

Microenterprise-based road maintenance in Peru

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Source: A. Molz

Microenterprise carrying out routine road maintenance work

Rural transport infrastructure in Peru comprises rural roads, the river system with its jetties, small aerodromes, and a network of paths and tracks. Its principal component, the rural road network, comprises a total length of 46,909 km, equivalent to 60% of the country's total road network. These rural roads provide access to local and regional markets and public services for 30% of the country's population, and 90% of its villages.

Peru's autonomous Rural Road Programme, PROVIAS-Rural (formerly Programa de Caminos Rurales), is responsible for the rehabilitation and maintenance of rural roads in the country's 12 poorest departments. Of the 28,556 km of rural roads in these departments, over 12,000 have been improved and put under routine and periodic maintenance since the programme started in 1995, and a further 3,000 km of tracks have been upgraded.

PROVIAS-Rural was created to counter the long-established vicious cycle of construction-destruction-reconstruction. Its main aim is to generate an approach in which the maintenance and permanent passage of rural roads are brought to the fore. This approach has led to an improvement in the general state of the rural road network in the area covered by the programme, as can be seen in the graph below.

The work of PROVIAS-Rural starts with rehabilitating a stretch of road, at a cost that varies between US\$16,000 in the mountainous Andes region to US\$22,000 in the tropical rainforests. Thereafter, the road is put under routine maintenance, at an average cost of US\$750 per kilometre per year. Every four years additional maintenance is carried out, averaging at a cost of US\$2,800 per km.

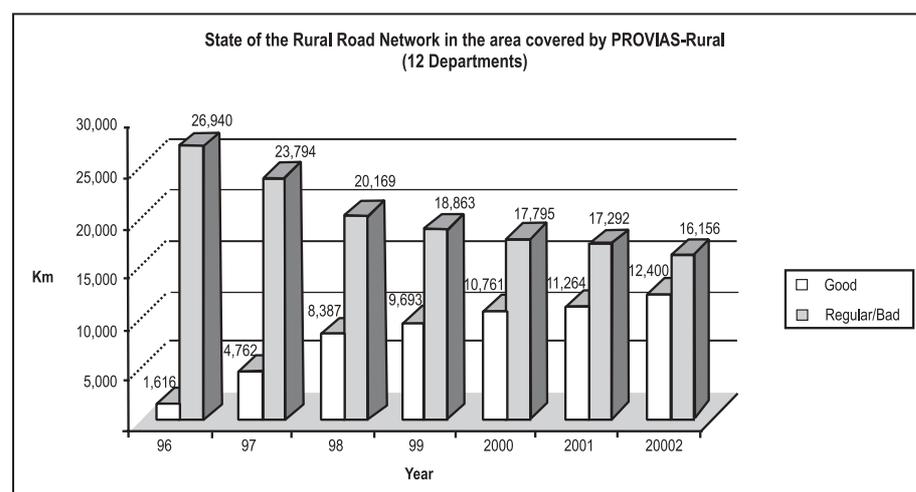
Maintenance microenterprises

Whereas rehabilitation and periodic maintenance are carried out using traditional techniques involving heavy machinery, for routine maintenance activities the programme opted for labour-based techniques. In other words, routine maintenance is carried

out by microenterprises that are created, trained and contracted by PROVIAS-Rural with the objective of guaranteeing year-round transitivity for the rural road network. These microenterprises generally take the form of a Civil Non-profit Association, comprising workers from communities neighbouring the stretch of road concerned. They become responsible for the basic activities involved in routine maintenance, such as filling in potholes, clearing mitre drains, culverts and other elements of the drainage system, and clearing vegetation using basic handtools and wheelbarrows. Each microenterprise consists of approximately 12 associates and is responsible for a stretch of 25 km, for which they receive an average of US\$750 per kilometre per year. In 2002 a differentiated payment system was introduced, based on *service level* (category of road and level of traffic) and *road type* (slopes, drainage works, rainfall, vegetation), allowing the number of workers needed and the subsequent maintenance costs to be determined.

