

Laos beef cattle industry¹

Highlights

- Laos is a small beef producer in the Southeast Asian region.
- Production is mainly traditional crop-livestock systems predominated with yellow cattle. Market-oriented systems are not yet popular.
- Shortage of feed is a critical constraint for increasing cattle production and productivity.
- The processing sector is at a primary stage, largely dominated by licensed small scale slaughterhouses.
- Beef production in Laos has been able to meet the relatively modest demand for livestock products within the country.
- Buffalo and cattle from the Laos are in demand, particularly in the People's Republic of China, Thailand, and Viet Nam.
- Laos is a transit country for cattle in the Mekong region. Traders often source cattle from Thailand to supply markets in Vietnam and China. Cross-border price differentials played a crucial role in shaping the cattle trade patterns.

¹ Dominic Smith (UQ/HELVETAS), Luong Pham (HELVETAS), Aloun Phonvisay (LRC) and Khamson Sisaath (LMD) (2015), The Lao Beef Industry in "Regional Workshop on Beef markets and trade in Southeast Asian and China", Ben Tre, Vietnam, 30th November – 3rd December, 2015

1. National industry

1.1. Background

Laos is a small landlocked country located at the heart of the Greater Mekong Sub-region. The population of Laos was approximately 6.8 million in 2013, which consists of multiple ethnic groups (World Bank, 2014). Over 70 percent of the population lives in rural area and largely depends on rice-based agriculture and the use of natural resources for their livelihoods (NAFRI & IPSARD, 2013).

While GDP in the country has grown at a robust 7.8% annually averaged over the period 2000-2013, the growth of agriculture has been modest, at a 3.2% annual average over this period (ADB, 2014). The contribution of the agricultural sector to the national gross domestic product has declined from 48% in 2000 to 27% in 2013 (ADB, 2014).

In export markets, Lao PDR can be classified as a “transit” country for cattle in the Mekong region. The production of livestock in the country is sufficient to meet the relatively modest demand for livestock products within the country. Buffalo and cattle from the Lao PDR are in demand, particularly in China and Viet Nam. Farmers have no difficulty selling their livestock, but traders are unable to source enough animals to supply the urban markets and find it easier to source supplies from Thailand. This poses a risk that rural smallholders will become excluded from supplying the urban meat market, where demand is highest.

1.2. Macro production statistics

The statistics² in Table 1 provide overview of the cattle and beef industry in Laos. The country had 1.71 million cattle head (including draught and dairy cattle) in 2013. The turnoff number was 224,000 in 2012 with an average growth of 2.9% annually. The low turnoff rates indicate the un-commercialised beef cattle systems. Beef consumption per capita in Laos was estimated at 4.23kg in 2013 with an annual growth of 2.4%.

Table 1: Key facts about the industry 2000-2013

		Compounded Annual growth (%)
Herd size (million head 2013):	1.71	2.8%
Turn off/slaughter (million head 2012)	0.22	2.9%
Turn off rate/Slaughter rate (% 2012)	13	0.2%
Cattle meat (thousand tonnes 2013)	28.6	4.1%
Cattle meat supply (kg/person 2013)	4.23	2.4%

Source: adapted from FAO (2014)

According to the Agricultural Census Office (ACO, 2012), there were almost 783,000 farm households in Laos. 297,000 farm households (or 38% of the total farm households) had cattle. Table 2 shows the number of farm households with cattle in three regions. About 27% of total farm households in the northern region had cattle whereas 50% and 32% of total farm households in the central and southern regions had cattle respectively.

² FAO data.

Table 2: Numbers of farm households with cattle

Region	No. farm households ('000)	No. farm households with cattle ('000)	
		Numbers	% of total farm households
Northern	288.9	78.6	27
Central	336.4	168.4	50
Southern	157.5	50.1	32
Whole country	782.8	297	38

Source: ACO (2012)

Table 3 compares farm households with cattle between 1999 and 2011 in three regions and the whole country. Over the period, the number of farm households with cattle increased by 30%. The average number of cattle per farm household increased by 17% from 4.5 to 5.3 head which indicated the increasing trend of smallholders' capacity to raise their cattle productivity. In the northern and central regions, the average number of cattle per farm household increased by 28% and 17% respectively from 1999 to 2011. An increasing access to input services such as veterinary services may contribute to increase cattle productivity.

