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Title:

International Freight Transport Choices for Lao PDR: The Dilemma of a Less-Developed and Land-Locked Country

Abstract:
The purpose of this paper is to study the rationale behind the selection of transport modes for international freight transport in Lao PDR, the sole land-locked country in South East Asia, where road transport is the dominant mode. Structured interviews were conducted in an attempt to understand the decision process involved in the selection of modes or combination of modes for Lao PDR international freight transport. Data has been collected from Lao exporters, importers, and logistics service providers.

Many variables appear to exert an influence on the decision-making process of selecting transport modes or combination of modes. It is possible to categorise these variables into three main groups, namely: product related; decision-maker related; and service-related. These factors are also subject to external constraints within national, bilateral and regional regulatory framework and local practices that will, ultimately, affect the selection of transport modes or combination of modes within the regional logistical system.

Key words: Southeast Asia, Land-locked country, Modal choice, Decision-making,

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International Freight Transport Choices for Lao PDR: The Dilemma of a Less-Developed and Land-Locked Country

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1. INTRODUCTION

Lao PDR is the sole land-locked country in South East Asia. The country is surrounded by five states: The Kingdom of Cambodia, The People's Republic of China, The Socialist Republic of Vietnam, The Kingdom of Thailand and the Union of Myanmar. This group of countries is also known as the Greater Mekong Sub-region (GMS). The provision of logistical systems and infrastructure, along with macroeconomics stability, and long-term development strategy is one of the necessary conditions to sustain economic development.

One of the world's poorest nations with a per capita income estimated at USD 350 per year, Lao PDR has a centrally planned economy with government ownership and control of productive enterprises of any size. In recent years, however, the government has been decentralising control and encouraging private enterprise. The country has primitive infrastructure; that is, no railroads, a rudimentary road system, limited external and internal telecommunications, and electricity available in only limited areas. The lack of available funds and the country's low level of development make it especially important for Lao PDR to have access to efficient logistic channels for goods distribution. These logistic channels must be efficient within the country as well as when using third countries' logistic channels for the transit of internationally traded goods. The selection of transport mode is closely related to the choice of logistic channels and routes. Depending on the infrastructure configuration, a certain mode of transport will be preferred.

The purpose of this paper is to study the rationale behind the selection of transport modes for international freight transport in Lao PDR. A review of the literature is first presented with the research methodology. The research findings stem from an analysis of international freight transport practices in Lao PDR.

2. LITERATURE REVIEW

Hayuth (1992) has described that the underlying approach to most transportation studies has been the separate treatment of individual modes and nodes of transport, such as sea transport (Drewry, 1996), sea ports (Hoyle, 1996), dry ports (Beresford & Dubey, 1990), railroads (Jung & Beresford, 1994), inland waterways (ESCAP, 1998 & 1995a), road transport (OECD, 1996) or air transportation (O'Connor, 1995). Certain studies have been conducted on intermodal or multimodal transport issues (Ashar, 1993; Adjadjihoue, 1995; Jung, 1997; Wong, 1997; Woxenius, 1998; Beresford, 1999) but they are still a minority in transportation and logistics research. According to McKinnon (1989), the selection of freight between transport modes, often called modal split, has been one of the most controversial topics in the field of transport logistics. This is because modal choice decisions are not always based upon a full and rational appraisal of options available. Traditionally, it has been assumed that modal choice was dependent on three main factors: price, speed and reliability. Nonetheless, a country's or a region's freight modal split is also influenced by a range of other factors, such as its physical geography, the spatial distribution of its population and industry, the density of its transport networks, the structure of its economy and governments' policies on transport regulation, investment and taxation. The choice of transport mode has a direct impact on the efficiency of a logistic channel. Each transport mode possesses different characteristics, different strengths and weaknesses.

Depending on the mode chosen, the overall performance of the logistic channel will be affected (Liberatore & Miller, 1995). Depending on his requirements, unimodal, combined, multimodal or integrated transport logistics will be utilised. Gray (1982) identified three main types of behavioural models: The first one assumes that modal choice is dictated by economic cost variables. The second type of model assumed that modal choice is based on relationships between physical aspects of the transport system (e.g. speed, frequency) and physical aspects of the product (e.g. perishability, value-weight ratio). Lastly, there are models that are based on the transport decision-maker perception of each mode of transport or combination of modes. The main contribution of behavioural models is the recognition of the impact of the decision-maker's perception on the modal selection decision. Decision-makers' own perceptions do determine whether or not a particular mode will be used. This overall perception was found, by Evers *et al.* (1996), to be driven largely by six perceptual factors: timeliness, availability, firm contact, suitability, restitution, and cost. Hence, as a decision-maker's perception of these six individual factors associated with a particular mode improves, the decision-maker's overall perception of the mode should improve, and the likelihood of that mode being used should also increase.

The performance of a particular mode of transport clearly influences the effectiveness of the logistics system. The process of selecting the appropriate mode is dependent upon a variety of service attributes (McKinnon, 1989; Kent & Parker, 1998; Fowkes *et al.*, 1999). Pedersen and Gray (1998) examined transport selection criteria in the case of Norway. Norway has some very distinctive features, which may be used as reference when studying Lao PDR; such as a very strong export dependency with a small home market, a peripheral location, and an extreme topography. The use of transport modes is clearly affected by the type of product transported and the availability of modes. Apart from the direct cost of transport, which can be high, especially for complex movements, the cost of tied inventory is often critical in the case of high value products in the decision-making process.

3. RESEARCH METHODOLOGY

In order to collect data, interviews with exporters, importers and logistics service providers in Lao PDR were undertaken. To give these interviews some structure, and therefore to enable them to form a valid part of the research, a questionnaire was developed. This questionnaire was designed to examine thoroughly the respondents' business activity and usage of transport modes.

