

Comparative competition in the water supply sector in the Lao PDR

K. Burwell, Lao PDR

Water supply is a natural monopoly where options for competition are limited. However, it is possible to compare the performance of various operators as a driver for improved levels of service and efficiency. The decentralized urban water supply sector in the Lao PDR presents an ideal opportunity for comparative competition to be employed. The Water Supply Authority (WASA), the sector regulator, has initiated a comparative competition process whereby the performance of the 18 state owned enterprises are compared and published. The first performance report of 2002 highlighted many weaknesses and indications are that most operators have strived to improve their position for the 2003 report.

Water Supply – the natural monopoly

It is widely accepted worldwide that the provision of water supply services is a natural monopoly with each customer limited to only one supplier. Although there have been several attempts to expose the sector to competition, e.g. the common carriage, inset appointments and competition for bulk supplies encouraged by OFWAT¹, the industry regulator for England and Wales, the impact on overall efficiency and price is limited.

This is not to say that the sector is without competition. Even most state-owned operators employ competition for the provision of capital works through competitive bidding. Competition in operations is harder to achieve. Competition for the market, as opposed competition within the market, generally through bidding for the right to operate the system under management, lease or concession contracts, can ensure competitive prices in the short term but do not necessarily provide long-term customer benefits. Regulatory intervention is required to ensure that efficiency gains do, in fact, trickle down to the consumer as they would if the industry was truly competitive. Regulation is therefore a surrogate for competition.

Comparative competition – the concept

The principle problem faced by regulators is to determine what levels of efficiency the industry should be striving to achieve and how should they be reflected in the regulatory outputs, notably the tariffs.

The simplest, but still less than perfect measure of performance is relative performance between operators through benchmarking comparisons, a concept known as comparative competition.

The England and Wales model

The Office of Water Services (OFWAT), the industry regulator for England and Wales, employs the concept of comparative competition as the cornerstone of its regulatory regime. For each activity undertaken by the operators OFWAT sets the performance of the best in the industry as the target for the rest to follow and applies it to the tariff determination process. It is up to the individual operators to outperform these expectations to generate returns for their shareholders. Failure to meet these expectations results in reduced returns (or even losses). The net results in England and Wales are: falling tariffs and rising levels of service².

OFWAT publishes an annual report on the privatised operators illustrating technical, financial and commercial performance ranging from compliance with water quality obligations through to customer service performance.

Comparative competition for state-owned operators

Although the OFWAT comparative competition concept is applied with great effect to a privatised industry there is no reason why it cannot be applied to a state-owned one. The only difference is that the maximisation of profit incentive inherent in a privatised structure is not as strong. Furthermore, any failure to meet efficiency expectations determined through comparative competition will not result in reduced profits for shareholders but will actually deprive the company of much needed cash for further investment, which may, in turn, lead to lower levels of service.

Notwithstanding the above shortcomings it is still possible to generate improved performance through comparative competition, the driver being psychological more than financial,

¹ For further details several guidance papers on these subjects can be found on the Ofwat website, www.ofwat.gov.uk.

² For the first two tariff reviews tariffs actually increased but this was due to increased capital investment demands. The operating cost element of the tariff has fallen in all tariff reviews since privatisation in 1989.

i.e. a manager of a water operator will have a desire to be amongst the best performing, or at least not to be amongst the worst. This is especially strong in Asia where ‘loss of face’ is a powerful force.

Constraints and weaknesses

Comparative competition and best value

Comparative competition assumes that all operators are striving to maximise performance with the result that it improves value to customers. It also assumes that value will continue to increase as performance increases. These assumptions may not necessarily be true, especially in developing economies where the costs of water supply have a significant impact on household income. Consequently, if an improved service comes at a price this may not necessarily represent improved value (see Box 1).

Box 1. Comparative competition and best value a hypothetical example

A city with relatively high levels of household income has its water services provided by operator A, whereas a smaller town with lower levels of household income is served by operator B. Operator A has a higher level of service than operator B but the customers are willing to pay more for services to be improved. Operator A has yet to achieve ‘best value’ (defined as the best service possible that customers are willing to pay for).

Although the customers of operator B are not getting the best possible service they are **not** willing to pay more for it to be improved and are happy with the current price to service ratio. Consequently, operator B is nearly providing ‘best value’.