Table 3: Comparison of farm households with cattle between 1999 and 2011

Region	Farm households with cattle ('000)		No. of cattle ('000)		Average numbers of cattle per farm household		
	1999	2011	1999	2011	1999	2011	Change (%)
Northern	56.1	78.6	198.6	355.3	3.5	4.5	28
Central	107.1	168.4	522.2	958.2	4.9	5.7	17
Southern	40.8	50.1	199	272.7	4.9	5.4	12
Whole country	208.1	297	944.1	1586.2	4.5	5.3	17%

Source: ACO (2012)

Table 4 presents cattle herd sizes or percentage of cattle holdings in three regions and the overall figure for the whole country. About 58% of cattle farm households (equivalent to 172,260 households) had 1-2 cattle. These cattle farm households may be classified as traditional smallholder farmers whose livelihood focus in on diversified subsistence agriculture. They tended to live in more remote locations, and cattle were often regarded as accumulating capital or asset which was sold when cash is needed. Cattle seemed to be raised in extensive grazing systems with low cattle productivity and high mortality especially of young cattle. Low labour and capital inputs were expected to be found in these smallholder production systems.

In contrast, 28% of cattle farm households (83,160 households) had 5-9 cattle. These smallholder farmers may be regarded as smallholders who started to adopt more crop-livestock diversified and market-oriented production systems. They may be located in areas with high market access with increasingly specializing in producing many cash crop and cattle products. About 11% of cattle farm households (32,670 households) had 10-19 cattle. These smallholder farmers may be also regarded as diversified and market-oriented crop-cattle producers at the later stage, and may be ready to become specialized cattle farmers if they were able to increasingly access to credits, technical assistance in farm management and technologies, and input services.

There were only 3% of cattle farm households (8,910 households) having more than 20 cattle. A high proportion of these cattle farm households were found in the central region.

Table 4: Cattle herd sizes as a percentage of cattle holdings

Region	Cattle herd size (% of cattle holdings)					Average cattle per cattle holding
	1-2 head	3-4 head	5-9 head	10-19 head	20& over head	
Northern	42%	25%	22%	8%	2%	4.5
Central	30%	24%	28%	14%	4%	5.7
Southern	29%	29%	31%	11%	2%	5.4
Whole country	32%	26%	28%	11%	3%	5.3
No. farm households ('000)	95.04	77.22	83.16	32.67	8.91	

Source: ACO (2012)

2. Regional distribution

Figure 1 presents trend of cattle herd population in the northern³, central⁴ and southern⁵ regions of Laos from 2001 to 2013. The overall trend of cattle herd population in Laos has increased. Cattle population mainly concentrates in the central region which accounted for almost 943,000 head or 55% of the total cattle population in Laos in 2013 while cattle population in the northern and southern regions accounted for 25% and 20% of the total cattle population in Laos respectively.

