly and accurately assess the context and risks and respond accordingly.

Monitoring and Improving

Regular monitoring of outputs is undertaken throughout the programme. Currently, more attention is given to Outcome Monitoring (OM) to monitor the lasting changes the programme activities have brought over the period in the area. The results of OM helps the programme in better achieving its goals. Rather than taking the easy route of measuring kilometres of road constructed or



Reaching Beyond the Road

In addition to food and shelter, human beings need a little bit of everything, such as basic rights, health-sanitation, social respect, self knowledge, mental peace and empowerment. DRSP has realised that the social benefits of rural road constructions are relatively temporary. So, there must be other parallel components that would benefit the people, even after completion of road works. Considering social responsibilities in mind, DRSP invests up to 15% of its budget in community development interventions. The community development programme of DRSP follows SDC's core objectives of improved governance and social equity with the emphasis on empowerment of DAGs.

DRSP's community development programme has a two-pronged focus "On the Road" and "Beyond the Road". On the Road is mainly designed for RCGs, where as Beyond the Road targets not only the RCGs but also the community along road corridor.

The On the Road programme especially focuses on worker's safety and welfare issues. A contributory emergency fund, where each RCG member contributes Rs.1 per day assists in meeting immediate expenditure for small injuries etc. The first aid kit, safety helmets etc and awareness about insurance, worker's rights, basic hygiene are typical on the road activities.

Beyond the Road is further divided into non-income generating activities and income generating activities. Non-income generating activities comprise of raising awareness in the community. DRSP trains local people to facilitate awareness raising programmes. On the other hand, income generating activities mainly focuses on activities that contribute to better livelihood, such as formation of Saving and Credit Groups, Life Skill Development Trainings and Revolving Fund Scheme.



Bio Engineering Works

DRSP has pioneered the use of bio-engineering technique in rural road sector. The use of local plants and shrubs for slope stabilisation has been key to this approach. The DRSP approach has been well recognised and has been successful so far.

Packaging of Works

Works are distributed on the basis of road construction survey. Technically demanding works which require more skill and procurement/management of construction materials from outside are put into contractors' packages, whereas simpler works with higher labour components are implemented through RCGs.

The programme has the policy of allocating as much works as possible to RCGs. To make this possible, the PSU provides additional supervisory staff and also undertakes procurement of materials.

The works for RCGs are packaged in a way so that an active group can finish one package with 4 to 6 weeks, allowing timely payment to the workers. When feasible, DRSP tries to provide 90 days of employment per year to each worker.

thousands of Francs spent, this approach looks at how change is happening in the community and how that is going to affect people's livelihoods. OM has been invaluable in reorienting the programme to greater long-term success. In addition DRSP's Fund Flow Analysis helps in tracking where and how funds flow from the donor through central, district and local bodies, till the workers. It gives an overall picture on precisely how and where funds are utilized.

Salient Features

Bio-engineering

One of the most cost effective and environmentally friendly technologies used in DRSP is Bio-engineering. This is an innovative technique that uses plants in conjunction to stabilise fragile slopes. When a road is built in the Himalayas it is usually on a slope and the disturbance caused by cutting into that slope will cause instability or even precipitate landslides. Bio-engineering is an extremely cost effective and appropriate remedy for this, as structures are used to retain and de-water the slope by using plants to stabilise the surface.

Water Management

Water is the great enemy of rural roads across the world. Because there are not sufficient funds to build extensive water management structures on rural roads, DRSP had to be innovative in its methodology. For example, instead of side drains, a cross-camber is built to drain the water naturally; instead of expensive bridges or culverts a causeway is used wherever possible; and steep slippery sections are covered with stone soling or cobblestones to prevent erosion. If a bridge is essential, DRSP has had success in persuading other donors to fund it.

Resettlement and the Environment

DRSP also assisted in the development of a resettlement strategy and adaptation of the GoN's environmental policy in cooperation with DoLIDAR and the respective DDCs. The challenges in Phase IV are for the districts to follow the prioritisation made in the revised DTMPs. In accordance to the government's regulations, DRSP has continued to carry out environmental assessments in the form of Initial Environmental Examinations (IEE) on each road. Where adverse environmental impacts are too great, or where an Environmental Impact Assessment (EIA) is required and the alignment has been deemed to be beyond the scope of DRSP, an alternative road is selected. The Programme has been guided by the DRILP project in this aspect as well. Environmental monitoring is also being done to ensure the implementation of an Environmental Management Plan (EMP).

DRILP has guided DRSP on resettlement issues. However, compensation and resettlement issues have been handled by the DDC. Land donations have been voluntary (but not forced) and DRSP has monitored to ensure that land-owners are not left worse off; at the same time, life skill training is provided to enhance their economic situation. DRSP has also been monitoring land registration, where a road is likely to be upgraded in the future. However, most people prefer not to transfer ownership in the hope of compensation at a later date. Hence, the existing road's ownership is often left in the name of an individual owner.

Research and Development

DRSP has also carried out research, both within the programme and in association with external agencies. A model road was established to trial alternative pavement options and feed back the results to the Programme's government partners. The use of bio-engineering as a slope stabilisation method has also been tested and successfully implemented in over 200 sites. These sites are in the process of being documented for future reference.



