

# **A NEW INSTITUTIONAL FRAMEWORK FOR THE MANAGEMENT AND FINANCE OF MUNICIPAL RURAL ROADS: A CASE STUDY FROM GUATEMALA**

**G. Ruan, World Bank (1999)**

## **Objectives of the case study**

This case study examines the sustainable maintenance arrangements for rural roads in Guatemala. It details management and financing components of the pilot project, as well as additional activities. The key objective of the pilot project, implemented in the San Marcos region of the country, is to improve access by rural people to social and economic services.

## **1. INTRODUCTION**

Poverty is widespread and deeply rooted among the indigenous population in rural Guatemala. More than 70% of the poor live in rural areas and can only with great difficulty access the most basic economic and social services. The Peace program calls for improved access of rural populations to economic and social services, food security, increased rural incomes and the creation of local employment, all of which requires physical access to and from rural communities. Good roads are a key ingredient in rural developments as year round access enhances the impact of interventions in other sectors, e.g., in agriculture, health and education.

The poorest part of Guatemala is the Central and Northwestern Highlands, often referred to as ZONAPAZ. The department of San Marcos, which is the location of the pilot, is located in the far western part of ZONAPAZ. The pilot project will focus on the highlands area of San Marcos, and the twelve municipalities constituting the Altiplano Marquense. The area was seriously affected during the years of conflict. The Altiplano has high agricultural potential for the production of wheat, maize, potatoes, broccoli and temperate fruits.

## **2. RURAL ROADS IN GUATEMALA: CONTEXT**

The rural roads sub-sector is characterized by multiple actors and a lack of standards and sustainable maintenance arrangements. Rural roads are built and rehabilitated by the central sector ministry for roads through the General Highway Directorate (DGC), the Office of the Vice-President, agricultural projects, local governments (municipalities) and communities with the assistance of the numerous funds (e.g., FONAPAZ, Fondo Solidariedad, FIS), and freestanding NGOs. Each actor has its own investment criteria, that is, different rules are applied for the same type of roads. More importantly, there is no coherent set-up for maintenance of rural road investments in Guatemala. The overall outcome is an array of ad hoc, unsustainable interventions.

In an effort to improve rural access, between 1978 and 1996, the government, with the support of USAID, had a program which constructed, rehabilitated and maintained rural roads (caminos rurales) using labor-based work methods. This program resulted in a network of about 2,100km of caminos rurales which fall under the responsibility of DGC. DGC's main focus is on the improvement and maintenance of the main and tertiary road network in that order. In the 1996 Transport Master Plan (PMNT), and consistent with the on-going decentralization trend in Guatemala, DGC has expressed an interest to decentralize the planning and management of part of the road network.

Most of the roads in the Altiplano Marquense which have been constructed by communities and municipalities (970km) are in poor condition for lack of maintenance. Interventions are limited to emergency repairs and many of these roads become inaccessible during the rains. According to the law, local access roads are a municipal responsibility, however, the right of way of these roads is not registered and the responsibility for these roads has generally not been assumed by the municipalities. This situation is likely to be the same in other departments of the ZONAPAZ and could apply to other parts of the country as well. In short, the municipal roads network in Guatemala, which is two to three times as large as the designated road network and which provides access to the rural population (58% of total population), lacks a coherent institutional framework for sustainable management and financing.

### **3. OBJECTIVES OF THE PILOT PROJECT**

The pilot project intends to design and gradually implement institutional arrangements for sustainable maintenance of the various levels of the rural road network in Guatemala. The institutional arrangements will involve DGC, the National Municipal Development Institute (INFOM), municipalities, communities and the private sector. The arrangements will be based on a clear definition of ownership and responsibilities and involve cost-sharing arrangements between some of the parties. After review of the pilot experience and the current set-up for road fund allocations, the cost-sharing arrangements may be extended to include the road fund. This framework will initially be introduced in the highlands area of the department of San Marcos. Emerging experiences will be carefully monitored with the intention to replicate the set-up in the rest of the country.

The pilot project has three distinct components:

1. Rehabilitation of the national and key departmental routes in the Altiplano Marquense;
2. Testing of new technologies for cost-effective strengthening of the surface of rural roads;
3. Piloting of a new institutional framework for management and financing of municipal rural roads. This includes both the support to the development of local contractors for the execution of works, and to the private consulting industry for management of municipal roads.

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## **1. Rehabilitation of National and Departmental Routes in the Altiplano Marquense**

The Altiplano has one national route (RN12) which runs from the departmental capital in the east (San Marcos) towards the Mexican border in the west (Tacana). This 80km road including the branch off to Tejutla will be fully rehabilitated. In addition, there are 140km of departmental roads. The pilot project will include the rehabilitation of the departmental roads. About 50km of the departmental roads will be improved using new technologies. The remaining 90km of departmental roads will be rehabilitated to gravel standard.