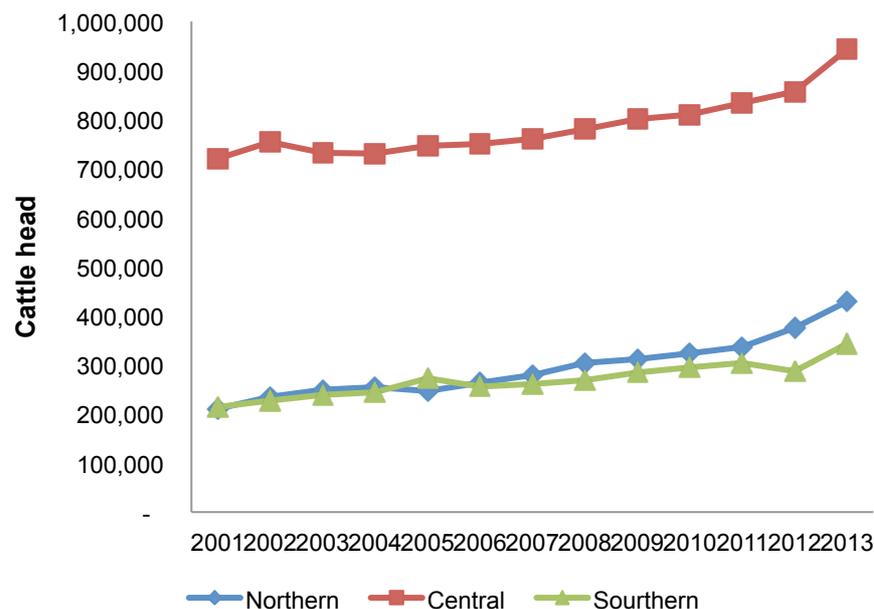


Figure 1: Cattle distribution (head) over three regions in Laos

Source: DLF (2013)

³ Northern region includes 7 provinces, namely Phongsaly, Luangnamtha, Oudomxay, Bokeo, Luang Prabang, Huaphanh and Xayabuly

⁴ Central region comprises 6 provinces, namely Vientiane Capital, Xieng Khouang, Vientiane, Bolikhamxay, Khammuane and Savannakhet

⁵ Southern region comprises 4 provinces - Salavan, Sekong, Champasak and Attapeu

3. Policies and Programs for Industry Development

The Laos Government and international donors have recognized the importance and potential for developing the smallholder cattle industry through the improvement of cattle productivity since 1990s. In order to overcome major constraints in cattle production systems, the government with the assistance of donor funds has focused on building the capacity of extension services, disease surveillance and monitoring procedures, and the improvement of animal husbandry by using forage interventions.

For example, the Strengthening of Livestock Services and Extension Project (SLSEP) conducted in collaboration with the Department of Livestock and Fisheries (DLF) was funded by the European Union (EU) between 1998 and 2004. Donor assistance has also been made available to support the government agencies that are responsible for disease diagnoses and vaccine production. Other projects have focused on improving natural feeds for large ruminants and pigs. For instance, the Forages and Livestock System Project (FLSP), which was funded by AusAID from 2000 to 2005, focused on trialing and adapting the use of suitable forage species by farmers via the cut and carry system. The Livestock Farmer Support Project (LFSP) funded by the EU since 2005 has also aimed to increase the profitability of livestock farmers through improving livestock marketing systems, animal health, animal nutrition and animal husbandry. The largest current livestock development project operating in northern Laos is the Northern Region Sustainable Livelihoods through Livestock Development Project funded by the Asian Development Bank and other donors which has the immediate objectives of enhancing smallholder livestock systems and community capacity building.

Recently, the government has established the National Coordination Committee in implementing the Project of Promotion of Livestock Commercialized Products and the Project of Food Security in the late 2013. The established Committee comprises key relevant ministries whereas the Ministry of Agriculture and Forestry, and the Ministry of Industry and Commerce take the lead in implementing the project. This Committee is expected to smoothly coordinate relevant ministries for the Government Project, and provide more intra-institutional policy and development for stimulating the project implementation. Cattle are considered as the government's most prioritized livestock commodity due to significant increase in demand for beef in domestic and international markets. In this regard, the policies have been drafted which covers relatively a wide range of livestock sections including production, processing, finance, environment, commerce and marketing, but specifically focus on financial supporting policies and programs for livestock-input providers, livestock farmers and entrepreneurs, and processing and marketing entrepreneurs. Key challenges to these livestock policies are to what extent cattle smallholder farmers participate in and benefit from this cattle industry development.

Overall, the national policy and programs for the development of the cattle industry has generally focused on promoting intensification of smallholders' cattle production systems through improvement of animal health management and forage intervention. The question is whether there is another entry point for effective technological and management intervention to improve smallholders' cattle productivity, considering cattle raised by smallholders in different agro-ecosystems and socio-economic conditions.