A research project on 'Mobility & Health' was completed in association with the SDC Rural Health Development Project (RHDP), which focused on maternal mortality of disadvantaged groups and how it is affected by restrictions in access to health facilities.

Rural Roads Forum

The Rural Roads forum is an informal group of implementing programmes and projects working primarily in rural roads in Nepal. Members discuss issues, share experiences and coordinate efforts. Its prime concern is to optimise the effectiveness of member programmes so that they avoid duplication, ensure that they all work towards the same goal in a coordinated manner and come to a

consensus on different uses that they can feed back to the GoN and other funding agencies. It does not represent the government or funding agencies.

DRSP has continued to be an active member of the Rural Roads Forum (RRF). It ran the secretariat until January 2009. During Phase III, the RRF members employed an independent secretariat, which has given the forum a broader appeal and consolidated its standing with DoLIDAR and the donors. RRF has continued to facilitate the coordination between projects and advocate on important issues. At present the campaign for properly engineered roads is continuing and maintenance issues are actively discussed.

Public Hearing and Public Audit

A public hearing is organised by the district DTO each year before starting the works. The programme, modality and the financing of the works are made public to the people within the road corridor.

As road works go on, one to two public audits are conducted yearly. It informs and assures the people within the road corridor that funds have been invested and received as per programme. Local people are encouraged to use the public audit to raise their grievances to the authorities and receive explanations. The term of LRUC is also extended, possibly with changed personnel, during the audit.

Formation of Road Construction Groups (RCGs)

About 40 to 80 RCG are formed for each construction season. Ideal group size is about 20 to 25 members.

Workers are selected based on well-being ranking. Each of the identified households is allowed to depute one, in exceptional cases two members. Overall we target 40% women's participation. It is not rare that groups are formed with women members only.

Experience: RCG can do just about all works. It all depends on proper supervision and training. Contracts are finished in time. Work is never enough; RCGs like to work all year long except during peak agricultural and festive seasons.

Construction Works

The project targets to employ 75% of the workforce for at least 90-days/year. This will provide a worker an income of Rs. 27,000 to Rs. 30,000 per year. The earnings are an alternative to seasonal migration.

All our workers have to be insured by the district against accident. This is quite new in Nepal. Earlier we promoted a self insurance scheme, where each worker contributed Rs. 1 per day into a common fund. But the fact that we suffered six fatal and other serious accidents reinforced the need for an insurance scheme.

The project promotes timely payment. Each worker is paid 30 days after measurement is taken. Groups have the option to take advance payments.



The Change

So, what is the real change that is happening in DRSP districts? The surface change is that many kilometres of road are being constructed, that is a very obvious and tangible result. But what are the changes that cannot be seen?

DRSP's approach of following people centered, transparent, impartial and accountable working modality has made significant impacts upon the lives of rural people in the programme area of participating districts. It is respected for its development approach, as well as for providing access to remote areas through rural roads.

DRSP monitors its outcomes through outcome indicators. For each indicator, DRSP carefully selects a target that has to be met. DRSP has three outcome indicators for its access component and five outcome indicators for its capacity component.

Access

The first indicator measures unskilled workers being employed in the road work. The desired target for this indicator is 75 per cent of the workers to be employed for at least 90 days per year, of which two-thirds are DAGs. Currently, DRSP is still trying to achieve the first target of 90 days of work per year for 75 per cent of the workers and much progress needs to be made; however, good progress is being made towards achieving the target of employing two-third DAGs in the workforce.

The second outcome indicator – at least one bus/jeep per day is operating and is affordable on all DRSP supported roads within 1 year of completion – was achieved in all six districts of operation in Phase III. Currently, public transport is operational at varying levels and either bus or jeeps are operating in the completed roads. These means of transportation have increased access and decreased travel time for locals.

Safe Guard Measures

Parallel to the detailed survey and design works, a team of specialists compiles an Initial Environmental Examination report (IEE) and Resettlement Plan report. Both of these documents are made public and have to be approved by MoLD before construction starts.

The Zone of Influence Survey is conducted to determine labour availability and potential activities for improving livelihoods of the local population. A well-being ranking is compiled, together with the local community, to identify the workforce and allocate works to the most needy.





All Weather Road Construction Works

DRSP started by using the “green” road concept of providing motorable access only during the dry season. However, very soon it became evident that all-weather roads were more desirable for the local people. Following on it DRSP has been advocating for all weather road with cost affordable pavements and has done researches with different pavement.

It has also undertaken the designing of the bridges and constructing it wherever funds are available and also completing the roads so that other agencies could make bridges to make roads all weather.

Experience: Cobble stone paving is the way forward particularly in the areas where stones are available near by. Construction cost will increase from 3 to 5 million to 10-12 million per km.

The third outcome indicator measures increase in public utilities and services (shops, pharmacies, schools, new village roads) along the roads; the target is to have a positive increment over the previous years. The targets in all six districts were met in Phase III and significant changes in access of services and market have taken place.