Consequently, although operator B is actually performing worse than operator A on a comparative performance basis it is, in fact, closer to delivering ‘best value’. Comparative competition has to be treated with care in this instance.

Where possible benchmark indicators need to be designed that reflect performance relative to value. In many cases this is relatively simple to determine, e.g. cost efficiency almost always moves towards better value. Other indicators such as level of service may not reflect value, e.g. customers may prefer a less reliable system if improved reliability means a higher tariff (see Box 2).

Individual operator characteristics

The individual characteristics of each operator will have a bearing on its performance that may invalidate or dilute any direct comparisons.

The most prominent factor is the size of the operator whereby larger operators enjoy greater economy scale benefits than their smaller rivals. It is preferred that any

Box 2. Case study – Best value

In their asset management plan submissions to OFWAT for the 1999 price review, the water companies included the costs of increased security of supply on the basis that this was in line with consumer expectations, i.e. additional capital investment to ensure against disruptions to supply in extreme dry weather conditions. These plans had obvious adverse tariff implications. OFWAT, however, challenged the water companies’ assumption and undertook its own market research that discovered that consumers would prefer a lower tariff rather than a reduced risk of supply disruption.

comparisons try to incorporate the size factor to allow more realistic comparisons to be made.

Topography may also impact on performance, e.g. an operator that has to pump water will carry higher energy cost burdens than one where gravity does the job.

Comparative competition in the Lao PDR First steps

The Water Supply Authority was established in 1999 with the dual function of being a channel for capital investment and the urban water sector regulator for the Lao PDR, comprising 18 provincial Nam Papa state owned enterprises (NPSEs). Although this dual responsibility resulted in some conflicts of interest it did allow WASA to gain an insight into the state of the sector and the problems it faces, largely through the feasibility studies and other activities related to investment.

The initial comparative competition process comprised the collection and analysis of performance data for 12 of the 18 NPSEs³. The results of the analyses feature in various WASA internal reports but were not placed in the public domain. It was considered appropriate to first give the NPSEs the results and to afford them the opportunity to improve. Unfortunately, the quality of the data was insufficient to accurately measure performance and improvements, if any, were difficult to determine.

In accordance with a loan conditionality imposed by the Asian Development Bank (ADB) the NPSEs were required to reduce their arrears to less than 90 days turnover. WASA established a monthly reporting system that allowed this activity to be monitored very closely. Unfortunately, most financial arrears were attributable to government customers and only limited improvements were possible.

Notwithstanding the weaknesses in these early attempts they did send a clear signal to the operators that WASA was going to continue monitoring performance and, in the future, the results would be made public. This ‘wake-up call’ to the NPSEs had an immediate effect with many operators requesting assistance in the form of training and development of their human resources, provided by donor funded technical assistance projects.

³ The 12 chosen for analysis were those due to benefit from a major Asian Development Bank (ADB) funded capital investment programme

The 2002 Annual Water Sector Performance Report

Having given the NPSEs reasonable opportunity to improve their performances WASA significantly raised the stakes in comparative competition with the production of the 2002 Annual Water Sector Performance Report.

Towards the end of 2002 WASA presented all 18 NPSEs with simple technical and financial reporting requirements for submission to WASA by the end of the first quarter of 2003. These submissions were analysed and presented in the report as graphs, tables and supporting text. Publication involved 1000 copies in Lao for national distribution and 500 copies in English for international distribution (diplomatic missions, multilateral and bilateral development agencies etc.)

The report was also an opportunity for WASA to make itself known and incorporated several sections describing WASA, its functions and objectives.

Technical performance

The technical analysis compared the performances of all 18 NPSEs illustrating:

- level of service (hour service per day against service coverage as a percentage of the total population)

- staffing efficiency (see Figure 1 below)
- sales performance (water sold per connection per day)
- water loss performance (water lost per connection per day)

Where possible, the economy of scale factor was accommodated by applying linear regression techniques to determine the average performance relative to the size of the operator (see Figure 1). For example, with respect to staffing efficiency Vientiane Prefecture, by far the largest of the NPSEs, has room to improve to reach average expectations.

It was not possible to factor in other atypical factors in this instance although future annual reports will attempt to redress this.

A significant omission from the report is water quality performance. This is due to the almost complete lack of an effective water quality monitoring programme. WASA has proposed draft regulations setting out future water quality monitoring requirements and once established this will be a major performance indicator for future reports.