4. Inputs sector

4.1. Feed

MAF (2013) estimated that there were 654,300 ha of grazing lands in Lao PDR and 1.14 million ha of forest areas. Of 654,300 ha of grazing lands, about 7,300 ha of grazing land is in lowlands while almost 490,000 ha of grazing land is in uplands (almost 75% of the total grazing lands); 9,900 ha of grazing land in highlands, and 147,300 ha of scattered grazing land in lowlands (each plot was no more than 300 ha). Definition of grazing lands remains ambiguous. Most cattle grazed in various unproductive land types including degraded forests, fallows and seasonal rainfed rice fields. Defining and zoning strategic grazing lands are necessary as the fundamental unit for cattle development.

The grazing land areas in the uplands in Laos may be suitable to extensive cattle production systems due relatively large areas of grazing resources. Adopting intensive cattle production systems such as overstocking in the uplands may be vulnerable to soil degradation and erosion unless forages were growth, but this would increase household labour and input costs. In contrast, grazing land areas in the lowlands may be suitable for semi-intensive and intensive cattle production. In these lowland areas, many smallholder farmers were also able to access to input services and by-product crops that were used for supplementary feed.

Although industrial animal feeds are important inputs of intensive and semi-intensive livestock husbandry, domestic animal feed processing industry in Laos remains uncompetitive in spite of opportunities for the development of maize and soybean. The limitation to attracting private investment has led to only small and medium enterprises engaging in the industry. Due to inability of the domestic enterprises to compete with foreign feed enterprises particularly in China and Thailand in terms of production costs, maize is therefore exported completely to neighboring countries for animal feed processing.

A number of crops are grown in relatively large scale in Laos. These produce by-products that can be used as cattle feed (MAF 2013). There were about 3.2 million tons of lowland rice (including rainfed and irrigated rice production) produced in 2013, which implies that a significant quantity of by-products (at least 3.1 million tons of rice straw) would be available. These by-product crops of rice can be fed to cattle up to almost 1.7 million head. Other strategic crops included cassava, maize, sweet corn and sugarcane. Overall, the production of crop by-products from these strategic crops can be up to 11 million tons which can be fed to up to about 5 million head of cattle. Policy intervention should focus on creating a cattle feed industry which uses the large quantity of by-product crops as cattle feed ingredients.

4.2. Breeds and breed improvement

The cattle herd in Laos consists of mainly of native yellow cattle, with H'mong cattle present in the H'mong areas of northern Laos. These breeds are small and well adapted to the prevailing conditions in Laos. Attempts have been made in the past to introduce exotic breeds such as Brahman for cross breeding but in most cases these have been unsuccessful. Mortality in introduced breeds is extremely high, as they are not suited to the climate and their feed requirements are much higher than native cattle.

4.3. Disease and veterinary service

In Laos, about 56% of cattle farm households (166,320 households) are reported to have vaccinated their cattle (see Table 5). High vaccination rate were found in the central and southern region. About 38% of cattle farm households reported to have vaccination to their cattle in the northern region. Low vaccination rate in this region may reflect the smallholders' cattle farm management in particular upland agro-ecological zones. For example, many smallholder farmers that raised cattle in large fallow areas and communal grazing land areas particularly in uplands had difficulty in bringing their animals for vaccination because the animals tended to become wild. Furthermore, these cattle production systems appeared to be

located in remote areas which made many smallholder farmers have difficulty in accessing veterinary products and services.

Table 5: Farm households with vaccination

Region	No. farm households with cattle ('000)	% vaccinated cattle
Northern	78.6	38%
Central	168.4	62%
Southern	50.1	63%
Whole country	297	56%

Source: ACO (2012)

5. Cattle production systems

In general, cattle and buffalo are raised in extensive systems largely based around seasons and cropping cycles. During the wet season when crops are grown, animals required for draught power or manure are generally tethered in makeshift housing near the smallholder's home away from cropping areas, while others are taken into forest areas to prevent crop damage. During the dry season, cattle usually graze freely on cropping land and on communal land with feed shortages common. However, there has been some development in feeding forages to cattle in parts of Laos. But feed availability is still constrained in many areas. In southern Laos for example, there is very little feeding of cattle using forages. This is due mainly to the harsh conditions and poor land quality. The most fertile land is taken up with rice production, and while there is significant common land for grazing, overstocking and general poor land condition mean that feed for cattle is in extremely short supply.