Capacity

The first outcome indicator monitors increase in annual turnover of saving and credit groups; the target is to have a 50 per cent increase. During Phase III all six districts recorded high growth in turnover. In fact three districts (Dolakha, Sindhupalchowk, and Kavrepalanchowk) achieved for than 300 per cent turnover; and the performance of the remaining three districts were promising as well. These increments translate into more credits being available for locals.

The second outcome indicator monitors annual maintenance plans being established and a total of 400 km of DRSP roads being regularly maintained. Except of one district (Okhaldhunga), all five districts have prepared their annual maintenance plans. However, management and maintenance of DRSP roads is still weak under the district authorities. Nevertheless, the target of maintaining 400 km of DRSP road by 2010 is met at 91 per cent.

The third outcome indicator monitors workers insured by a representative and replicable insurance system; the target set is 100 per cent. The target was met in all six districts in Phase III. However, the insurance system is not yet replicated outside DRSP roads.

The fourth outcome indicator monitors workers being paid within 30 days of work. Except for one district (Okhaldhunga, where 75 percent of workers were paid within 30 days), all five districts have achieved this target so far. Currently work in some districts is ongoing and payment is yet to be made. The general practice of paying workers within 30 days is respected in these districts.

The fifth outcome indicator monitors public hearing audit being inclusive in every road corridor. The target is to have at least one hearing and one audit in each road corridor annually. Targets were met in all six districts in Phase III. A good number of public hearings and audits were conducted in all road corridors and there was a good number of DAG participation in each.

Road Maintenance

Planned maintenance had not been of priority for the district authorities. Emergency maintenance in response of road users has been the normal practice. DRSP introduced the concept of planned maintenance with priority for routine maintenance.

Routine maintenance in rural roads include the maintenance of drains, small slide clearance and road side preservation. It is carried out by Length persons (Rekhalus) with orientation and on the job training and supervision by technicians. Rekhalus were assigned and made responsible for routine maintenance of specific road sections undertaken by DRSP. Each looks after 3km of road by clearing drains, patching small potholes and keeping back the vegetation. In addition to maintaining the road, this also provides long term employment for local people. Though the practice is appreciated by all, the tendency to allocate own resources primarily for road construction remains.

Periodic maintenance to take care of monsoon damages, repairs of structures and pavement at regular interval is given priority in DRSP roads.

DRSP is constantly working at all levels to institutionalise this practice and has taken the lead to establish this under Sector Wide Approach (SWAp) maintenance.

Community Empowerment through Training

The LEP approach has contributed positively by generating work for local people and utilising available local resources. As the local people receive employment opportunity in their own village, migration has been reduced to some extent. Unskilled hands are changed into skilled hands and the capacities of road workers are strengthened. In all road corridors, DRSP has significantly contributed in raising the income of those rural population who live under the poverty threshold of US\$ 1 per day.

Awareness raising programmes are focused mainly on the burning issues of the community, which are social-gender discrimination, children's rights, resource management, health-sanitation, girl trafficking and HIV-AIDS. Different and individually targeted awareness programmes have helped to bring positive changes in the behavior and attitude of the people. Mothers are aware of the need of immunisation for their children, whereas, people are making an effort to minimise social-gender discrimination. Most community members are aware of the need for education and there has been an increase in children attending school, especially girls. Women's participation in community activities has also increased.

Empowerment of local people (especially women) has taken place; many times the programme has experienced how local people (especially women) who were shy and scared to speak out in large gatherings, have become empowered through their decision making capability. They now take active key positions in local groups. This has boosted their self confidence and has made them realise that even though

they are from poor or from an excluded group, they too can contribute for the betterment of their community.

Vocational training has added skills to road workers which will give them an opportunity for extra income in the future. Although most local people still rely on agriculture for their livelihoods, this extra income could be essential in lifting them out of the poverty trap. They are trained wherever possible by line agencies at district level, by DRSP's technical or social staff or by specialised individuals. They are encouraged to use their own saving money earned from the road construction to invest in their futures. DRSP has also initiated a partnership with the SDC supported Skill Development Programme.

Most road workers contribute Rs.200 to Rs.300 per month for saving within the RCG. With the capital they save, they provide loans to people within the group who wants to invest in income generation activities, at a much lower interest rate than local money lenders (12-15% as opposed to 25%). Many saving and credit groups formed by the RCGs have been converted into registered Co-operatives and collaborate with private and Government institutions.

In Nepal women have suffered from an inequitable society for centuries. This is slowly changing with increased constitutional rights to land and equality. DRSP has supported this by insisting on equal wages for equal work, quotas for the number of women working on site and active representation of women in local groups. All of these measures have boosted their self confidence and have made them realise that they are as capable as men and can get similar opportunities.



Outcome Monitoring has shown that changes are happening as a result of the road, for example the price to transport goods is decreasing and local people are investing in opening shops along the road. Despite such advances, strong evidence that the poorest people are benefiting is yet to come by; it has been understood that the time scale required for significant impact to take effect in the livelihood of locals is much longer than that required for the outcomes of the Programme. For those people who are living hand to mouth, it is a big step to transfer from subsistence farming to a small business and more support is needed in this area. In this context, what DRSP's outcome monitoring does provide is vital information about the current trend in development. There is no doubt that change, although gradual, is taking place.

