

ANALYSIS OF MAINTENANCE MECHANISMS FOR RURAL ROADS REHABILITATED IN DR CONGO

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SUMMARY

During a rehabilitation program of rural roads in DR Congo by labour based technology methods (LBAT) executed between October 2004 and June 2006 by UNOPS (United Nation agency) and financed by the World Bank, the sensitization to maintenance permitted to identify and to test with the local partners several methods to assure the maintenance of these roads.

This article analyzes the sustainability problems of these different financing methods for rural roads with weak traffic (of 0 to 25 vehicles/day according to the agricultural seasons), as well as the systems put in place by other similar programs (Belgian Cooperation, EU and FAO).

1. INTRODUCTION

The Democratic Republic of Congo crosses since about twenty years a crisis that destroyed its socioeconomic condition and reduced the commercial exchanges considerably between the country and the urban centres. The different wars destroyed mainly the infrastructures and the roads in particular.

The road network of the Democratic Republic of Congo totals about 152.000 kilometres, left in 4 distinct categories and whose management is confided to 3 state authorities.

The first two categories, the national roads and the provincial roads consist of 58.000 kilometres. They join the provinces between them and make the connexion against the big centres of the country. Their management is incumbent upon the Office des Routes (OR, in acronym).

The third category, valued to 7.000 kilometres, includes the urban roads and is managed by the Office des Voiries et Drainage (OVD, in acronym).

Finally, the fourth category covers 87.000 Km of local interest roads (RIL) commonly named "Routes de desserte agricole" or "Pistes rurales". They go against in principle the farming surroundings and are managed by to the load of the Direction of the "Routes de desserte agricole" ou "Pistes rurales" has for mission the construction, the rehabilitation and the maintenance of the rural roads on all the extent of the Republic and with the contest of the Régie des Voies Fluviales, the rehabilitation and the maintenance of the local interest rivers destined to promote exchanges between the high agricultural production zones and the consumption centres.

Currently, the DVDA is handicapped by the financial and logistical means insufficiency to fill its role appropriately.

This program of rural road rehabilitation has been set up in collaboration with the DVDA for the rehabilitation of 1725 kilometres of local interest roads following the Congolese denomination.

Since intervention was situated in the provinces of the Bas-Congo, of the Kinshasa hinterland, of Equateur, of the Bandundu, the Katanga, the Kasai Occidental and the Kasai Oriental with a big variety of ethnic, climatic and geological conditions, it has been decided not to standardize the strategy of maintenance sensitization.

It is why the sensitization to maintenance has been preceded by the organization of sensitization seminars along the cleared axes.

The actions of sensitization hired by the project had the following goals:

- Inform the basis communities and the call to the local authority implication for rural road maintenance;
- the setting up of the Comités Locaux d'Entretien des Routes "CLER" (structures carried out by the Direction des Voies de Desserte Agricoles, DVDA) or the incitement to their creation;
- the research of local necessary financial resources to assure the maintenance.

2. SETTING UP OF THE PROGRAM

For the efficient execution of works, it was foreseen to confide them to local structures; it has been asked to choose an adequate concept for bidding operations. It is why a simple procedure with tools of management adapted to the standards of works to achieve has been put in place.

Indeed, it doesn't exist in the country local enterprises with high experience in LBAT works, with all knowledge of costs/benefits parameters, simple procedures were carried out to allow our local partners to participate validly in tender calls.

Thus, the tender process has been based exclusively on restricts call of tenders, for the rehabilitation works and for the bridges with indication of the costs defined by the Project.

For the important works (bridges, ferry, etc...), the consultations were also restricted but with an indication of the quantities of works.

Road rehabilitation works were physically assessed by the engineers of the program who determined the cost to the kilometre with a relatively summary planning standard and the priority put on the indication of the passages under road and the other civil works.

A particular effort has been made for the setting up of a maximum number of civil works in order to avoid the most possible cut of the traffic along the rehabilitated axes. The Project had adopted the setting up of technical specifications whose

execution is perfectly mastered by the local partners and the costs were defined by the engineers according to the particular difficulties of the sites in agreement with the plans and the technical prescriptions of the DVDA. It was the same for the bridges of less than four meters of extent.

On the basis of the Project assessments, the consultation has been restricted on average with a minimum of three local partners and maximum five for every section of three kilometres.