Due to the fact that smallholder cattle are primarily raised in small-scale production systems, the cattle productivity remains relatively low comparing to global average. The average carcass weight of Lao cattle is about 125 kg in comparison with 181kg of the global average. As a result, the annual meat production per capita only reaches 21.3kg per person per year while the regional average is 30 kg per person per year (FAOSTAT 2012). This suggests that Laos needs more efforts to expand its cattle population and raise its productivity in order to meet demand of domestic market as well as export to neighboring countries (NAFRI&IPSARD 2013).

6. The processing sector

Slaughterhouses at local level will be supplied by traders, but in districts where there is low demand, the slaughterhouse owners will go to the villages to purchase livestock directly. Most local slaughterhouses will slaughter up to 3 or 4 head per day, with the quantities in Pakse being much higher due to greater demand for meat in that area. In Vientiane slaughterhouses, the volume of cattle traded by individual supplies varies from 2 head per day for Nongduang slaughterhouse, up to 30 head per day for the largest trader supplying Dondu slaughterhouse.

Abattoir design, construction, and operation are traditional and do not meet regulations for hygiene, environment, and animal welfare. Observations of existing provincial and district abattoirs identified several features that are critically noncompliant to food safety, including unsealed, cracked, and broken cement slaughter floors; wooden butchery benches; open air facilities without insect screens; inadequate drainage and treatment of waste; unsanitary water used in cleaning and processing; inadequate separation of live animal, slaughtering, and processing; inadequate lighting; inadequate provision for animal welfare (holding pens, drinking water); soil contamination from unsealed transport access; absence of chilling and cold chain; inadequate cleaning operations; and absence of records of daily cleaning.

7. Laos Cattle Marketing and Trade Systems

In Laos, cattle production is dominated by smallholders who have limited access to market information, and export markets that increasingly demand high quality beef. Marketing at the village level is conducted by cattle collectors and middlemen who live in the same village (Figure 2). On average, there are 1-2 collector/middlemen in each village. Most collectors do not possess trade license, which means that they only operate at village level. Transactions are in cash payment.

Small traders/collectors at village and district level buy animals and move them by trekking over small roads and tracks to the nearest truck loading point. Larger traders based in major towns organise collection by truck and supply the urban market, as well as exports and border trade. In each district, there are about large ruminant traders, each with a capacity of trading about 8-20 cattle per week. Each cattle trader deals with 5 to 10 cattle collectors.

Pricing among traders downstream of the chain is exclusively done on a “per-slaughter-output-kg” basis.

Inter-provincial and trans-boundary trade requires movement permits consisting of documents obtained from different offices against the payment of fees and taxes. Taxes are variable (per head), while fees are fixed (per set of document). Bulking animals thus helps reduce permit cost (Lüthi, 2010). The latter vary across districts. Taxes and fees are collected by respective District Agriculture and Forestry Offices.