Looking Ahead

One would be forgiven for thinking that DRSP has nothing left to achieve and it will quietly fade out over the last three years of Phase IV. This would however be a wrong assumption. DRSP still has a significant challenge ahead with a mandate to set the standards for rural road construction in Nepal, if not for mountainous countries of the developing world. In addition, research will continue into appropriate technologies, especially for pavement surfacings and maintenance methods.





Having used the LEP approach in DRSP for over 10 years, an enormous amount of experience has been gained. The challenge will be for DRSP to document the best practices and to feed them back to DoLIDAR for inclusion in policy and strategy, before the end of the programme.

DRSP has agreed with government that only one or two roads will be worked on in each district, so that they can be completed within the programme period. DRSP will reduce its inputs in the districts of Dolakha, Sindhupalchowk and Kavrepalanchowk, although FRISA - ITECO will still be active there through RRRSDP. An inventory of ongoing social intervention activities is being prepared and their monitoring will be transferred to concerned district/village authorities to ensure their continued operation. However, DRSP will extend its work into the district of Khotang, which is one of the most neglected districts in terms of transport infrastructure in the country.

Whilst there is still a large volume of construction planned, the aim is also to promote maintenance activities on rural roads. Maintenance of rural roads is vastly neglected across the country, despite the formation of Roads Board Nepal (RBN) and maintenance directives and manuals

developed by DoLIDAR. Following decentralisation of the district administrations, each district is free to make its own decisions on maintenance, meaning that there is less coordination among the districts. Their challenge, supported by DRSP, is to pursue the districts to take maintenance issues seriously and to implement it effectively.

For mainly political reasons, districts concentrate more on construction of new roads over maintenance and upgrading, often ignoring the District Transport Master Plan, a document that they are bound to follow. This raises serious concerns over the sustainability of rural roads in Nepal.

There is a significant risk that after the phase out of DRSP in 3 districts, the district will not allocate any budget for maintenance of their roads. Therefore, DRSP will monitor and follow up in those districts.

The DRSP Independent Review suggested that the Programme could extend its influence beyond the implementation period, by trying to ensure that the finished road is used fairly and equitably, by advocating for lower bus fares and free competition in public transport provision. This may be an issue that is beyond the programme as it is also a political issue, but DRSP will monitor the use of its roads and advocate for fairness wherever possible.





Consolidation and Exit Strategy

Phase IV of DRSP will be the last phase and will be implemented in the four districts of Ramechhap, Okhaldhunga, Sindhuli and Khotang. The district of Khotang is being included in Phase IV in order to focus more on outreach. DRSP will no longer be implementing roads in Dolakha, Sindhupalchowk, and Kavrepalanchowk. It is envisaged that the physical implementation of road works will be carried out by DDC/ DTO in these districts, as in the past. An inventory of ongoing social intervention activities is being prepared and their monitoring will be transferred to concerned district/ village authorities to ensure their continued operation.

The objectives of the Programme in the fourth phase will be to focus more towards maintenance, capacity building and consolidating the technical and social advances made by DRSP in the past 10 years. The programme aims to complete all of the roads it is undertaking in this phase, and to establish sustainable maintenance systems to ensure that those roads remain in good condition.

It is also necessary to concentrate on the sustainability of work beyond the project period; therefore DRSP's experience will be properly documented and disseminated during the

last phase. Before phasing out, DRSP will continue capacity strengthening of district and local institutions and assist them in institutionalizing the regular and periodic maintenance of roads by using the LEP approach.

Achievements and Constraints

Okhaldhunga

During Phase III, DRSP managed to complete and open to traffic two roads in Okhaldhunga: the road from the airport at Rumjhatar to Okhaldhunga town (11.8km), and the road from Okhaldhunga to the outlying village of Rampur (16.45 km).

Regular public transport operated by local people is plying on both completed roads, reducing the walking distance for locals. Lengthworkers employed by the DDC are specially deployed for the maintenance of completed DRSP roads, which has helped in reducing the rate of deterioration. A number of other new link roads have been constructed to link the district road with market centers.

A Community Learning Centre has been built along the Rampur road. This building is utilised by the community for various activities, such as community meetings, saving & credit groups, and forest users group meetings. It is also utilised to run different kinds of trainings and short term classes, such as functional adult literacy and good governance.





Need for Bridge across Sun Koshi at Ghurmi

"We expected that the price of goods would be reduced by the initiation of public transportation. However, as the ferry over the Sunkoshi charges arbitrary prices which are often very high, transportation costs and goods prices have not reduced. This has even de-motivated us to export our local products", says a local along the Rampur road. Currently the Sunkoshi ferry provides the only vehicular access to Okhaldhunga.

In 2006 DRSP supported the Department of Roads to re-design the long-awaited bridge across the Sun Koshi at Ghurmi, which would effectively make the access to Okhaldhunga district all-weather. However, work on the bridge is very slow and at present, the contractor is still only at the foundation stage. Currently, the ferry operators are benefiting by charging high prices to locals. Therefore, the Sunkoshi Bridge is necessary for the efficient use of roads in Okhaldhunga.