The sample of respondents was primarily taken from members of the Lao National Chamber of Commerce and Industry. The sample was carefully selected to represent the main foreign income earners of the country (i.e., wood and garments) for exporters, foodstuff importers, and the biggest logistics service providers operating in the country. All the respondents that were interviewed are involved in the international trade of Lao PDR. In all, 21 interviews were conducted during the month of April and November 1999.

4. RESEARCH FINDINGS

There were 11 garment exporters, 4 wood product exporters, 4 importers and 2 logistics service providers. The garment exporters surveyed represented more than one third of all the garment exporters in Lao PDR and they accounted for more than 60% of the total garment export market. The wood product exporters were chosen among the four biggest in terms of annual turnover (in US Dollars). The foodstuff importers were selected randomly among the members of the Lao National Chamber of Commerce and Industry directory and the two logistics service providers are estimated to hold more than 40% of the transport market in Lao PDR[1]. All of the respondents were in high positions in their respective companies.

4.1 Respondents attitude towards the selection of transport modes

The respondents were asked to consider the importance of various factors relating to the transport of their products on a five-point Likert type scale: (1) = Very Unimportant; (2) = Fairly Unimportant; (3) = Neither Important nor Unimportant; (4) = Fairly Important; (5) = Very Important. McKinnon (1989) provided a framework of variables that affects modal choices. He categorised these factors into three main groups, namely: traffic-related; consignors-related and service-related. These categories have been adapted for the purpose of this research into: product-related; decision maker-related and service-related. A ranking of the most important factors in each category is also presented (see Table 1; 2 and 4)

4.1.1 Product-related factors

Table 1: Product-related

	Rank	Mean	Std. Deviation
length of haul	1	4.14	0.72
dimensions	2	3.95	0.97
value	2	3.95	1.24
value density (value: weight ratio)	4	3.61	1.07
fragility	5	3.52	1.16
types of packaging	5	3.52	1.53
consignment weight	7	3.47	0.74
special handling characteristics	8	3.09	1.48
perishability	9	2.33	1.62
toxicity	10	2.28	1.27

When the respondents considered product-related attributes, they ranked ‘length of haul’ as the most important attribute that will affect their modal choice. As discussed earlier, all the respondents are involved in the international trade of Lao PDR and they understand that sea transport is the main transport leg, but long distance trucking to seaports in Thailand or Vietnam is the only mode of transport they are really familiar with. Even when rail transport is a possible option, trucking will be preferred. According to Cunningham (1982), evidence of long haul truck traffic where rail service is available is a misallocation of traffic and a departure from the optimal cost-minimising allocation of

[1] According to industry sources.

resources in transport. This is probably true in developed countries where rail transport can be more competitive over shorter distance than in the developing world. In the case of Lao PDR, rail transport is only available across the border in Thailand where the service is considered as unreliable. 'Dimensions' and 'value' are ranked on an equal basis as the second most important attribute that is taken into consideration by Laotian respondents. This is especially true for wood product exporters. Scores for the top three attributes are quite high, with a mean of 4.14 for 'length of haul' and a mean of 3.95 for 'dimensions' and 'value' respectively.

'Perishability' and 'toxicity' is considered the least important attributes related to product with means of 2.33 and 2.28, from the respondents. This is probably due to the fact that most of the respondents are either garment or wood product exporters. These respondents do not feel that 'perishability' or 'toxicity' is an important issue. Perishability, special handling characteristics and types of packaging emerge as more important factors for foodstuff importers, especially with one respondent involved in the French cheese and wine trade. Interestingly enough, the same importer has also been asked to provide a "certificate of purity"[2] for his products as some Lao government officials had concern about its possible toxic nature. If all the respondents were foodstuff importers some of the results would have probably been different. 'Perishability' would have been considered as one of the most important attribute that would affect modal choice. Nonetheless, the findings relating to perishability appears to be consistent with the majority of the literature on variables that affect modal choice. Perishability is not recognised as a factor affecting modal choice (McGinnis, 1989). But for Gilmour (1976) and Hayuth (1985), perishability is an important factor that affects freight transportation choice. Ultimately, the effect of 'perishability' on modal choice will depend on the types of commodity transported.

Logistics and transport service providers are the most concerned with product-related attributes as they are usually in charge of the packaging, handling and the transportation of goods. D'Este and Meyrick in their 1992 study discovered the same concerns relating to cargo handling by Australian logistics and transport service providers. They must always be knowledgeable about the nature of the product in their care. The nature of the product will determine the type of packaging[3], the type of handling techniques and also the choice of transport mode that will be used. Some logistics service providers may not be directly responsible for packaging or for marking but they can offer guidelines on the most appropriate types of packing and handling required, as well as on the most appropriate combination of transport modes. It is the logistics service providers' duty to make sure that the goods will arrive at destination on time, safely and at the right price. They are expected to take reasonable care of the goods entrusted to them and comply with clients' instructions in matters relating to the transportation of their goods.

In the transport of medium to lower value products such as wood and garments, shippers are willing to accept a lower quality of transport service and mode than for the higher value or perishable goods if transport cost can be reduced. This behaviour is consistent with some of the findings by Fowkes *et al* (1989) relating to the value of goods and their selection of transport mode.

[2] This certificate is supposed to certify that the wine and cheese is "pure".

[3] For the export of garments, these logistics service providers are able to provide special containers with racks where the garment is hung. This avoids the need for processing the garments if they had been stuffed in a normal dry container and permits the direct transfer to stores for display.