Establishing microenterprises

The establishment of microenterprises consists of the enterprise's formation and technical and entrepreneurial training. Formation is generally carried out by consultants, NGOs, or specialised companies contracted by



PROVIAS-Rural. The first steps are carried out in co-operation with the local authorities and concern the invitation of prospective workers using pre-defined eligibility criteria. Subsequently, a selection of the final microenterprise associates is made by means of a test in the context of basic training, or in some cases by lottery. Formation is concluded with the legalisation of the microenterprise and its registration in the public registration system, thus allowing it to enter into service contracts with PROVIAS-Rural.

Although formation of microenterprises is currently managed by PROVIAS-Rural, it is anticipated that these microenterprises will become progressively self-forming in response to the forces of supply and demand, and will enter into competition with one another.

Training generally involves theoretical and on-site training as well as technical assistance during the initial contract period. Microenterprises are given initial training in the basics of road maintenance and enterprise management by programme extension workers, followed by a more in-depth technical training provided by the Government's training institute for the construction sector. Training is completed by a phase of technical assistance and monitoring, which is carried out by undergraduates with specialities in engineering, economics, accounting and administration. For this purpose, a memorandum of understanding exists between PROVIAS-Rural and local universities.

Institutionalisation

PROVIAS-Rural has demonstrated that rural roads, if properly designed and accompanied by a maintenance system based on microenterprises, are technically and economically viable and sustainable as long as local governments and communities participate in their definition, management and financing. PROVIAS-Rural therefore follows a strategy based on the gradual and progressive decentralisation of rural road management to local authorities,

following a process of technical, financial and institutional capacity-building.

However, low traffic levels on rural road render financial auto-sustainability a complex issue. The use of tolls and levies would be very costly, if not impossible, making government subsidy and transfer mechanisms indispensable. Initially, the programme covered the total cost of rehabilitation and maintenance, but in view of long-term sustainability, a larger involvement of the true 'owners' (the local authorities) was pursued.

Since January 2002, local authorities, formally responsible for the rural roads within their administrative boundaries, are now obliged to co-finance routine maintenance of all roads rehabilitated by the programme, up to an amount of US\$ 300 per km. This amount is automatically debited from the municipality's share of the FONCOMUN (Common Municipal Fund), through which all municipalities receive transfers from central government. A major part of the cost is still covered by Central Government, however, and actual long-term financial sustainability has yet to be achieved.

Although the management of road maintenance activities is presently being undertaken by PROVIAS-Rural's Zone Offices, the decentralisation of road management to local authorities is taking place, to which end Provincial Road Institutes (Instituto Vial Provincial, IVP) are being created. To date, these Institutes have been created in ten of the 108 provinces covered by the programme, with the first pilot having been created in Arequipa in 2002.

The current involvement of local authorities and users in all stages of the process, from prioritisation to evaluation, together with the outsourcing of maintenance work to private microenterprises, has resulted in an efficient and transparent mechanism for road rehabilitation and maintenance. It is therefore important that this system be preserved in the imminent hand-over of rural road management to local governments, and that road maintenance is not sacrificed due to

pressures on local governments to construct and rehabilitate other parts of the road network.

Impact on the local economy

Microenterprise-based road maintenance has a number of positive impacts on the local economy. It allows the creation of labour markets in areas where these were underdeveloped or non-existent, and it generates direct permanent employment as well as indirect temporal employment for a significant percentage of the local communities. To date 429 microenterprises have been created, providing direct permanent employment through annual contracts to over 5,000 rural poor. Studies have found that workers spend a major part of their wages in the locality, which results in an important impulse for the local economy as well as subsequent multiplier effects.

Furthermore, the improved state of roads ensures easier access to markets and public services such as education and health facilities. Travel costs and times are reduced, as are transaction costs, and the availability of public transport services is increased.

Being non-profit associations, the microenterprises are stimulated to invest potential enterprise savings in productive projects such as plant and animal nurseries and public transport agencies. A number of microenterprises have also obtained credit based on their annual contracts with the PROVIAS-Rural, resulting in further investments in the local economy.

So far, experience has demonstrated that with good training and assistance, road maintenance microenterprises have a good record in complying with their service contract and ensuring the viability of rural roads. Furthermore, the majority of the microenterprises created by PROVIAS-Rural have been able to develop important technical and entrepreneurial skills and initiate various productive projects. 

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