As a result of the roads, land price has increased dramatically. Previously land was sold in Ropanis, whereas now it is sold in Aanas (16 Aanas=1 Ropani), which reflects the higher demand for land. Increase in markets, lodges, shops etc. along the road corridors are visible. Most importantly due to long term employment in the road construction, workers from disadvantaged groups have been able to pay their loans and can look forward to their lives debt-free.

Currently, the price of goods has however not decreased significantly. The reason for this is the lack of bridge across Sun Koshi river at Ghurmi. Goods currently arrive at Okhaldhunga through a ferry operated on Sun Koshi, which being the sole mode of access, charges arbitrarily high prices.

During Phase III, two accidents were reported in Rampur road. Unfortunately, one RCG member fell off from a cliff and another had an accident with a vehicle plying on the road. DRSP's accident insurance helped in providing compensation and relief to the victims' families.

Construction is ongoing at the 27.23 km Barbote to Koshbhanjyang road which links from the Okhaldhunga to Rampur road (recently completed by DRSP) and good progress is made so far. Local people are benefitting from direct employment. As the number of road workers from the immediate area was not sufficient, people from other villages are also being deployed.

DRSP supports DRILP as well in Okhaldhunga.





An LRUC Entirely Managed by Female Members

In one section of the Barbaote-Koshbhanjyang road the LRUC consists exclusively of female members. They co-ordinate 26 RCGs and manage the whole process necessary to deploy them effectively. This LRUC group has been an ideal example of women's empowerment in the area. Because of their successful leadership, the same 11 female members have been chosen as LRUC members for the second year in a row. The LRUC members are of different caste, age and background. Some are single, partly educated and in their early twenties; whereas the others are uneducated and middle aged. Some are of high caste and some, including the Chairperson, are from excluded castes. Nevertheless, their mosaic nature has not affected their solidarity as they understand their cohesion would in turn help to build their own community. They are often highlighted by the local newspapers and FM stations.



A Driver in Kathmandu Returns Home to Find Work

Kedar Shrestha of Kunta VDC, was a driver in Kathmandu and was earning enough for himself and his family. However, he had a cold feeling about leaving his village and living away from his family. One year back whilst staying in Kathmandu, he received a message from his family that some of their land was to be contributed for the track opening of Barbote to Koshbhanjyang road. No doubt, he was very sad on hearing this, but at the same time his happiness knew no bounds when he was told that he or any one from his family would get employment in the road construction. Since then, he has been working on the road and acting as a Group Co-ordinator in his respective section. He received basic training for the job and the social mobilisers, LRUC members and site engineers are always there to instruct him in the times of need. "I am earning a bit less than Kathmandu, but my mind is always happy and jolly because I feel a kind of satisfaction here, being with my family and sleeping in my own house. More money can never give me this satisfaction. In the future, I am thinking of running a public vehicle on this same road after the construction is finished", he says with a smile.



The Importance of Worker Insurance

Road works in Nepal can be a very hazardous activity. In 2008, a serious accident on the Fulasi – Doramba RCIW road in Ramechhap occurred. Two workers were seriously hurt when a section of cut slope collapsed onto them. RCIW does not have a system to insure their workers, so support had to be sought from the DDC and from the programme itself. The workers were brought to Kathmandu for treatment and eventually received adequate compensation for their injuries. This incident demonstrates the importance of the DRSP insurance safeguard, whereby all workers on DRSP sites have to be adequately insured before work starts.



Ramechhap

Technically, the 14.8 km Manthali - Khurkot road in Ramechhap is completed. Despite the stubborn natural obstacle of exceedingly hard rock, the workers managed to clear the road without any explosives, using only mechanical breakers and hand tools. DRSP learned much about labour-based rock breaking from this road, which has helped in similar situations across the other districts.

DRSP has been involved in pursuing extra activities to boost worker's social and educational capacity in Ramechhap as well. Various training on inclusion, safety work procedures, leadership, safer motherhood, account keeping, good governance, health-sanitation, skill development

such as gabion box weaving, vegetable farming, bee-keeping, etc is provided regularly to RCGs.

During its time in Ramechhap DRSP noted that many 'roads' have been constructed in a non-engineered manner, by the VDCs and the district. A study was carried out which identified more than 30 non-engineered roads. The qualities of such roads were extremely poor and very few were included in the DTMP. They were often constructed without any

consultation over land contribution, design, structures or drainage and with the use of a bulldozer or excavator. The result has been environmentally damaging as well as a huge waste of resources. The programme has very little influence on the district authorities to spend their money wisely and properly. It demonstrated that DRSP needs to work more on building capacities of local authorities and pursuing them to implement technologies correctly. DRSP has now taken over some of those non-engineered roads for rehabilitation, which will give significant benefits to disadvantaged communities but at an increased cost.

DRSP provides technical support to DRILP in Ramechhap as well.