4.1.2 Decision-maker-related factors

Table 2: Decision maker-related

	Rank	Mean	Std. Deviation
marketing strategy	1	3.66	1.06
stockholding policy	2	3.33	1.15
system of modal evaluation	3	3.14	1.1
investment priorities	4	3.04	1.71
management structure	4	3.04	0.97
size of firm	6	2.23	0.94

For decision-makers in Lao PDR, the marketing strategy is seen as the most important factor with a mean of 3.66. These results are also consistent with the literature, Manheim (1994) discussed that firms today face increasingly severe competitive pressure, and having a good marketing strategy through the efficient use of the logistics function can provide opportunities for competitive advantage on the global market. All the respondents are aware that logistics can be or is a leading function, especially when global co-ordination of production and distribution has emerged as a major issue and opportunity. In the early stages of marketing policy development, one of the foremost issues that need to be resolved is the method of product distribution or channel distribution, which will be made. During logistics channels selection, the firms will be trying to achieve six aims: (1) maximisation of sales opportunities; (2) achieving high levels of product availability; (3) achieving high levels of customer service; (4) minimising costs; (5) gaining timely, accurate market intelligence and (6) ensuring smooth integration of both commercial and physical aspects of the distribution chain. The respondents know that if they want to succeed they need a very precise marketing strategy that will help sustain their competitive advantage.

Even though 'system of modal evaluation' was ranked third by the respondents, this factor is closely related to the marketing strategy. The logistics decision maker is confronted with a logistical system where there exist a number of alternative sub-systems or solutions to a particular logistics problem. An assessment of the qualities of the various modes of transport is therefore needed to determine the best possible solution available that is suitable with local conditions (see Table 3 and Figure 1).

Table 3: Generic assessment of the qualities of different modes of transport

	Road	Rail	Waterway or sea way	Air
Speed	High	Low	Low	Very high
Door-to-door capability	Very high	Low	Very low	Low
Reliability	Very high	High	High	Very high
Security	Very high	High	High	Very high
Safety	High	Very high	Very high	Very high
Flexibility	Very high	Low	Low	Low
Availability	Very high	Low	Very low	Low
Energy Efficiency	Low	Very high	Very high	Very low

Source: Adapted from Adjadjihoue (1995)

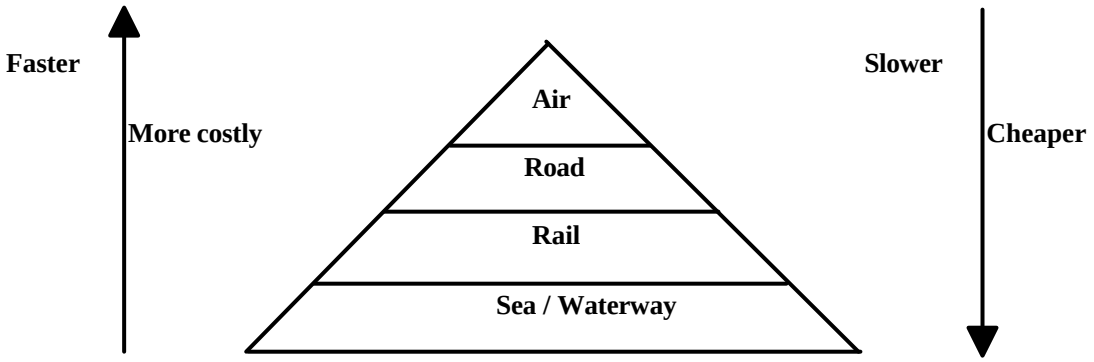

Figure 1: Multi-strata pyramid for modal evaluation
Source: Adapted from Adjadjihoue (1995)

'Stockholding policy' is the second most important attribute for the Laotian decision-maker. According to Sterman (1989), one of the most common logistics decision-making is stock management. These Laotian firms do not want to be burdened with the cost of carrying to much inventory while at the same time they cannot take the risk of being out of stock. This is particularly true because of the long distances involved for the transportation of their products; it becomes very difficult to control the supply chain.

'Investment priorities ' and 'management structure' are ranked equally in fourth place with a very neutral score of 3.04. As more than three-quarter of the respondents do not own or operate their own vehicles, investment priorities are not geared towards means of transport but more towards the expansion of the respondents' businesses. Management structure is also not felt as an important factor as most decision related to modal choice are taken by the respondents themselves as they have full authority. The 'size of firm' variable is seen as the least important factor by the respondent who feels that this attribute does not have an impact on modal choice. Katsikeas (1994) suggested that it was reasonable for larger firm to be more pro-active in searching for export or import markets

than smaller firms. But from the respondents, it can be said that in Lao PDR, the size of firm does not affect its export or import activities.

The decision making process is not really based on the firm's size but more on decision-maker skills, knowledge and information. Decisions are mostly based on a combination of formal information sources and informal sources in South East Asia (Phelps & Krabuanrat, 1999). The firm's size may be used as a condition to negotiate better freight rates with the promise of increase traffic. It was also suggested during the survey that there is a relationship between the size of the respondents' firm and the use of third party logistics/transport service providers. The smaller the firm, the more likely it is going to outsource its logistics/transport function. This is very similar to the finding in the study done by Pedersen and Gray (1998) on the transport selection criteria of Norwegian exporters.

4.1.3 Service-related factors

Table 4: Service-related

	Rank	Mean	Std. Deviation
speed (transit time)	1	4.9	0.3
reliability	2	4.61	0.49
cost	3	4.52	0.6
accuracy of documentation	4	4.33	1.06
customer relations	5	4.28	0.56
regularity of shipment	6	4.23	0.62
product care	7	4.09	0.88
availibility of handling equipment	8	4	0.94
urgency	9	3.9	1.22
monitoring goods in transit	9	3.9	0.83
provision of ancillary services	11	3.61	1.35
geographical coverage	12	3.52	0.74
unitisation	13	3.47	0.81
accessibility	13	3.47	0.74
multimodal transport services	15	2.28	1.38
EDI	16	2.19	1.28

The three most important attributes in Lao PDR, relating to service are speed (transit time); reliability and cost respectively. The findings appears to be consistent, up to a certain extent, with the main body of literature as influences over modal choice decisions are likely to vary (at least in the weight attached to the different attributes). In identifying influential attributes in freight route/mode choice, Cullinane and Toy (2000) summarised the literature relevant to the subject of modal choice decisions, and discovered that cost/price/rate was ranked first with service-level and transit time reliability closely behind.