Financial performance

The data for the financial reports comprised the statutory accounts that all state owned enterprises are required to

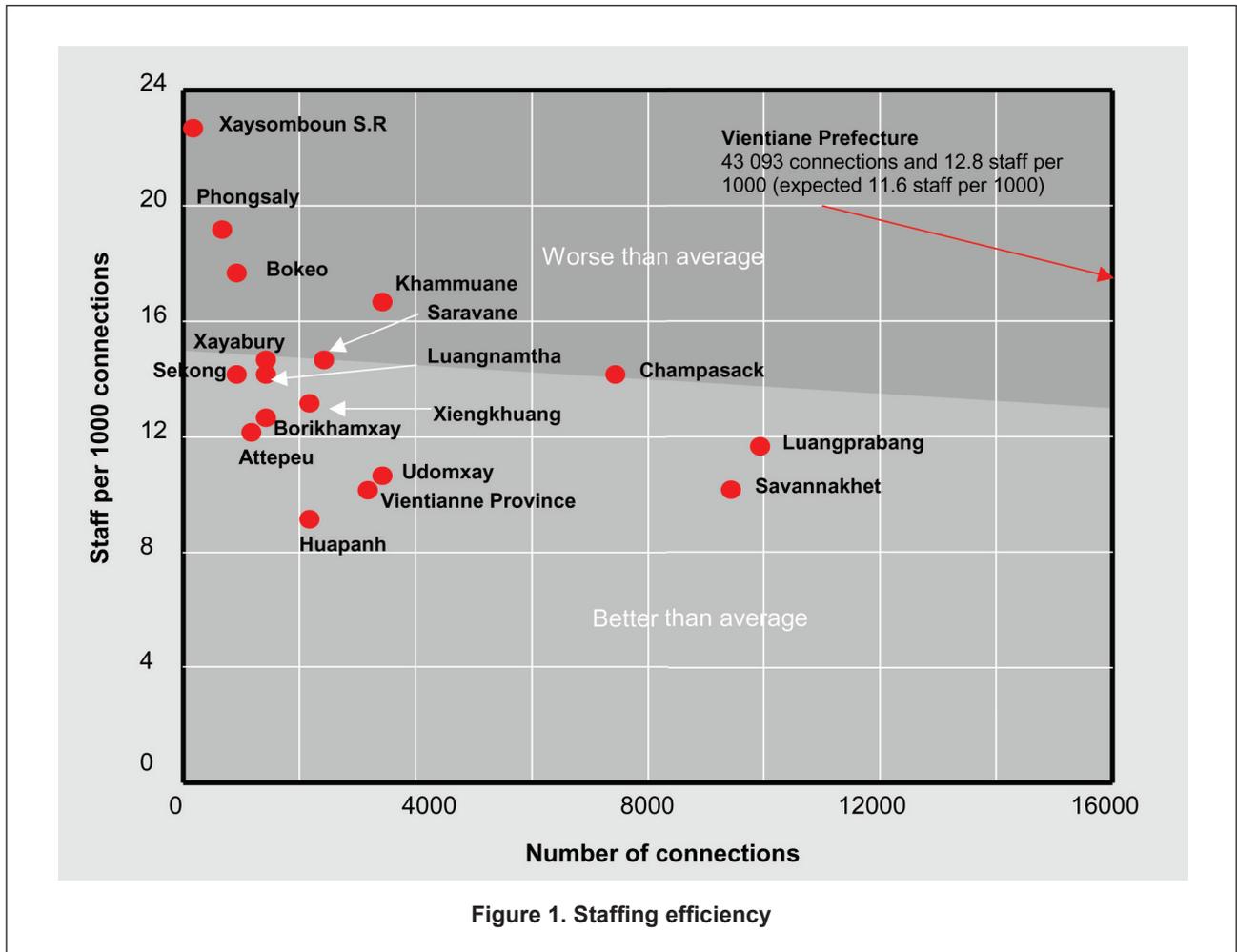


Figure 1. Staffing efficiency

Source: Annual Water Sector Performance Report (2002), WASA, Lao PDR

submit. These included the profit and loss statements and the balance sheets.

At the time of the report preparation there was no established regulatory accounting system and the statutory accounts had to suffice.