Kavrepalanchowk

Kavrepalanchowk has several hundred kilometres of district road. Knowing this, DRSP decided to undertake only rehabilitation or maintenance activities in this district. In total seven sections of road have been worked on. Because of its proximity to Kathmandu, these roads are used to export local products to the capital. Significant changes in the community have been noticed:

- ▶ Farmers sell vegetables to the value of Rs 50 Million per year
- ▶ Milk is also sold to the value of Rs 12.5 Million per year

Benefits of Employment at DRSP

"I wish I could get a job with DRSP road construction", says Kumari Tamang, who is working with DDC contractors to construct a village road. At first glance road construction with DRSP or with a contractor is the same, so why is she lured by DRSP's construction job?

"Don't you know we are simply speaking, walking, obeying bulldozers for contractors? We are not human beings but just a labourer in their system", she answers. "I get a low wage for the same job, not even basic first aid and no salary for the last 2-3 months; whereas my friend who works with DRSP has all those basic facilities. As we are very poor people, the availability of basic facilities makes a vast difference in our lives. Moreover, I am lured by the vocational training and other orientation my friend gets. Her sense of identity has changed so much for the better. She is confident and has acquired more knowledge and skill than before. Whenever I can, I always go to public hearing and awareness programmes conducted by DRSP and somehow I have also gained some knowledge about good governance and social-gender inclusion. All these things lure me, because I am sensible enough to realise that my life can be changed by DRSP interventions. And, if I am educated, I can pass it on to my family members as well." There is a saying, "if you educate a man, you educate one person, but if you educate a woman, you educate a family."

DRSP's Child Care Center benefits Women Workers

Although women are targeted to work for DRSP, how can they manage this with a young family to look after? Leaving the children at home (often looked after by grandparents or older siblings) or taking them to the work sites were the only options. Considering this problem, DRSP has facilitated support for child care centres near the construction site as well. Care takers are given basic trainings and it has been totally a new support for the workers with small children.

Local people have been stimulated to invest in vegetable farming, goat raising, poultry farming and buffalo raising due to increased market opportunities. The production of vegetables such as beans, garlic, cucumber, chillies and tomatoes has significantly increased, which is a good indication that rural people are experiencing enhanced livelihoods.

One of the most innovative and exciting areas of the programme is the research being undertaken in Alternative Pavement Options. Following an international seminar in China attended by PSU and DoLIDAR, new technologies in rural road pavements were experienced. The Programme decided to establish a model road in Kavrepalanchowk to trial and monitor some selected alternative pavement options. Amongst the options trialled were: cobblestone, bamboo reinforced concrete, Ottaseal, brick pavement and plum concrete. Monitoring is ongoing and trials of successful options have been extended to other districts. The model road has proven to be a useful guide for the use of



alternative surfacing for other DRSP districts. In particular, it has proven that when the local resources are available, the use of cobblestone surfacing can be appropriate for Nepal. These two technologies specifically have been extended to other districts of DRSP. The location of the model road has also been appropriate as it is easily accessible place for interested parties to visit.





Kavrepalanchowk demonstrates perfectly why Nepal needs to focus more on rural road maintenance. It has one of the longest maintainable road networks within DRSP, but the lowest percentage of roads have been maintained. (Fig. "x".-graph). This is a short term policy that will have long term repercussions. DRSP will be no longer working in Kavrepalanchowk in Phase IV, so a proper exit strategy and policies are needed for the sustainability of roads. However, DRSP will be still providing assistance to RRRSDP in Kavrepalanchowk.

Dolakha

Switzerland has always been a leader in rural road implementation in Nepal. Dolakha is the home of the Lamosangu - Jiri road, the first Swiss road built in the 1980's. The addition of DRSP roads to this main link from Kathmandu has facilitated additional economic and social development of the district. During Phase III in Dolakha district, DRSP has completed 18.9 km of Bhirkot-Chhaunde road, and out of 44km of the Mude - Melung Road, vehicles are plying up to 36km. Likewise, vehicles are plying up to 17km of the 19km Virkot - Chhaunde Road.

In a departure from its core competencies, DRSP successfully bid to be part of an international research project funded by a grant from the International Forum for Rural Transport Development (IFRTD). The aim was to determine how health is affected by restrictions in access, using data collected in the three districts of Dolakha, Ramechhap and

Baglung. The subject was maternal mortality and how it is affected by restrictions in mobility, with the focus on mothers from disadvantaged groups. The research was undertaken in association with the SDC Rural Health Development Project (RHDP) and recommendations were made and disseminated to both transport and health sectors together.





A regular criticism of DRSP is that it constructs roads too slowly. The programme is constricted by the amount of funds available and by following the LEP approach. However, this is compounded by the fact that the districts try to spread the resources too thinly. Instead of concentrating on one or two roads, they carry out less work on more roads in order to keep as many people happy as possible. Some roads, such as Mude – Melung, are still being constructed after eight years, which understandably is not acceptable to the community and ultimately leads them towards using heavy machinery to construct roads.

DRSP will no longer be working in Dolakha in Phase IV. A serious concern of the programme would be how maintenance of existing roads will be managed, as the DDC focuses mainly on construction of new roads. An existing road will deteriorate rapidly in the absence of maintenance. Another concern is the sustainability and regular functioning of saving & credit groups (supported by DRSP) after the phase out.