Speed or transit time is considered the most important attribute in Lao PDR because of the existence of many physical and non-physical impediments when exporting or

importing. The frequency of transport services has also been quite low in response to marginal freight flows and due to the nature of the country; shipments must transit through third countries. This increases the bureaucratic process, thus increasing delays in delivery. This fear of delays is reflected in the survey result with 'speed' or transit time in service being the most important factor in the modal choice selection. This finding is consistent, with the result of Jeffs and Hills (1990) study on the determinants of modal choice in freight transport where transit time is considered the most important aspect of 'service'. Brooks (1990) also has found transit time to be a key attribute. As an example it is possible, in theory, to physically transit via Vietnam within 24 hours but in reality it takes between three to four days for goods to transit due to numerous administrative delays[4]. Guaranteed transit time and delivery, especially by road haulage to and from seaports, seems to be the most important attribute.

It has usually been assumed that 'cost' was the most determinant factor in the selection of modal choice. The main body of the literature acknowledges that 'cost' is a very important factor but it is not the most important. The shipper's decision as where to ship and by what mode of transport will depend not only on direct transport charges, but also on the indirect and service-induced costs (Mwase, 1986). According to Whyte (1993), services such as guaranteed transit time and reliability will always be more important than cost. But cost must also be competitive, as one of the respondents' main objectives is to minimise transport cost while maintaining quality of service.

Kent and Parker (1999) deduced that 'reliability' was the most important factor for international container-ship carrier-selection criteria. Reliability can be defined as the variance in transit time. In the same study 'Cost' is only ranked twelve out of eighteen while 'Transit time' was ranked sixth. The importance of 'reliability' has been demonstrated in the literature where many authors (Pedersen & Gray, 1998; Matear & Gray, 1993; McGinnis, 1989; Jeffs, 1985) agreed that 'reliability' in service seems to be the overall most important factor, in contrast Hayuth (1985) ranked 'reliability' last in his list of factors that may affect freight modal choice. It is believed that reliability of transit time is the most important variable influencing freight transport according to shippers' surveys (Allen *et al*., 1985).

It was also discovered in these studies was that 'transit time' has been frequently found to be more important than 'cost'. The finding in this paper that transit time is the most important factor is consistent with Hayuth (1985) findings in relation to freight modal split analysis of air and sea transportation.

'Accuracy of documentation' is considered to be of importance along with 'customer relations'. This may be explained by international trade procedures. If, there are discrepancies within the documents, the exporter will not be able to receive payment for their goods, the importer may not be able to clear customs and the logistics service provider may not be able to handle the goods for its clients. In Lao PDR, customer relation also plays a very important role in the selection process of modal choice, as there is no real competition among modes or carriers. Personal connection must be maintained in order to secure logistics and transport related services.

[4] Delays of up to two weeks are not uncommon

'Multimodal transport services' (e.g. door-to-door transport; through transport) and 'EDI' are seen to be the least important attributes. This can be partly explained by the lack of knowledge relating to multimodal transport and the types of services it can offer. Almost all of the respondents had a unimodal framework when it came to transport services and most of them were satisfied with road transport as the only mode of transport available. For the logistics service providers, multimodal transport services are important, as they need to be able to efficiently combine the various modes of transport in order to provide a seamless logistics flow of goods while at the same time being liable for the goods from origin to destination.

EDI is the last ranked service-related attribute. Currently, 95% of the respondents are not using computers or EDI to facilitate their logistics strategy. This is not because they are not interested in new technology, but more because of the awareness of benefits that EDI may bring to their logistics strategy (see Table 5). It must also not be forgotten that Lao PDR is faced with very poor electrical and telecommunication infrastructure and the cost of setting up an EDI system will be very expensive. At this moment in time, EDI services are not feasible in Lao PDR.

Table 5: EDI benefits and barriers

EDI benefits	**EDI barriers**
• Quick access to information • Better customer service • Reduced paperwork • Better communications • Increased productivity • Improved tracing and expediting • Cost efficiency • Staying ahead of competitors • Accuracy • Improved billing	• High set-up costs • Incompatibility of hardware/software • Lack of standard formats • Lack of customer sophistication • Lack of awareness of EDI benefits • Customer education/training • Customer resistance • Corporate culture

Source: Adapted from Murphy & Daley (1998)

The ranking of factors affecting the selection of modal choice in Lao PDR may have provided a useful insight on how Laotian exporters, importers and logistics service providers select their mode of transport but this selection is ultimately based on the available transport infrastructure and services in Lao PDR and neighbouring countries. The real answer towards the selection modal choice may have been provided by one respondent who said that there are just not enough volumes of goods exported or imported into Lao PDR to justify competition among the various modes. Road transport provides sufficient capacity and service at a marginally higher freight rate when compared to the main sea leg and most of the respondents have no knowledge or information relating to possible alternative of modal choice for the transportation of their products.

This feeling of no 'real choice' in transport modes is said by all the respondents to be the biggest constraint. Some respondents (15%) even complained that there was no information provided on alternative modes of transport. Many believed there were laws

that made the international transit of goods by roads mandatory. Two respondents concluded that since Lao PDR is a land-locked country, there aren't any alternatives for modal choices. Only road transport is possible.