## **2. New Technologies for Cost-Effective Strengthening of Rural Roads**

In the Altiplano, annual precipitation is very high. The rainfall causes great stress to all roads but particularly to the earth and gravel roads in the hilly areas. DGC and the municipalities believe that surfacing of rural roads with low cost materials could be more cost-efficient than graveling which is the current method of rural road construction. The pilot project will experiment with the use of two to three technologies on 50km of departmental roads at the cost of about US\$50,000 per km. The performance, strength, maintenance requirements and costs of these technologies (materials) will be closely monitored over time and will assist the Guatemalan road agencies to determine optimal technology choice in similar areas.

## **3. Institutional Framework for Municipal Roads**

The centerpiece of the pilot project is the creation of sustainable arrangements for management and financing of local roads in rural areas. This pilot component will introduce an innovative institutional framework for maintaining municipal rural roads in the Altiplano of the department of San Marcos, consistent with the government's policy of decentralization of local service provision to municipalities.

The municipalities, together with individual communities, will assume gradually the responsibility for the remaining 1,100km of the network.

## **4. MANAGEMENT OF MUNICIPAL RURAL ROADS**

There are twelve municipalities in the Altiplano Marquense of the department of San Marcos. The average municipal rural road network in the Altiplano is 90km (between 25km and 200km). These networks are too small to justify the build-up of technical capacity in each municipality to manage roads. The municipalities therefore have grouped together in order to achieve scale and be able to cost-efficiently provide road infrastructure.

In the first half of 1997, the twelve municipalities of the Altiplano formed an association (AMAMNO) to pursue development of the area by seeking solutions to issues of common interest such as roads. The mayors of the twelve municipalities decided that this association will constitute the core entity for the management of municipal road network. The planning, programming and management of municipal

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roads in the twelve municipalities in the Altiplano will be contracted out to the private sector through the municipalities' association.

AMAMNO, which consists of the twelve municipalities, will form an assembly of representatives of each municipality (e.g., Mayor or Councillor) and of some of the communities. The assembly will appoint an executive board with representatives from both groups. The Board will recommend cost-sharing arrangements to the assembly, seek and manage funds. The Board will be headed by an Executive Director, appointed by the Assembly. The Board will contract a private sector firm/unit to provide technical services to the municipalities.

The association, UMAV (Unidad Marquense de Asistencia Vial) will provide technical advice to the municipalities and assist them in the drawing up multi-annual maintenance and investment programs. It will also prepare, let and manage road contracts on behalf of the association members. INFOM which is the national level agency in charge of municipal development and training will serve as advisor to the Board. DGC, which is the central sector agency for roads will also be an advisor to the Board. It is foreseen that replication of this set-up in other departments will create a market for private sector firms in provision of services for the management of municipal roads. In the first year, the municipalities will cover 50% of the cost of the UMAV. AMAMNO's share will be increased gradually to 60% in the second year, 80% in the third year and finally 100% in the fourth year.

## **5. FINANCING OF MUNICIPAL RURAL ROADS**

AMAMNO will set-up a road fund for municipal which will finance both rehabilitation and maintenance of municipal roads. The fund will have two separate accounts, one for rehabilitation and one for maintenance. It is also foreseen that the study reviewing the current allocations from the road fund will pave the way for cost-sharing arrangements for maintenance of municipal rural roads.

Given the size of the municipal network in relation to the resources of the municipalities, the network is divided into two main categories: (a) municipal roads; and (b) community roads: For municipal rural roads, municipalities will be co-financing with the roads fund in the following proportions: routine maintenance (50%), periodic maintenance (10%) rehabilitation (10%) and accessibility improvements (10%). For community roads, individual communities will be cost-sharing with the road fund in the following proportions: routine maintenance (75%), periodic maintenance (10%), rehabilitation (10%) and accessibility improvements (10%).

## **6. ADDITIONAL PILOT PROJECT ACTIVITIES/OUTPUTS**

Additional activities/outputs of the pilot project will include:

- an inventory, functional classification, condition survey and gradual designation of all rural roads in the department of San Marcos (regardless of current

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designation). The inventory will serve as a basis for the formulation of the both the overall program for the municipal roads in the Altiplano and individual multi-year programs for each municipality.

- development of alternative maintenance regimes (routine and periodic) which might usefully and economically be applied to the various levels and climatic areas of the rural road network;
- development of simple procedures for monitoring road condition, maintenance programming and maintenance outcomes through time;
- management and technical training and follow-up support will be provided to small scale contractors by the UMAV. Alternative ways of strengthening the capacity of local contractors will be developed drawing on international experience with roads co-operatives, micro-enterprises, one man contractors and community groups. To this end potential contractors will be identified and trained in road maintenance and work programming. The contractor firms will be trained financial management and costing. Collaboration will be sought with local NGOs involved in the provision of micro-credit (at market rates);
- development of appropriate technical standards and criteria for evaluating and selecting rural road investments. This will be done in collaboration with the many stakeholders in the sector (communities, municipalities, social funds, DGC) in order to ensure consistent application of agreed upon criteria and technical standards by all actors in the sub-sector.

**Source: Ruan, G. (1999). Guatemala Main and Rural Roads Project. World Bank, Washington D.C.**