However, DRSP would be still providing assistance to RRRSDP in Dolakha.

Sindhuli

DRSP undertook a combination of new construction, rehabilitation and upgrading in a total of three roads, plus the rehabilitation of one foot trail. In order to find a solution to health hazards on dusty roads, DRSP experimented with the use of Otta-seal, a low cost bituminous pavement surface. The first 2 km of the Sindhulimadi – Bhimsthan road were sealed by Otta-seal and the results to date are satisfactory. However, despite the acceptable and cost effective wearing surface, people still tend to compare it to the road from

Bardibas to Banepa which was constructed to DoR highway network standard with Japanese fund. DRSP also provided assistance to RRRSDP in Sindhuli. Due to a lack of heavy structures like bridges, most of the roads in Sindhuli are not all-weather roads.

Measures introduced by DRSP, such as stone soling and gabions, have been replicated in other district roads in Sindhuli as well. Unskilled labourers have upgraded to skilled labourers. The DRSP intervention programme has supported the community in awareness raising activities, income generation activities, capacity building and skill development. All nursing mothers are aware of the need for vaccinations





for their children. Health facilities are the most appreciated development in the road corridors, especially by women workers. Female participation has increased to 44% in LRCCs and LRUCs. The DRCC now comprises of three women members. The regular transport service has decreased the price of food and daily utilities in the road corridors. Daily utilities are available in the local community at the same price as in the district headquarters.

Sindhupalchowk

DRSP has mainly carried out rehabilitation works in Sindhupalchowk. A total of 86 Km of seven district roads were upgraded. Mainly local labour based contractors were hired.

A lack of bridge hampers the efficiency of many roads, of which Chautara to Sipaghat road is one. The lack of a bridge across Jhyadi Khola interrupts the road's motorability. Therefore, to make Sipaghat road motorable all year round DRSP has designed a 25 m bridge across Jhyadi Khola.

Even though resources were spread too thinly, DRSP funded roads are pliable for most of the year. Regular maintenance of those seven roads is being managed through length workers. However, as DRSP will be no

longer working in Sindhupalchowk in Phase IV, regular maintenance and sustainability of the roads, as well as the functioning of existing savings and credit groups, are in question.

DRSP will still be providing technical assistance to RRRSDP at Chautara. DRSP assistance to RCIW was completed in June 2009.

Currently, six savings & credit cooperatives are functioning well. Two Child Care Centres facilitated by DRSP were handed over to the community, as well as the school management committee.



District-wise Road Completed

DISTRICT	NAME OF ROAD	LENGTH (KM)	TYPE OF SUPPORT	REMARKS
Dolakha	Dolakha - Sigati	35	Rehabilitation and maintenance	
	Birkot - Chhaude	18.9	New construction, Rehabilitation and maintenance.	
	Mude - Deurali Melung	35	Rehabilitation and maintenance	
	Sunkhani - Sangba	9	Rehabilitation and maintenance	
	Total	97.9		
Sindhuli	Sindhulimadi - Bhimastha	22.5	Rehabilitation and maintenance	
	Sindhulimadi - Kapilakot	28.5	Rehabilitation and maintenance	
	Bhiman - Harsai - Tandri	38	Rehabilitation and maintenance	
	Kusumtar - Bastipur	9.2	Foot trail maintenance	
	Total	98.2		
Ramechhap	Manthali - Khurkot	14.8	New construction and maintenance	
	Tilpung - Dhobi	20	Rehabilitation and maintenance	
	Khimti - Namadi - Betali	25	Rehabilitation and maintenance	
	Total	59.8		
Okhaldunga	Okhaldunga - Rumjatar	11.8	Rehabilitation and routine maintenance	Ma
	Okhaldhunga - Rampur	16.5	Periodic and routine maintenance.	Ma
	Barbot - Kosbhanjyan	11.5	New construction.	Uc
	Total	39.8		
Sindhupalchock	Chautara - Melamchi	31.5	Periodic maintenance	
	Chautara - Sipaghat	28	Rehabilitation maintenance	
	21 Kilo - Attarpur - Lisankhu	15.4	Periodic maintenance	
	Barabise - Budhepa	8.5	Periodic maintenance	
	Balefi - Jalbire	10	Periodic maintenance	
	Bhotechaur - Kauledovan	19	Periodic maintenance and rehabilitation	
	Melamchi - Tipeni	20.7	Periodic maintenance and rehabilitation	
	Total	133.1		
Kavrepalanchok	Bakhunde - Mechhe	29	Rehabilitation	
	Nala - Kanshi Bhanjyang	6	Rehabilitation and maintenance	
	Kavrebhangyang - Dapcha	15.6	Rehabilitation and maintenance	
	Tamaghat - Bohoredovan - Kot Timal	20.6	Rehabilitation and maintenance	
	Total	71.2		
	GRAND TOTAL	500		