4.2 External constraints affecting Lao PDR international freight transport

The respondents were also asked open-ended questions relating to physical and non-physical constraints in transport and logistics operations in Lao PDR. Many issues were discussed but the three most cited constraints were human resource development, infrastructure and regulations, and tea-money[5].

4.2.1 Human Resource Development

Lao PDR, as a Less-Developed Country (LDC), is faced with shortages in skilled labour. Most of the labour is comprised of low-skilled and low-cost workforce. The respondents have many difficulties in finding a suitable workforce for their activities. It is usual for the respondents to train their staff in the handling of export/import and transport procedures. On the job training is the most common form of skill development done by the respondents (66%). Human resource development is considered to be the most important issue by all the respondents. One respondent, Mr. Prachith Sayavong[6], stated that human resource development policies in Lao PDR were probably adequate for the country but that they were not good enough compared to the rest of the world. This is a big problem when his staffs have to deal with international trade and transportation issues. Increasing staff capability through formal training is a priority, which has been recognised by all those involved in the country's international trade, for the sustainable economic development of Lao PDR.

Human resource development must be focused not only on the private sector but also on government officials. Shortages of skilled and management personnel can hamper foreign investment as well as cause delays in technology transfer due to a lack of absorption capability (ESCAP, 1995b). The opening of the Lao economy to market forces and Lao PDR membership to ASEAN [7] has created strains on the Laotian bureaucracy. There are not enough staff fluent in English, the common language of ASEAN and the main trading language, some high-ranking government officials also feel that their country's human resource is not yet ready and that they do not have enough funds to increase the skill level of civil servants and the workforce in general. Request for technical assistance, exchange of information with developed countries and foreign-study tours, are seen by the respondents as the most appropriate options in improving the competency of Lao civil servants.

Presently, Lao PDR is very much dependent on foreign help for the development of the country's human resources. Membership to ASEAN has accelerated the need to put Lao human resources on par with the rest of the region. According to the Lao national statistical centre, in 1998, there was only one university and four vocational institutes for the whole country. In Lao PDR, there is no vocational or degree course in international

[5] Under-the-table payment to facilitate the movement of cargo, sometime known as speed-money.
[6] Managing Director of Societe Mixte de Transport (SMT), a Lao logistics/transport service provider.
[7] Association of South East Asian Nations

trade and transport management but some respondents plan to send their employees to study abroad with Thailand and Vietnam being the two major destination.

4.2.2 Infrastructure and Regulations

- ***Infrastructure***

All respondents acknowledge infrastructure as a major impediment to the facilitation of Lao PDR international trade. Road quality is poor and only 43% of roads are paved[8]. During the 'wet season' some roads are rendered non-usable thus diverting traffic to inland waterways. Inland waterway infrastructure along the Mekong and its tributaries is insufficient as it is still mostly in its natural state without improvement. According to ESCAP (1998), only 604,000 tonnes of goods and 1.6 million passengers were transported by inland waterway in Lao PDR in 1997. The majority of these goods and passengers were ferried across the Mekong River from Thailand to Lao PDR and vice-versa.

Lao PDR, as a land-locked country, is dependent on the quality of infrastructure available in neighbouring countries for fast and efficient sea access. Vietnam's road infrastructure is considered poor while Thai infrastructure is felt as adequate by some of the respondents (21%) though traffic congestion, poor road maintenance and the condition of some up-country roads are known to be persistent weaknesses in the Thai network. Lao PDR infrastructure limitations in seen by almost a third of the respondents (28%) as a major constraint to the economic development of the country, and as a bottleneck for trade expansion and transport facilitation.

- ***Regulations***

All the respondents felt that there was no consistency in governmental rules and regulations relating to foreign investment, international trade and transit practices, and that all the existing procedures were cumbersome. More than 40% of the respondents involved in exports, felt that they were losing their competitive edge in export markets due to administrative bureaucracy. The two logistics and transport operators complained about customs procedures relating to transit traffic from Vietnam to Thailand and vice-versa. They stated that Lao Customs are imposing a 'transit tax' on transit goods but are not willing to issue receipts for the 'transit tax'. According to a high ranking official in the Lao Customs this practice is viewed more as a 'toll' or a 'right of passage' to use Lao roads than a transit tax.

Lao provinces also have their own 'transit service fees' when goods are moved through. The transit goods service fee is set at 10%, 7% and 5% of the CIF price depending on the commodity[9]. Importers are also faced with difficulties when opening letters of credit (L/C) as many governmental agencies are involved (i.e. Ministry of Finance, Ministry of Commerce, Ministry of Justice, Bank of Lao PDR, local council, etc.). The import procedures are also very complicated and an import license is needed each time goods are imported from the Ministry of Commerce. The example of goods imported via Bangkok

[8] www.adb.org
[9] "Savannakhet's success in transit goods service", in: *Vientiane Times*, 7 July 2000, Internet Edition.

Port (Thailand) with the help of a Lao logistics service provider, is used to illustrate the complexity (see Table 6).

Table 6: Import working procedures

1. Documents needed for import clearance:

Document required	**Logistics operator in Vientiane**	**Logistics operator's representative in Bangkok**
Ocean B/L	1 copy	1 original
House B/L (if any)	1 original	1 copy
Commercial Invoice	1 original + copy	1 copy
Packing List	1 original + copy	1 copy
Insurance Policy	1 copy	1 copy
Others (consular invoice, certificate of origin, etc.)	1 copy	1 copy

2. The Lao logistics operator prepares the Laotian import formalities, tax-exemption permit (if applicable) in co-ordination with the owner of the goods and all related Governmental Authorities. These procedures takes approximately 10 to 15 days to be completed, but can be prepared in advance with a copy of the commercial invoice and packing list for the goods.