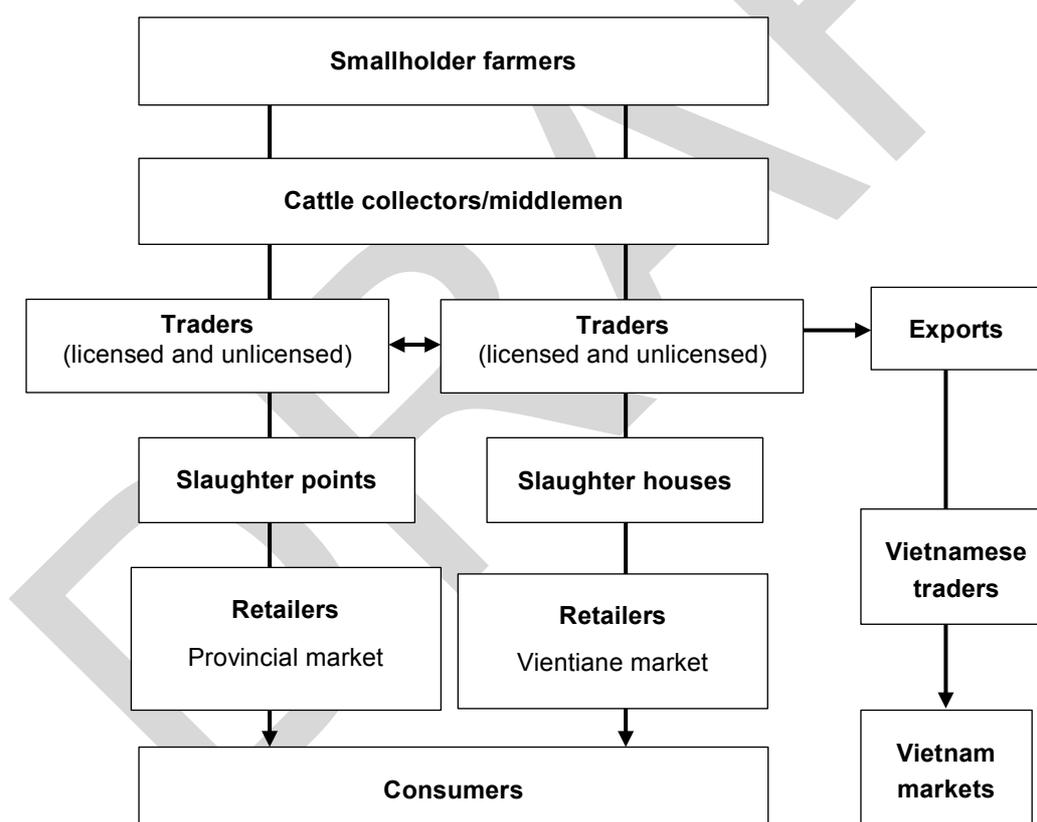


Figure 2: Cattle market chain in Laos. Source: adapted from Lüthi (2010)

8. Beef markets and consumption

DLF (2014) estimated that in 2013 beef product consumption in Laos accounted for almost 24,000 tons while buffalo meat products accounted for about 18,000 tons. Fish, pork and poultry products had the highest figures accounting for about 104,000 tons, 63,000 tons and 47,000 tons respectively.

Table 6 shows beef consumption⁶ in the some provinces and the whole country in 2013. DLF estimated that about 15% of the total cattle herd was slaughtered annually. The average weight of slaughtered cattle was 170 kg, and 54% of the cattle weight was carcass. Overall, in 2013 beef consumption in Laos was estimated at almost 24,000 tons with consumption per capita of 3.5 kg.

Table 6: Beef consumption in 2013

Province	Beef consumption	
	tons	kg per person
Luang Prabang	933	2.0
Huaphanh	1,022	3.0
Xieng Khouang	1,810	6.3
Vientiane	2,446	4.8
Savannakhet	5,526	5.8
Champasack	2,047	3.0
Whole country	23,823	3.5
<i>Average cattle weight</i>	170	kg
<i>% Carcass weight</i>	54	%
<i>% Cattle slaughtered</i>	15	%

Source: DLF (2013)

With increases in urbanisation and household income, the commodity value chains become more complex as consumers increasingly demand for better quality in their meat products. Such market complexities translate into high transaction costs for smallholder producers. A number of concerns have also been raised about whether smallholder producers are able to compete and adjust effectively to the rapid changes in the market (FAO, 2009). In urban cities such as Vientiane and Luang Prabang Cities, while the average price of domestic beef product has increased more than double from 30,000 kip/kg in 2010 to 70,000 kip/kg in 2013 (Phonvisay, 2013), imports of a number of good quality beef products supplying to the high-end restaurants have increased over the last few years. In a long run, if the smallholder cattle industry in Laos particularly through the improvement of value chains and meat processing has not been systematically promoted, the cattle industry in Laos may be dominated by dominant corporate food companies controlling the value chains for agricultural inputs and a wide range of outputs, thereby holding a very large share of profits and passing costs and risks onto smallholders, as this happens in the poultry and pig industries in Southeast Asia (Delgado et al., 2008).