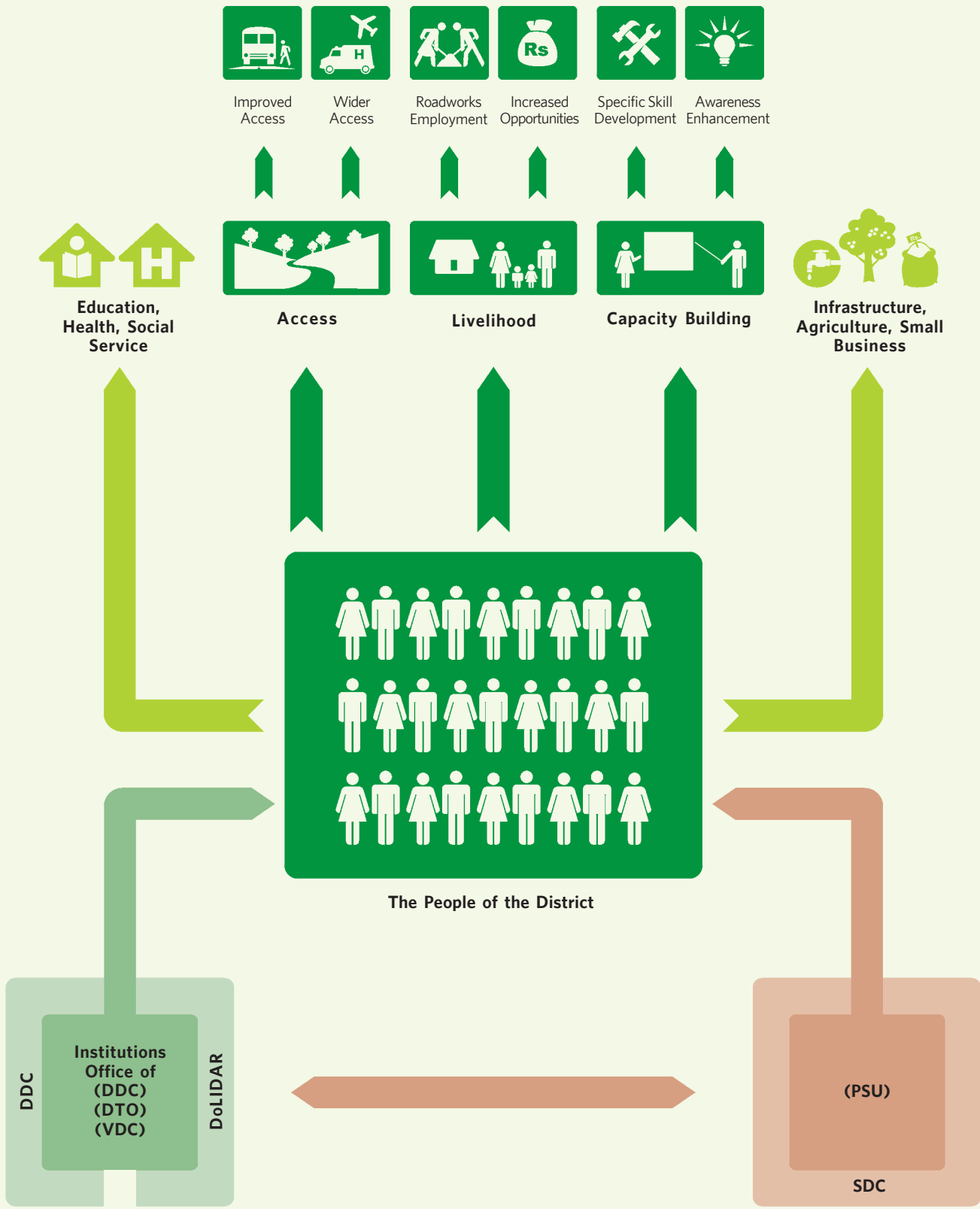
Ma = Motorable; Uc = Under construction

Summary of Budget Expenditure in Phase III

CATEGORY	EXPECTED EXPENDITURES (NRS.)	CONTRIBUTIONS FROM			FINAL EXPENDITURES TILL FEB, 2010 OUT OF SDC CONTRIBUTION ONLY (NRS.)
		SDC	DDC	GON*	
Physical Implementations	395,709,000	169'400'000	54'450'000	171'859'000	161,149,991.13
Total PSU Cost	117,601,000	117,601,000	x	x	95,652,995.96
Salaries of the GoN and DDC staff	15,680,000	x	3,136,000	12,544,000	Not applicable
Training, Research and Development Sites	77,474,650	77,474,650	x	x	25,017,783.90
Logistic Support to the Districts	2,424,000	2,424,000	x	x	1,157,825.64
Logistic Support to Dolidar	3,080,000	3,080,000	x	x	1,741,919.49
Technical Support for DRILP and RRRSDP	157,034,350	157,034,350	x	x	109,621,769.73
Total	768,999,000	527,014,000	57,586,000	184,403,000	394,342,285.9

* Including the additional fund of 26.8 million contributed by the GoN (for 2009-2010)

Programme Strategy



DDC - District Development Committee \ DTO - District Technical Office \ VDC - Village Development Committee \ DoLIDAR - Department of Local Infrastructure Development and Agricultural Roads \ PSU - Programme Support Unit \ SDC - Swiss Agency for Development and Cooperation

For updates on DRSP Phase IV operations, please visit our website

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