

# Chapter 7 Contractors

## 7.1 General

The majority of road investments during the last ten years has so far been used to establish a functional trunk road network in Lao PDR. In order to carry out these works one can argue that it has been justified to bring in large-scale international contractors. However, it now seems that the focus is shifting towards (i) upgrading the secondary and tertiary road network in the country and (ii) protecting past investments on the primary roads by establishing an efficient road maintenance system.

In order to carry out these new tasks effectively it will also be necessary to develop a new and different approach to implementation of works. Future works, such as maintenance of existing roads and construction of low traffic rural roads, will be more dispersed geographically and each of the road projects will be of considerably smaller magnitude than previous projects.

To continue relying on foreign construction companies to carry out these type of works will not be a cost-efficient approach to the new challenges in the road sector. For this type of works it would be more effective to rely on local forces and institutions already present in the country.

During the past, the domestic private construction industry has played a secondary role in the road sector. Local contractors still struggle with lack of and old equipment, lack of experienced staff, insufficient quality on completed works and uncertain market prospects.

With the imminent shift in the nature of road projects and type of works, the time has come to focus more on strengthening the in-country capacity to manage and implement the future challenges in the road sector in Lao PDR.

With the current work requirements to upgrade the secondary and tertiary road network in the rural areas and the future road maintenance requirements on the primary network, it is evident that the market prospects for the local construction industry could be secured for the foreseeable future. To accelerate the participation of domestic contractors in the future road works programme of Lao PDR, it is important to look at current limitations and try to develop a conducive environment in which they are able to more effectively compete and operate.

In order to improve the conditions and effectiveness of the domestic construction industry there are certain critical issues which needs to be addressed in future road works programmes:

- (i) Smaller companies are more vulnerable to cash flow distortions. This implies that they need more regular and timely payment of works executed than large construction firms. For small-scale contractors to survive payments will be necessary on a monthly basis.
- (ii) Small companies often struggle with mobilising capital for equipment investment and replacement. A common feature among Lao contractors are that their equipment fleet is often old and in many cases they lack the specific equipment required.
- (iii) A general problem in the domestic construction industry is the lack of qualified and experienced personnel, ranging from plant operators, mechanics, artisans to management staff such as technicians and engineers.

- (iv) Due to the above factors, several companies are not eligible to participate in the pre-qualification process and therefore do not have access to works.

If Lao PDR wishes to increase the involvement of their domestic industry in the road sector, these issues will need serious consideration when designing future road works programmes. It is also natural that the donor community address these issues when preparing new road sector support programmes in the country, if they wish to achieve any sustainable results from their assistance.

Most labour-based road works, including the projects in Lao PDR, have previously been public works schemes carried out by force account. In recent years, there has been a move towards increasing the involvement of the domestic private sector in the execution of road works in the country.

When involving the domestic private sector in the execution of labour-based road works, there are several institutional issues which need proper attention during programme design and implementation. Local contractors will not provide an easy solution to road construction and maintenance problems. The development of small-scale contractors entails a series of new support activities such as training in business management, development of user-targeted training material, development of appropriate contract procedures, streamlining of payment procedures, developing banking facilities, and last but not least providing interested contracting firms with attractive market prospects and a conducive environment in which they can operate efficiently.

## **7.2 Identification and Selection**

### **7.2.1 Types of Contractors**

The size of the contracting firms is important when identifying and selecting appropriate contractors to participate in labour-based road works. The optimal solution is to target contractors who would use labour-based methods as a main source of livelihood. Large contractors are normally not interested in labour-based works contracts since the contracts are considered to be too small.

Common selection criteria used for contractors are:

- o ownership of equipment,
- o supervisory capacity,
- o access to capital,
- o background of company, i.e., track record,
- o size of company, and
- o residence.

Since most small-scale contractors have limited experience from the road sector, most of the contractors selected in other programmes have been recruited from the building industry, others were transport contractors.

Before a programme involving the domestic contracting industry is formulated, it is important to identify the various types of contracting firms which operate in the country. Table 7.1 describes the different types of contractors, categorised according to their size and the type of works they could carry out in a rural road works programme.