3. The Lao logistics operator Bangkok representative receives notice from the shipping line regarding the estimated time of arrival (ETA) of the ship and prepares the Thai Customs formalities and transit formalities.

4. When the vessel arrives, the Bangkok representative will exchange the delivery order (D/O) with the shipping line, arrange for suitable trucks and/or trailers, pay for the port and terminal charges, and advise the Lao logistics operator of trucking details.

5. Bangkok representative arranges for Thai Customs officer to convoy the trucking up to Nongkhai-Thanaleng border post.

6. Upon arrival of trucks at the border post, the Lao logistics operator will proceed with customs clearance, pay for warehousing fees, transload goods from Thai truck to Lao truck and re-forward to the importer's designated destination (the Thai truck can also be sent directly to the final destination without transloading).

Exporters are put in a similar position, as they need to provide a large number of documents in order to receive an export license from the Ministry of Commerce. This license is needed each time there is a shipment. The documents needed are: one copy of the purchase order, one copy of the sales contract, seven copies of the quotation and packing list, seven copies of the certificate of goods quality, and last but not least seven copies of the certificate of origins for the goods. In the case of wood products, a pass permit must also be issued by the Ministry of Agriculture and Forestry. Currently, some wood product exporters bypass this cumbersome procedure when they export furniture by disguising their export as the "moving" of furniture. This scheme allows them to avoid payment of export tax and completion of export paperwork (with the help of some governmental officers).

Inconsistency in governmental rules and regulations in Lao PDR is partly due to the overlapping authority of the various ministries and bureaucracy, but it is also due to the discrepancy between policies, interpretation and actual practice. Lao PDR, as a member

of ASEAN and part of the ASEAN Free Trade Agreement, is faced with the pressure to open its market to outside competitive forces even though some high ranking officials feels that the country's economic foundation is not strong enough to support free trade with neighbouring countries. This has resulted in an increase in paperwork and complicated procedures for import, export and transit of goods to and from Lao PDR.

4.2.3 Tea-money

Tea-money is considered by all respondents as an integral part of running their business activities. The respondents are subject to this practice not only in Lao PDR but also in countries where Lao cargo transit (i.e., Thailand and Vietnam). This practice also exists in other countries of the region. Tea-money, bribes, and corruption are a great enemy of economic development. Tea-money invariably increases transaction costs and uncertainty in an economy by lowering its efficiency. Bribe reduces the transparency of economic transactions by both state-owned and private sector firms while undercutting the state's ability to raise revenues. Corruption weakens the state and its ability to promote development and social justice (Banomyong, 1999). If regulations, administrative processes and operational systems are unnecessarily complicated or ineffective then there is a very strong possibility that payment of tea-money or favours will be required.

Corruption tends to flourish when standards are lax or poorly defined, and regulatory institutions and enforcement practices are weak. Small-scale corruption, when tolerated or condoned by society, creates uncertainty and often leads to big corruption. The cost of this uncertainty, and bribes actually paid can undermine the competitiveness and business confidence of enterprises. The respondents have often designated customs as a major culprit. Customs corruption often occurs in developing countries with high tariffs and manual processes for clearing cargo. Low pay for customs officials creates fertile ground for bribery[10]. Customs departments in the region are all trying to upgrade and standardised their procedures to eliminate graft but discussions on corruption practices is still regarded as taboo and information is scarce.

As more than 80% of Laotian goods transit to and from Bangkok Port, the Laotian respondents are very much affected by tea-money practices occurring in Thailand. Since the 5 of January 1999, the Port Authority of Thailand (PAT) has implemented a 'no tea-money' policy to eradicate bribes paid to stevedores[11] to hasten cargo handling at Bangkok Port. This policy has backfired as stevedores protested by staging a 'go-slow' attitude to cargo handling. Instead of handling 20 to 25 TEU per hour, some stevedores reduced their handling to 8 TEU per hour[12]. These periodic slowdowns by stevedores have hastened the return of tea-money[13]. Ship agents were held to ransom and many feeder ships missed their main line connection in Singapore.

[10] "Customs group declares war on bribes", in: *American Shipper*, March 1999, p. 48.
[11] Stevedores at Bangkok Port are civil servants under the Port Authority of Thailand.
[12] "PAT authorises staff to accept 40 baht per container", in: *Krungthep Turakij Newspaper* (in Thai), 12 January 1999, Internet Edition.
[13] Anecdotal evidence gathered suggests that some port employees, such as forklift operators, take home up to USD 5,000 a month, almost all of it in kickbacks.

This illegal practice exists not only at Bangkok Port but also within the Thai Customs Department[14]. Top administrators at these government agencies are always declaring they will stamp out the problem, but no forceful action has ever been taken. These illegal payments increase the cost of production and the shipment costs of exporters, making Lao and Thai goods less competitive on the world market. Thai and Lao importers are no less fortunate, as they also have to grease the palms of these corrupt civil servants[15]. Table 7 illustrates the going rate for 1999 for tea money at Bangkok Port by both agencies.

Table 7: The tea-money trail

Under the table payment normally faced by importers/ exporters	Baht*
AT CUSTOMS DEPARTMENT	
• Asking for bill of lading number	40
• Price and tax evaluation	100
• Tax payment	20
• Approval of bill of lading	100
AT BANGKOK PORT (Inspection)	
• Bulk cargo	100
• TEU	200
• FEU	300
• Approval by inspector	100
• Sealing (per container)	50
• Cargo guard	20
• Cargo loading (per TEU)	210
• Quick service by Express Transport Organisation of Thailand (ETO)	20-100
• Truck driver	50-100

Source: Compiled from the Bangkok Post (1999)

* USD 1 = 42 Baht (Thai local currency, 2000 average exchange rate)

Shipping brokers when acting on behalf of an importer start paying tea money to customs officials at the first step of clearance procedure. Payment is essential at every step until the goods finally make it onto trucks destined for the final destination. The first step is to request a running number for the bill of lading. After the number is obtained, the next step is the assessment of the imported item's prices and the tax on them. This is followed by the payment of tax, and the approval of the bill of lading. After bills of lading are approved, shipping brokers take the bills of lading to Bangkok Port, where they must pay customs officials to inspect the goods. They then pay the chief inspector for approving the inspection[16], followed by payments to customs officials to seal containers. After that, the brokers pay port workers to guard the cargo. If they want quick service from the Express Transport Organisation (ETO), the state agency that monopolises trucking services at the port, they pay again. More payment will follow to port workers for loading containers onto trucks, and to the truck drivers.