The local enterprises criteria's of eligibility to the restricted consultation were the next one:

- experience in LBAT and satisfactory execution of similar previous contracts with other funding agencies;
- availability of the staff formed in LBAT methods;
- legal existence of the organization ;
- to be operational in the zone of works and to have some good antecedents in the rural environment.

The local partner files have been received, on the basis of an ad hoc presentation, by the Project and examined by a commission of analysis composed of the road engineer and the provincial Coordinator of the DVDA.

This commission made the proposition of assignment to the coordination of the Project. The financial expert prepared the contracts propositions and convened the specific commission, composed of the Coordinator of the Project, of the financial expert and the Coordinator National of the DVDA who had to approve the contracts.

This logic of intervention permitted to carry out the following realizations by managing 695 contracts with pme, NGO and religious organizations: the rehabilitation of 1725 km of rural roads including the rehabilitation and/or the construction of 100 bridges of more than 4 m of extent, 399 scupper (passages under road), 110 buses, 232.5 km of gravel works as paved layer, as well as various erosion works and of embankments.

3. SENSITIZATION TO MAINTENANCE

Due to the importance of maintenance to guarantee the durability of the works, in addition to the permanent sensitization done by the engineers of the Program, the project organized together with the "DVDA" maintenance sensitization seminars to the profit of the communities bordering the rehabilitated rural roads.

These sensitization seminars, distribute along the axes at the rate of at least one by section of 25 kilometres of roads, had a length of three days and united all local authorities as well as the different partners having participated to the rehabilitation works: ngo, pme, religious organizations, etc... in order to point out:

- the role and the impact of the communication ways in the socioeconomic development of the rural environment;
- the importance of the maintenance of the roads;

- the impact of the communities for the hold in charge of the roads maintenance;
- the creation and the setting up of CLER to manage this action;
- the local mobilization of the means and necessary resources to assure the maintenance;
- gift to the chiefs of village of a tooling share for the maintenance.

These seminars also explained the principle of LBAT maintenance according to a CLER that is based on the fact that to a worker is affected to execute simple tasks (while taking account of priorities bound at the seasons) that is responsible for a section of 1 to 2 km of length. A supervisor is also put in place for the control of 10 to 20 roadmen according to the difficulties of the land. He manages the operations on the land and the setting to disposition of the necessary tools to the different roadmen on basis of the maintenance standards defined by the institution responsible for rural roads of the sector.

The CLER is an organization setting up by the DVDA in the goal to get the adherence of the basis communities to the road programs. It regroups, outside of the territorial administration, all people living in a territory and persons concerned to the rural road problems.

This organ is the privileged partner of the DVDA with a middle ray of action of a CLER estimated to 25 kilometres, however, according to the circumstances, this ray can be adapted to the realities of the land and the middle.

To confide the management of the maintenance programs of the rural roads to the CLERS can justify itself by the following reasons:

- the selection of the roads answering the needs and priorities of the beneficiaries ;
- the motivated and efficient worker contribution;
- the management and the financing of the maintenance program based on the LBAT roadmen methodology.

On basis of this organization, several systems to assure the maintenance have been proposed and tried on the land in the setting of these sensitization seminars:

- maintenance day (2 at 4 times per month) on the supervision the local authorities, the CLERS and the DVDA;
- contribution in nature of the riparian populations on basis of the volumes transported to finance the CLERS;
- contribution of the carriers or retrocession of the ACCO (Congolese carrier Association) to finance the CLERS;
- creation of collective fields to finance the CLERS;
- setting to disposition of roadmen hand by the agricultural or forest operators of the zone under the supervision of the CLER and of the local authorities;
- on some axes to strong density of population (continuous dwellings along the road), it has also been tried that every resident should maintain in good state the section of road situated before its parcel under the supervision of the CLER and the DVDA.

In addition to these systems of financing, the different communities wished the installation of rain barriers along rehabilitated axes. Rain barriers have been installed therefore on all cleared axes as there associating every time a provincial decree signed by the Governor in order to controlled the circulation and the times of axes closing as well as the penalties for the non respect of these orders. These decrees, even though they have not always well been executed on all axes, permitted to decrease the deteriorations strongly due to the traffic and by the same opportunity the volume of the necessary maintenance works on the axes.