Where possible these accounts were adjusted to remove non-core activities and other anomalies to allow effective comparisons to be made. The report outputs included:

- Financial performance (see Figure 2)
- Tariffs (implied average determined by turnover divided by sales volumes).

Two NPSEs failed to submit financial data in time for publication. One of them, after having been publicly rebuked within the report, was one of the first to submit data for the 2003 Annual Report. The psychology of comparative competition obviously worked in this instance.

The poor state of the accounts receivable is, in most cases, attributable to non-payment by government customers. The report stated this fact and as a result it has prompted Government to meet its payment obligations, a significant beneficial side effect.

The report concludes with the publication of all 16 (2 not submitted) adjusted profit and loss statements and balance sheets.

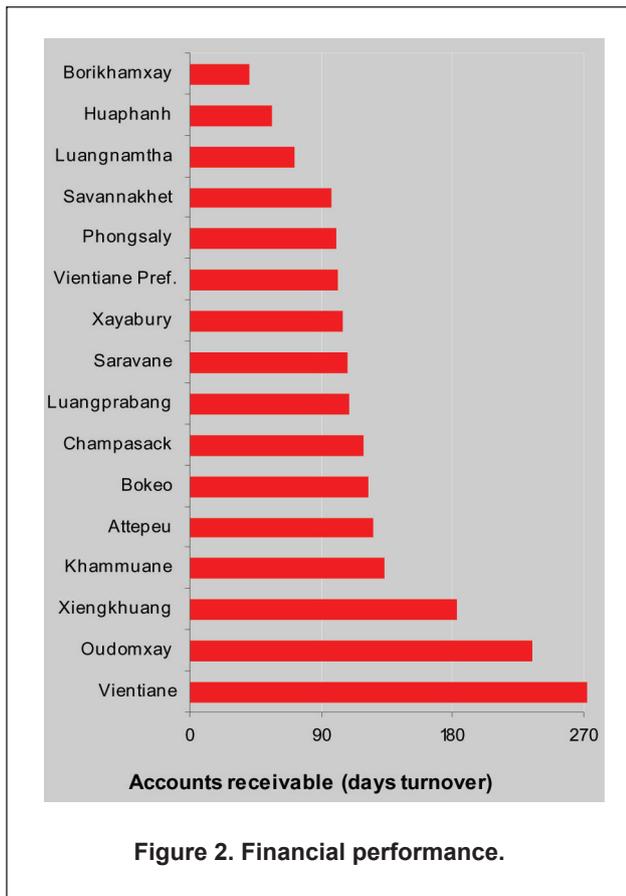


Figure 2. Financial performance.

Source: Annual Water Sector Performance Report (2002), WASA, Lao PDR

The 2003 Annual Water Sector Performance Report

The 2003 report was a significant improvement on the 2002 report through more detail and improved reporting mechanisms. In addition to the comparison of operator performance between each other this report had the added advantage of measuring improvements made since the previous report.

Technical performance

The 2002 report appears to have made a significant and immediate impact on operator performance with most NPSEs reporting significant improvements in efficiency (see Figure 3). It is expected that operators will continue to be motivated to improve performance still further.

An additional indicator was service coverage improvement (measured by the percentage increase in the number of connections). It is hoped that this will prompt operators to expand their services in the future, especially to the urban poor.

Unfortunately, water loss performance did not improve⁴. It is suspected that the complexity of the problem may be too great to expect improvements in the short term although further investigation is required to reach any firm conclusion.