[14] "Customs clearance a minefield", in: *Bangkok Post*, 25 January 1999, Internet Edition.
[15] "PAT cannot give up", in: *Bangkok Post*, 14 January 1999, Internet Edition.
[16] The inspection stage is the most critical, especially if the goods are not the same as those declared in an attempt to reduce taxes.

For transit cargo imported to Lao PDR, the shipping broker must also go to the Lao embassy to collect a consular paper certifying that the goods are intended for consumption in Lao PDR. At one point in time, the Lao embassy in Bangkok wanted to certify all the documents related to the importation of goods to Lao PDR but within one week they withdrew this rule when goods were still stranded in Bangkok for more than two weeks.

The goods will then be moved to a dedicated bonded warehouse within the vicinity of Bangkok Port. Inspection also takes place for transit cargo by Thai Customs at Bangkok Port. Officially this is to verify that the goods are what they claim to be on the packing list. This practice contravenes international Customs rules on goods in transit. One wine importer in Lao PDR stated that each time Thai customs officials checked his containers many cases of wines were missing. It takes about 2 to 3 days for the paperwork to be completed in Bangkok before the goods can be moved to Lao PDR.

5 CONCLUSIONS

According to the respondents, the selection of modal choice in Lao PDR seems to be flawed, as there is no 'real' choice. There is no rail, inland waterway use is minimal and air transport is usually considered only as an emergency channel. Rail transport is available in Nongkhai (Thailand), just 20 km from Vientiane (Lao PDR) but due to the low freight volume and the unreliability of service, rail cannot compete with road haulage[17]. It is also a result from the lack of interest relating to freight transport on the part of the State Railway of Thailand (SRT) management as well as policy-makers.

The importance of sea transport is understood as the main transport leg. The majority of the respondents clearly felt that there was no choice for the selection of transport modes or carriers as the regulatory framework covering international transit is very restrictive. Physical and non-physical barriers to the smooth flow of goods are present at every level, such as infrastructure constraints and bureaucratic operational and administrative procedure. This has led to a sub-optimum selection of modal choices in the inland leg. A better co-ordination of policies with neighbouring countries will help ease some international transit problems. Most of the respondents are not aware of other possible modal alternatives for the transportation of their goods, it would be interesting to illustrate the various modal combinations that may exist within logistics channels for export and import in Lao PDR. The comparison of the various combinations can also be done in order to find the most competitive logistics channel that will benefit traders in Lao PDR. This might help in demonstrating possible alternatives that are available in the modal selection process.

The survey results largely confirm the findings of previous studies of modal selection (D'Este & Meyrick, 1992; Hayuth, 1985; etc.). However, it must be appreciated that local conditions can affect the relative importance of particular decision factors and that these preferences can also vary for different commodities.

[17] The distance of 650 km that separate Vientiane with Bangkok is considered to be a competitive distance for rail over road transport in Europe (Marlow & Boerne, 1992).

REFERENCES

Adjadjihoue CR (1995) **Corridor analysis and forecasting of intermodal transportation systems between Finland and Eastern European countries**, Acta Polytechnica Scandinavia, Civil Engineering and Building Construction Series No. 101, Finnish Academy of Technology, Helsinki.

Allen BW, Mahmoud MM & McNeil D (1985) "The importance of time in transit and reliability of transit time for shippers, receivers, and carriers", **Transportation Research B**, Vol. 19B, No. 5, pp. 447-456.

Ashar A (1993) **Ship-to-Rail intermodal transfer**, Unpublished PhD Thesis, Department of Maritime Studies and International Transport, Cardiff University.

Banomyong R (1999) "Graft is a losing equation", **Bangkok Post Opinion & Analysis**, 22 January 1999, p. 10.

Beresford AKC (1999) "Modelling freight transport costs: a case study of the UK-Greece corridors", **International Journal of Logistics: Research and Applications**, Vol. 2, No. 3, pp. 229-246.

Beresford AKC & Dubey RC (1990) **Handbook on the management and operations of dry ports**, UNCTAD, Geneva, RDP/LDC/7

Brooks MR (1990) "Ocean carrier selection criteria in a new environment", **Logistics and Transportation Review**, Vol. 21, No. 4, pp. 339-355.

Cullinane K &Toy N (2000) "Identifying influential attributes in freight route/mode choice decisions: a content analysis", **Logistics and Transportation Review**, Vol. 36E, No. 1, March, pp. 41-53.

Cunningham WJ (1982) "Freight modal choice and competition in transportation: a critique and categorization of analysis techniques", **Transportation Journal**, Vol. 21, No. 4, pp. 66-75.

D'Este GM & Meyrick S (1992) "Carrier selection in a RO/RO ferry trade Part 1: Decision factors and attitudes", **Maritime Policy & Management**, Vol. 19, No. 2, pp. 115-126.

Drewry (1996) **Container Shipping: the South East Asian markets**, 11 Heron Quay, London.

ESCAP (1998**) Report of the regional policy-level meeting on sustainable development of inland water transport**, ESCAP, Nanjing, China, 22-25 September 1998.