In spite of this measure of regulation of the traffic in season of rains and the CLER upgrading by the DVDA, the main findings of this experience show the difficulty to finance the maintenance operations while being based solely on the CLERS and the local administrations.

The development of this structure in official representative organization stumbles however himself to several obstacles notably:

- the legal text absence instituting the CLER, because these remain casual structures without being able to real next to the customary entities and administrative ;
- the lack of means financiers susceptible to achieve the program of maintenance ;
- the weakness of the DVDA in the CLERS supporting due to lack of means;
- the bad interpretation of the role of the CLERS in the basis communities .

These four elements made that methods like the maintenance day, the setting to disposition by the agricultural or forest operators and the maintenance by the residents could not be sustainable nor by the CLERS nor by the administrative authorities. In fact in spite of the good intentions of starting, the riparian populations responsible for these works asked very quickly for a salary for these maintenance operations.

With regard to the methods where a source of financing of the CLER had been identified during the sensitization seminars (collective field, percentage of the products evacuated by the axis, contribution of the carriers), quickly problems of management and the conflicts of interest between the CLERS and the local authorities were the reason to stop these mechanisms of financing and therefore the maintenance.

In summary, the roadmen must be paid regularly, and the management problems of the weak means harvested make that the structures as the CLERS don't appear adapted to assure the maintenance.

In spite of accompaniment measures during the whole length of the program (20 months), this approach of maintenance sensitization developed in partnership with the DVDA doesn't permit to perpetuate the maintenance of the axes rehabilitated by the project.

4. EXPERIENCE OF OTHER FUNDING AGENCIES

In the setting of a program of rural road rehabilitation in the Bas-Congo and Bandundu provinces by the European Union (1996 to 2001), the CLER upgrading had also been proceeded but without measures of accompaniment and sensitization. The results on the land are the same that those observed in this project, it means the stop of the maintenance nearly simultaneously to the stop of the project due to the lack of finances for these operations.

The experience led by a project financed by the Belgian Cooperation of setting up a tolling barrier at the crossing of an important river via a ferry, was stopped by the same problem of resources management generated by this toll. The CLER, the administrative authorities and the military authorities, could never use resources generated by the toll, of the order of 20.000 U\$/month, to maintain the ferry and the section of 50 kilometres of rural road.

Generally in RD Congo, one notes that the tolling barriers when they function, don't permit to finance correctly road maintenance works.

A tolling barrier, managed by a local structure (CLER), function with a guard gate and a secretary who control the passage of the vehicles and money harvested (1 in 5 US \$by vehicle for the rural roads).

Only on basis of the investigation done in the Bandundu province on maintenance sections of 30 to 40 kilometres length, money harvested to the level of the tolling barrier is distributed of the following manner:

- 20% are used by the structure for the management of the gate;
- 40% to 50% part toward the different authorities;
- a maximum of 30 to 40% of the returns rest to pay the roadmen.

It means therefore that the tolling barrier would permit to finance 1 roadman for 5 to 6 kilometres of rural road, without supervision, without money to pay for new tools and especially without money to do the emergency maintenance that is vital to maintain the road in service.

These elements had oriented the program team to not to use this financing system of tolling barriers for the maintenance of the rehabilitated roads.

United Nations agencies like the FAO and the PAM also tried the system « food for work » but without success because on the one hand the food habits vary strongly from a province to another and supplies didn't constitute a sufficient incentive to assure the sustainability of the system.

Currently Cooperation Technical Belgian tied with a rural road rehabilitation programme tot test decreasing maintenance works during four years, but it seems also that the maintenance sustainability is not guaranteed by this approach.

5. FINDINGS

These experiences of local community sensitization show that the rural road maintenance won't be assured with this kind of approach, weak financial means, in a country in phase of transition as the DR Congo.

Due to the weak traffic observed on the rehabilitated roads (0 to 25 vehicles/day according to the agricultural seasons) and to the bad economic conditions of the country, the CLER (roads rehabilitation and maintenance local committee), that have besides currently no legal status, won't be able to assure a sustainable and efficient rural road maintenance.

If one wants to have an efficient rural road maintenance, it is necessary to put it in place in the setting of the project associated to the setting up of a maintenance road fund that will be able to assure the rural road maintenance via performance contracts with small enterprises or the local NGO's. On basis of these elements, the World Bank and other international funding agencies put a structure that must succeed to the creation of a maintenance road fund in RD Congo.