Financial performance

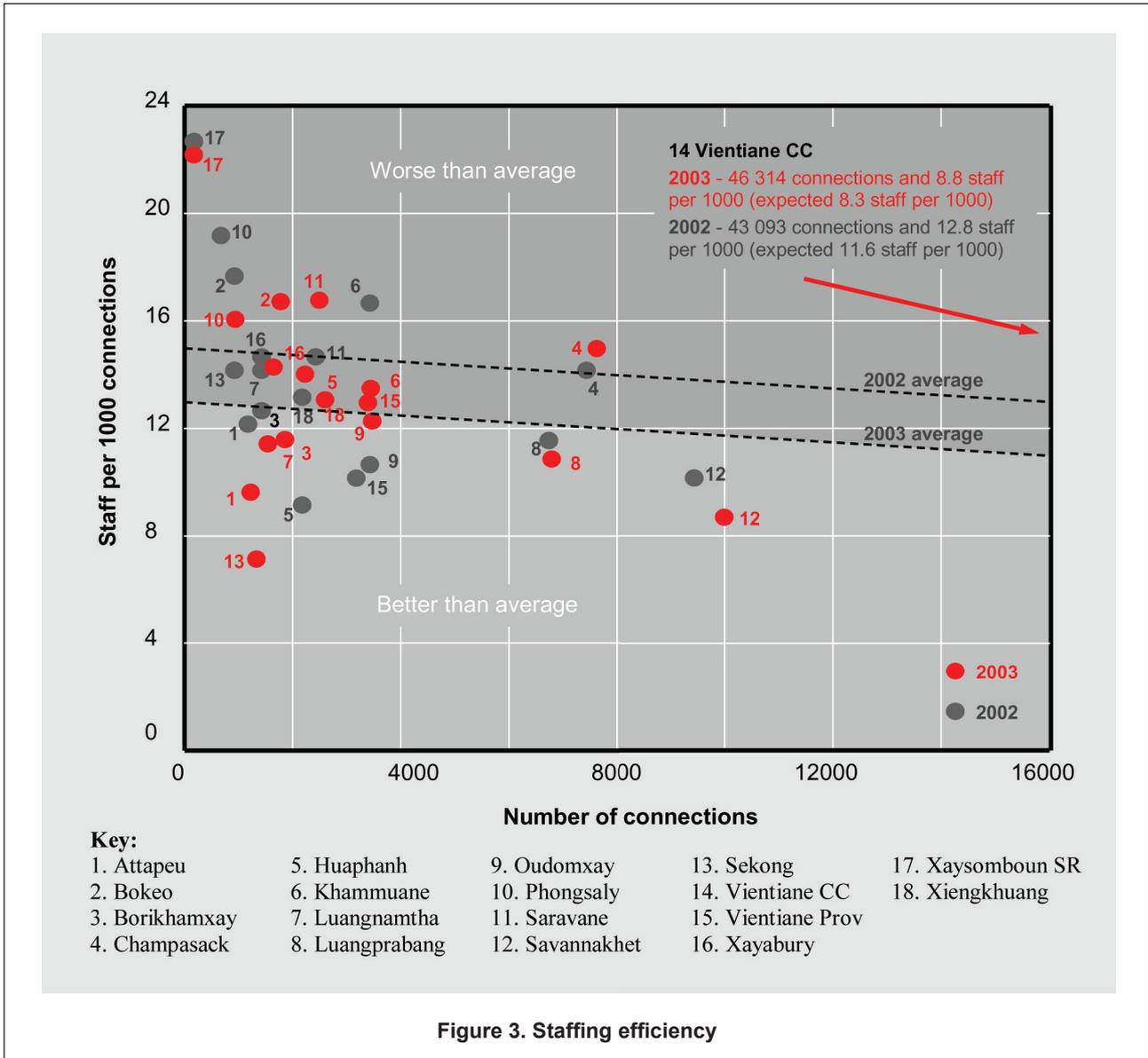
The financial reporting for the 2003 report was a significant improvement on the 2002 report, attributable to the adoption of regulatory accounting standards that facilitated a realistic analysis of the operators’ financial positions. The regulatory accounts re-determined depreciation and asset valuations on a ‘current cost accounting’ basis, thereby eliminating the significant distortions created by the periods of high inflation experienced in the Lao PDR in recent years.

The regulatory accounts allowed WASA to examine profitability (measured as returns of capital), capital intensiveness (depreciation as a percentage of depreciation plus operating costs), unit cost analysis, gearing (debt as a percentage of total capital) and tariff requirements for full cost recovery.

All but four reported negative returns on capital (of these four the returns for two of them were so small as to be considered negligible) and the activities were extremely capital-intensive with depreciation accounting for up to 65% of total operating costs.

The unit operating costs and tariff analysis (see Figure 4) indicated a general uniformity of costs with the larger NPSEs enjoying the benefits of economies of scale. For most NPSEs the required tariff for full cost recovery and a modest 2% return on capital was in the range of 16 000 to 26 000 kip/m³ (approximately 0.15–0.25 USD/m³). However, several NPSEs require significantly higher tariffs to recover costs and it is recognised at this early stage in the regulatory process that external financial support may be necessary.