ESCAP (1995a) **Report on the expert group meeting on inland water transport (IWT) information systems and training in the ESCAP region**, United Nations, New York.

ESCAP (1995b) **Strengthening capacities in trade, investment and the environment for the comprehensive development of Indochina**, United Nations, New York, ST/ESCAP/1482.

Evers PT, Harper DV & Needham PM (1996) "The determinants of shipper perception of modes", **Transportation Journal**, Vol. 36, No. 2, pp. 13-25.

Fowkes AS, Nash CA & Tweddle G (1999) "Prospects for inter-modal freight transport-the case of the channel tunnel", **Proceedings of the 8th World Conference on Transport Research**; Meersman H, Van de Voorde, Eddy & Winkelmans, W (Eds.), Pergamon, Amsterdam, pp. 477-490.

Fowkes AS, Nash CA & Tweddle G (1989) **Valuing the attributes of freight transport quality: results of the stated preference survey**, Working Paper 276, Institute for Transport Studies, University of Leeds.

Gilmour P (1976) "Some Policy Implications of Subjective Factors in the Modal Choice for Freight Movement", **Logistics and Transportation Review**, Vol. 12, No. 1, pp. 39-57.
Gray R (1982) "Behavioural approaches to freight transport modal choice", **Transport Review**, Vol. 2, No. 2, pp. 161-184.
Hayuth Y (1992) "Multimodal freight transport", **Modern Transport Geography**, Hoyle BS & Knowles R (Eds.), Belhaven, London, pp. 199-214.
Hayuth Y (1985) "Freight Modal-Split Analysis of Air and Sea Transportation", **Logistics and Transportation Review**, Vol. 21, No. 4, pp. 389-402.
Hoyle BS (Ed.) (1996) **Cityports, Coastal zones and Regional Change**, John Wiley & Son, Chichester.
Jeffs VP (1985) **A behavioural analysis of modal choice in freight transport**, Unpublished PhD Thesis, Department of Civil Engineering, University of Newcastle upon Tyne.
Jeffs VP & Hills PJ (1990) "Determinants of modal choice in freight transport", **Transportation,** Vol. 17, pp. 29-47.
Jung TY (1996) **China as an intermodal link between the Far East and Europe,** Unpublished PhD Thesis, Department of Maritime Studies and International Transport, Cardiff University.
Jung TY & Beresford AKC (1994) **Intermodal developments on China's railways**, Occasional Paper No. 24, Department of Maritime Studies and International Transport, Cardiff University.
Katsikeas CS (1994) "Export competitive advantages: the relevance of firm characteristics", **International Marketing Review**, Vol. 11, No. 3, pp. 33-53.
Kent JL & Parker RS (1998) "International containership carrier selection criteria: shippers/carriers differences", **International Journal of Physical Distribution and Logistics Management**, Vol. 29, No. 6, pp. 398-408.
Liberatore MJ & Miller T (1995) "A decision support approach for transport carrier and mode selection", **Journal of Business Logistics**, Vol. 16, No. 2, pp. 85-115.
Manheim ML (1994) "Beyond the Logistics Pipeline: Opportunities for Competitive Advantage", **Logistics and Distribution Planning**, Cooper J (Ed.), Kogan Page, London, pp. 62-97.
Marlow PB & Boerne GL (1992) **The case for Inter-modalism in freight transport**, Occasional Paper No. 4, Department of Maritime Studies and International Transport, Cardiff University.
Matear S & Gray R (1993) "Factors Influencing Freight Service Choice for Shippers and freight Suppliers", **International Journal of Physical Distribution and Logistics Management**, Vol. 23, No. 2, pp. 25-35.
McGinnis MA (1989) "A comparative evaluation of freight transportation choice models", **Transportation Journal**, Winter, pp. 36-46.
McKinnon A (1989) **Physical Distribution Systems**, Routledge, London.
O'Connor K (1995) "Airport development in South East Asia", **Journal of Transport Geography**, Vol. 3, No. 4, pp. 269-279.
Murphy PR & Daley JM (1998) "EDI benefits and barriers: Comparing international freight forwarders and their customers", **International Journal of Physical Distribution and Logistics Management**, Vol. 29, No. 3, pp. 201-216.
Mwase N (1986) "Models of Rail/Road Modal Split: A Tanzania case study", **Transportation Planning and Technology**, Vol. 11, pp. 105-116.
OECD (1992) **Advanced Logistics and road freight transport**, OECD, IRRD NO. 873096, Paris.

OECD (1996) **Integrated advanced logistics for freight transport**, OECD, IRRD NO. 873096, Paris.

Pedersen EL & Gray R (1998) "The transport selection criteria of Norwegian exporters", **International Journal of Physical Distribution and Logistics Management**, Vol. 28, No. 2, pp. 108-120.

Phelps B & Krabuanrat O (1999) "Cultural effect in East Asian strategic decision-making", **Asia Pacific Business Review**, Vol. 6, No. 2, Winter, pp. 44-58.

Sterman JD (1989) "Modelling managerial behavior: Misperceptions of feedback in a dynamic decision making experiment", **Management Science**, Vol. 35, No. 3, pp. 321-339.

Whyte JL (1993) "The freight transport market: buyer-seller relationships and selection criteria", **International Journal of Physical Distribution and Logistics Management**, Vol. 23, No. 3, pp. 29-37.

Wong AKC (1997) **The development of multimodal transport systems in China**, Unpublished PhD Thesis, Department of Maritime Studies and International Transport, Cardiff University.

Woxenious J (1998) **Development of small-scale intermodal freight transportation in a systems context**, Rapport 34, Department of Transportation and Logistics, Chalmers University of Technology, Goteborg.