Type	Description	Type of Works
Petty Contractors	<ul style="list-style-type: none"> <li>• single person</li> <li>• labour only</li> <li>• not registered</li> <li>• basic skills</li> </ul>	<ul style="list-style-type: none"> <li>• routine road maintenance,</li> <li>• labour only sub-contracts</li> </ul>
Small-scale Contractors	<ul style="list-style-type: none"> <li>• registered</li> <li>• possess basic equipment</li> <li>• capital security low</li> <li>• entrepreneurial skills</li> <li>• technical and managerial skills</li> </ul>	<ul style="list-style-type: none"> <li>• periodic road maintenance,</li> <li>• rehabilitation works,</li> <li>• small bridge and culvert works</li> </ul>
Large-scale contractors - normally not interested		

Table 7.1 *Types of Contractors*

### (i) **Petty Contractors**

The petty contractor is generally referred to as a one-man contractor. This category of contractors usually consists of one man firms, sometimes assisted by a limited amount of unskilled workers. They may be labour contractors, usually consisting of a businessman sub-contracted to carry out specific work, relying mainly on unskilled casual labour.

Organised local community groups such as farmers associations and village welfare groups can also be classified as petty contractors.

A common feature for this group is that they are not formally registered and do not possess any capital and are therefore extremely vulnerable to cash-flow problems such as mobilisation capital and late payments. The petty contractors normally do not possess any equipment, and lack any means of transport. Due to their lack of mobility, they should be recruited from the vicinity of the work sites.

These contractors are mainly used for maintenance works or simple, clearly defined sub-contracts requiring a minimum of skilled labour and equipment. A lengthman system, securing the routine maintenance of rural roads, may be a potential market for petty contractors. In addition, such firms can be utilised for contracting out masonry works for small bridges and culverts.

### (ii) **Small-scale contractors**

Most domestic small-scale contractors are found in the building construction industry and the transport sector, and are normally registered companies. Often limited, they still possess certain technical and managerial skills. However, experience shows that their organisation requires further training in business management, accounting, mechanical maintenance, road and concrete technology, as well as in labour-based work methods.

Their equipment fleet is sparse and often old and poorly standardised. Before they can be awarded road rehabilitation works, it is usually necessary to assist them in the acquisition of additional light construction equipment (i.e., hauling and compaction equipment).

Similar to the petty contractors, the small-scale contractors are often under-financed and vulnerable to cash-flow distortions. Often, these contractors do not operate their accounts through a bank. In many cases, the local banks do not consider these firms as attractive clients and therefore do not provide them any services.

The main advantage of involving existing small-scale contractors is that this group can provide evidence of entrepreneurial skills through the works they are currently involved in. Although some of these firms are mainly involved in building works, they can provide a business entity, and an

established organisation with administrative, financial and technical staff which could be further trained and developed to cater for the requirements of a rural road works programme.

After receiving appropriate training and development assistance, these contractors prove to be highly efficient in carrying out both road construction and maintenance works. In other countries, they have shown good entrepreneurial drive, and given favourable conditions for their operation, such as a steady supply of work and regular and timely payment, they can survive as sound construction firms and constitute an important component of the domestic construction industry.

**(iii) Large-scale contractors** are often subsidiaries of large foreign multi-national companies which have good access to capital, equipment and skilled labour. These contractors participate in international competitive bidding and are often only present in the country while they are carrying out a works contract. Once their assignment has been completed, they leave the country, including evacuating equipment and skilled personnel. Due to this, their involvement provides a minimal technology transfer to the recipient country, resulting in a low sustainability and little institutionalisation of skills and experience. In most cases, they regard the size of labour-based road contracts as too small for their interest. For these reasons, this category of contractors is not regarded the appropriate beneficiary target group for training and development assistance.

### **7.2.2 Selection**

From previous surveys carried out in Lao PDR by the consultant, the general impression is that the local contracting industry in the provinces is very much interested in this type of work, and based on their past experience and some additional training, they should be capable of undertaking the envisaged road works.

One of the initial activities when involving the private sector will therefore be to carry out a comprehensive survey of the local private sector in the provinces. The outputs of this activity will provide the basis for the final selection of contractors and design of a subsequent training programme.

When selecting and inviting a group of firms to participate in a training and development programme, it is important that this process is carried out in a fair and transparent manner. Therefore, any future contractor development programmes should be thoroughly announced in the local press and through the regular channels which are used when inviting contractors to tender for works.

The interested firms should then be invited to an information seminar where the intentions of the programme and the future role of the contractors are explained. Based on more thorough interviews with key staff from the firms, an officially appointed selection committee should decide on which firms should participate in the future training and development programme.

### **7.3 Training and Certification**

Training of contractors should involve all cadres of staff in the contracting firms covering both technical and administrative personnel. In this respect, it is important that the staff members of the firms possess the formal education required for their respective positions. Therefore, certain minimum levels of education should be demanded from the contractors' staff before they are qualified to participate in a training programme.