⁴ Losses actually increased from 260 to 270 litres per connection per day.



Source: Annual Water Sector Performance Report (2003), WASA, Lao PDR

Accounts receivable, generally attributable to non-payment by government agencies, has, in fact worsened, highlighting the need for central government intervention to ensure that their local agencies meet their obligations.

The full financial statements in the 2003 report included not only the statutory accounts but the adjusted regulatory accounts illustrating the dire circumstances of these companies. Hopefully this may prompt further improvements from the operators and generate support from government to ensure a more financially sustainable future.

Future comparative competition for the Lao PDR

The future for comparative competition in the Lao PDR presents many opportunities.

WASA has also prepared detailed regulatory reporting requirements for future planning, e.g. sales forecasts, efficiency expectations and the like. This will allow WASA to monitor actual performance against expectations. It is the intention that these projections will form the base data for tariff determinations. Over time it is expected that WASA will set tariffs not according to the expectations of the NPSEs but rather based upon the performances of the more efficient operators.

Lessons learned

Although comparative competition is a useful method to encourage greater efficiency it is not without its problems. Individual characteristics of each NPSE weaken direct comparisons, especially when comparing large operators with smaller ones. It is possible to reduce these impacts through

statistical adjustments but even then the comparisons may still be less than perfect.

Simple benchmarking does not capture the concept of ‘best value’, and cannot compare how close each operator is to achieving best value. A more rigorous analysis that tries to measure value is needed but it is unlikely that WASA will have the resources to go down this route in the near future.

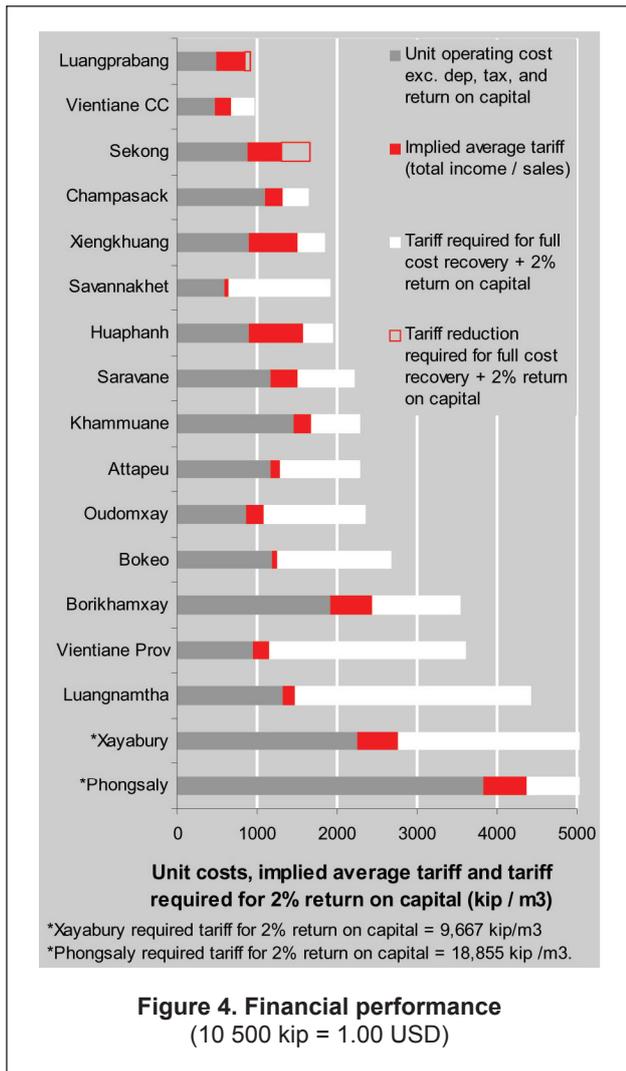
Notwithstanding the above concerns comparative competition has proved to be a successful driver for improved performance by the NPSEs. Further improvements are expected with continued and more detailed comparative competition.

References

Water Supply Authority (Lao PDR) (2002) *Annual Water Sector Performance Report*.
 Water Supply Authority (Lao PDR) (2002) *Annual Water Sector Performance Report*.

Contact

Keith Burwell, Director, Edinburgh Economics Ltd
 keith.burwell@edecon.co.uk
 www.edecon.co.uk



Source: *Annual Water Sector Performance Report (2003)*, WASA, Lao PDR