A training programme should concentrate on practical skills learning in a real environment, specifically focusing on the envisaged works expected to be carried out by the contractors. This can best be provided by demonstration and "learning-by doing". The proposed training package for the small-scale contractors can be described as three phases:

### **Phase 1: Demonstration Phase**

The government has during the last two years established the efficient use of labour-based methods to rehabilitate and maintain rural roads. During the initial phase, this capacity should be transferred in a structured manner to a selected number of contracting firms through a training programme provided to all cadres of their staff.

During the demonstration phase the government will still be in charge of the road works, and a road works site should be used for on-the-job teaching purposes where the contractors' staff is seconded to the various operations under close guidance of experienced government provincial staff acting as instructors.

### **Phase 2: First Trial Contract**

After the demonstration phase, each contracting firm should be given an initial trial contract consisting of approximately 4 km of road rehabilitation works which is executed under close guidance of trainers and local instructors. At this stage, the responsibility for the work sites are transferred to the contractors, however, in a safe environment where instructors still closely monitor and advise the contractors, thereby avoiding errors and sub-standard works at an early stage.

### **Phase 3: Second Trial Contract**

When the contractors have successfully completed the first trial contract, they are awarded negotiated contracts of 10 - 15 km road rehabilitation or new construction. This is the final show-piece for the contractors. During this phase, the contracting firms do not have access to the close technical support rendered during the first trial contract, and the government will act in the normal manner as the client. The time schedule for the above described training and development programme depends on the capacity and performance of each of the contractors. However, it is expected that the first trial contracts is completed in 5 to 6 months and that the second trial contract requires a period of 1• years.

The final result of the training should provide the contracting firms with a special certification which qualifies them exclusively to tender to labour-based road works. This enables the government to streamline its activities in this sector and provide a uniformity to all projects wishing to use this approach to rural road rehabilitation and maintenance. Furthermore, it will enhance the contracting firms' future market prospects and thereby maintain this capacity in the private sector.

## **7.4 Acquisition of Equipment**

Lack of and old and inappropriate equipment is often the reason why domestic contractors are barred from works contracts in the road sector. It is therefore important that support mechanisms are provided to supply the domestic small-scale contractors with the minimum of equipment required to carry out the road works.

Once the participating firms and their respective equipment fleets have been identified, it is possible to determine their exact requirements for additional equipment. For a small-scale contractor, which is expected to carry out road rehabilitation and construction works, the following set of equipment would be appropriate in combination with a team of 150 workers:

2 pedestrian rollers (950 kg)	26,000
1 Etean with water bowser	16,000
1 pick-up	16,000
1 set of hand tools	4,000
1 Motorcycle	1,500
2 Bicycles	500
<b>Total</b>	<b>US\$ 64,000</b>

The following options can be considered for providing the contractors with the necessary equipment:

**(i) Direct Sales**

The government could enter into direct agreements with the contractors. On conclusion of the agreements, the equipment would be released to the contractors. Recovery of the equipment costs could be achieved through reductions from the payment certificates.

This arrangement is simple. However, the draw-back is if the contractor defaults and the plant needs to be recuperated.

**(ii) Hire from Government**

If the contractors hire the equipment from the government, this will imply that the contractors would not need to involve them self in any great capital investments. The equipment rent could be recuperated through reductions from the payment certificates.

The disadvantage of this arrangement is that it leads to messy relations between the contractor and the client. In this arrangement, it is difficult to split the responsibility for the maintenance of the equipment. When break-downs occur, government would need to act promptly and ensure that the equipment is repaired, leaving a responsibility, which is best carried by the private firms, in the hands of government. This will also limit the degree of flexibility of the contractors and finally be a source of conflict when determining the blame when implementation delays occur.

**(iii) Hire from Private Owned Plant Pools**

Under this arrangement, the government could transfer equipment to a private plant pool who would be responsible for maintenance and operation of the equipment.

The main disadvantage of this arrangement is that the contractors would then be perpetually tied to a third party, thereby limiting their flexibility, profit potentials and in the long run their possibility for growth and development. The involvement of a third party also increases the risks of delays since there are more actors involved in the implementation of the programme.

Finally, it is important to assess the availability of such services, especially whether plant pools are operating in the provinces and their interest and financial ability to acquire the specific types of equipment required.

**(iv) Hire-Purchase through a Local Bank**

This option entails that the government establishes a separate agreement with a local bank or financing institution and transfers the equipment to this bank which then provides the plant to the contractors on a hire-purchase basis. Agreements between the bank and the contractors are then established following normal bank procedures for screening customers (past bank records, securities, interest rates, etc.).

The main advantage of this option is that the contractors are then the owners of the equipment and must take full responsibility of operation and maintenance of the plant. This results in clear divisions of responsibility between the contractor and the client, as well as provides the contractor with the degree of flexibility which they need to efficiently carry out the work activities which rely on the use of equipment.

Considering the size of the contracts for rehabilitation works, it is evident that the financial relations between the client and the contractors should be carried out through the services of a local bank. It would then seem logical that a bank who possess past experience in this type of hire-purchase

agreements are involved. This will relieve the government from a responsibility which are best taken care of by a professional institution for such financing arrangements.

By combining the bank services for payment of works certificates and the financing of equipment, a further security can be introduced into the programme. By issuing the cheques for completed works in the joint name of the contractor and the bank, no other bank has access to the cheque. When the cheque is cashed, the bank can gradually recover the loan by securing an agreed portion of the amount as a repayment of the equipment loan.

If the government can provide good market prospects on a long term basis, this is certainly the contractors' preferred way of acquiring the necessary equipment. However, when conducting future interviews with the small-scale contractors, it is important to make an initial assessment of their credit worthiness and discuss with them how they envisage the ideal solution.

It should be acknowledged that a private contractor is a private business concern and therefore its development must be allowed to follow that of a business entity. It should also be noted that the hire-purchase solution is not a new concept developed for Lao PDR. These equipment related issues have been raised in several labour-based small-scale contractor development projects, and experience has shown that the preferred solution by the contractors, and the most sustainable alternative, has been to hand the ownership and full responsibility for the equipment over to the contractors. As a reference, the small-scale contractors in Ghana acquired equipment for a total of US\$ 160 000:- to be paid back in four years, and in Sierra Leone US\$ 99,000:- over four years.

## **7.5 Tendering Procedures**

During the development phase, covering both the first and second trial contracts, the works awarded to the small-scale contractors need to be exempted from regular government tender procedures. During the trial contracts, unit rates set by the government should be the basis for payment of works carried out by the contractors.

Normally, government tender procedures prescribe that works of the size expected to be awarded to the small-scale contractors after the initial demonstration phase, are awarded after local competitive bidding and the involvement of a government tender board. In order to allow the contracting firms a chance to consolidate themselves in the market, it is recommended to obtain a waiver from the standard tender procedures in the initial phase. It is of vital importance that this exemption is approved before a training programme commences.

Since the number of contractors initially trained and qualified to carry out labour-based road works will be limited, it will take some time to establish a fully competitive environment. In order to maintain progress in terms of physical work outputs, it is in the interest of the government to retain all the firms and ensure that they are awarded a steady supply of works. Experience from other programmes have shown that during the first tenders, the contractors will "cooperate" amongst each other when bidding for the works. It is therefore not in the interest of the client to allow the unit rates to be determined freely by the contractors.

Once the contractors have successfully completed training, including the completion of the two trial contracts, it is recommended that further works is still awarded based on unit rates fixed by the government. This system could eventually be adjusted to allow variations on unit rates thereby gradually introducing a competitive environment. However, still wanting to secure work to all contractors, the competition aspect could be introduced in the form of awarding the biggest contracts to the lowest bidders.

This also emphasises the importance of the government's role in monitoring the productivity rates on site in order to establish real performance and productivity rates as a basis for the calculation of the real costs involved in labour-based road works.

## **7.6 Contracts Documents**

Contracts management procedures and documents for major works such as road rehabilitation and new construction should follow to the extent possible the existing procedures of the government. For routine maintenance works involving petty contractors, a complete set of simplified contracts documents and procedures are required.

For rehabilitation and new construction works, there are at present two standard types of contracts available in Lao PDR which seem to meet the requirements of clarity and simplicity. One has already been used on a number of IDA funded road maintenance projects and the second standard contract is still being prepared within an ADB financed project, developing a Management Information System in MCTPC.

Before contracts are awarded to small-scale contractors to carry out rural road works, it will be necessary to review the new standard contract being developed by the ADB project to ensure that it is appropriate also when using labour-based methods. Furthermore, design standards and full works specifications for all site activities needs to be developed, which should be attached to the works contracts.

For routine maintenance works, simple contracts have already been designed and are currently in use by the government. These will need to be reviewed in line with further development of the routine road maintenance system.

## **7.7 Market Prospects**

When developing small-scale contractors to implement labour-based road works, it is important to ensure that the authorities are able to supply a steady amount of works to the construction firms. In order to defend their investments in terms of staff training and equipment, a firm government commitment on future work prospects is required. It is therefore important to limit the number of firms involved in a future programme to the exact demand set out in the physical works programme.

When the contractors are well established, they will also look for assignments in other sectors, thereby reducing the dependency on the roads authorities. Secondly, it is envisaged that the labour-based contractors should eventually be able to bid successfully on works which are not necessarily earmarked for labour-based methods, competing with firms using traditional equipment-intensive technology.