Although there has been an increasing trend in meat production in the country, meat products appear to be short of supply in both quality and quantity to domestic markets, given a continuous increase in income and population as well as urbanization. DLF estimated that prices of beef, pork and poultry significantly increased by 114%, 50% and 22% respectively from 2010 to 2013.

⁶ Beef consumption includes not only cattle meat, but also other edible carcass products

9. International trade

9.1 Live cattle trade

In Laos, all individuals involved in trade of live cattle in Laos should be licensed. The license issued for trade is specific for the level of movement (provincial, cross-border etc.) and purpose of trade (slaughter, sale). The extent to which this licensing is implemented for other types of traders varies between provinces. In some provinces, only licensed traders can obtain a movement permit for inter-provincial transport of cattle, while other provinces will allow unlicensed traders to obtain a movement permit (Cocks et al., 2009).

According to official statistics, about 7,000 live cattle, 124,000 pigs and 424,000 poultry were imported in 2013 while official numbers of live cattle export to neighboring countries were estimated at about 7,200 head. Official figures of importing animal products through 20 international border check points in 2013 were estimated at 900 tons whereas official figures of exporting animal products were estimated at only 38 tons. There are more than 40 customary border check points in Laos of which figures of imported and exported animal products are difficult to obtain. In Vientiane, DLF (2014) estimated demand for meat products in 2013 was estimated at 18,000 tons comprising 6,000 tons of beef and 12,000 tons of pork, while livestock farms in the Capital could only supply 40% of the total demand. About 60% of the total meat demand was met by importing from other provinces and neighboring countries particularly Thailand.

Laos has also increasingly become a transit hub of trading live animal and animal products in the ASEAN region linking the west to east of the region. In 2013, it was estimated that almost 115,000 live large ruminants and about 322,000 tons of animal products from Thailand were exported to China and Vietnam using Lao roads as a transit (Figure 3).



Figure 3: Pathways of live cattle movement from Laos to Vietnam

Source: adapted from Cocks et al. (2009)

According to Phonvisay (2013), three main channels for live cattle trade were identified: (i) trade between districts within a province (mostly from remote districts to the capital district of the province); (ii) trade between provinces (mostly from the low demand provinces to Vientiane); and (iii) cross-trade border (mostly from the northern provinces to Vietnam). These channels have been affected by the trade rules and regulations imposed by the provincial and district authorities.

Export of live animals which were largely dominated by large ruminants were valued at almost 4.6 million \$US. It accounted for 2.27% of the total agricultural export in 2011. Overall, the share of live animals to total agricultural export has decline dramatically from 9.67% in 2005 to 2.27% in 2011. This indicates that continuously high demand for live animal export may cause stock depletion of smallholder large ruminant herd population.

Cattle movement to Vietnam from Xieng Khouang province

Figure 4 presents the pathways of cattle movement from Xieng Khouang to Vietnam. The province is a significant production and trading area for cattle and buffalo. Official exportation of cattle from Xieng Khouang province to Vietnam is permitted but requires traders to apply for a movement permit and to use the official cross-border checkpoint into Vietnam.

However, unofficial exportation to Vietnam (without a movement permit and through unofficial cross border points) is tolerated by local authorities. In fact, most animals exported to Vietnam

through the unofficial system. The animals are generally moved to Nong Het district, which borders Vietnam, and then cross through unofficial border points.

The traders in Xieng Khouang province source animals, to a greater extent (estimated 80%-90% of exported cattle) from neighbouring provinces of Luang Prabang, Sayabuli, and Vientiane, or from southern provinces of Saravan, Savannakhet and Khammuane. About 70% of cattle exported to Vietnam through Nong Het are local breed cattle as traders are unfamiliar with Brahman and are unable to accurately estimate carcass yield from the cattle. Vientiane capital is an important transaction point in the supply chain for cattle and buffalo moving to Xieng Khouang. Cattle are purchased in the Southern provinces by collectors who then sell to traders from Xieng Khouang (Figure 3).

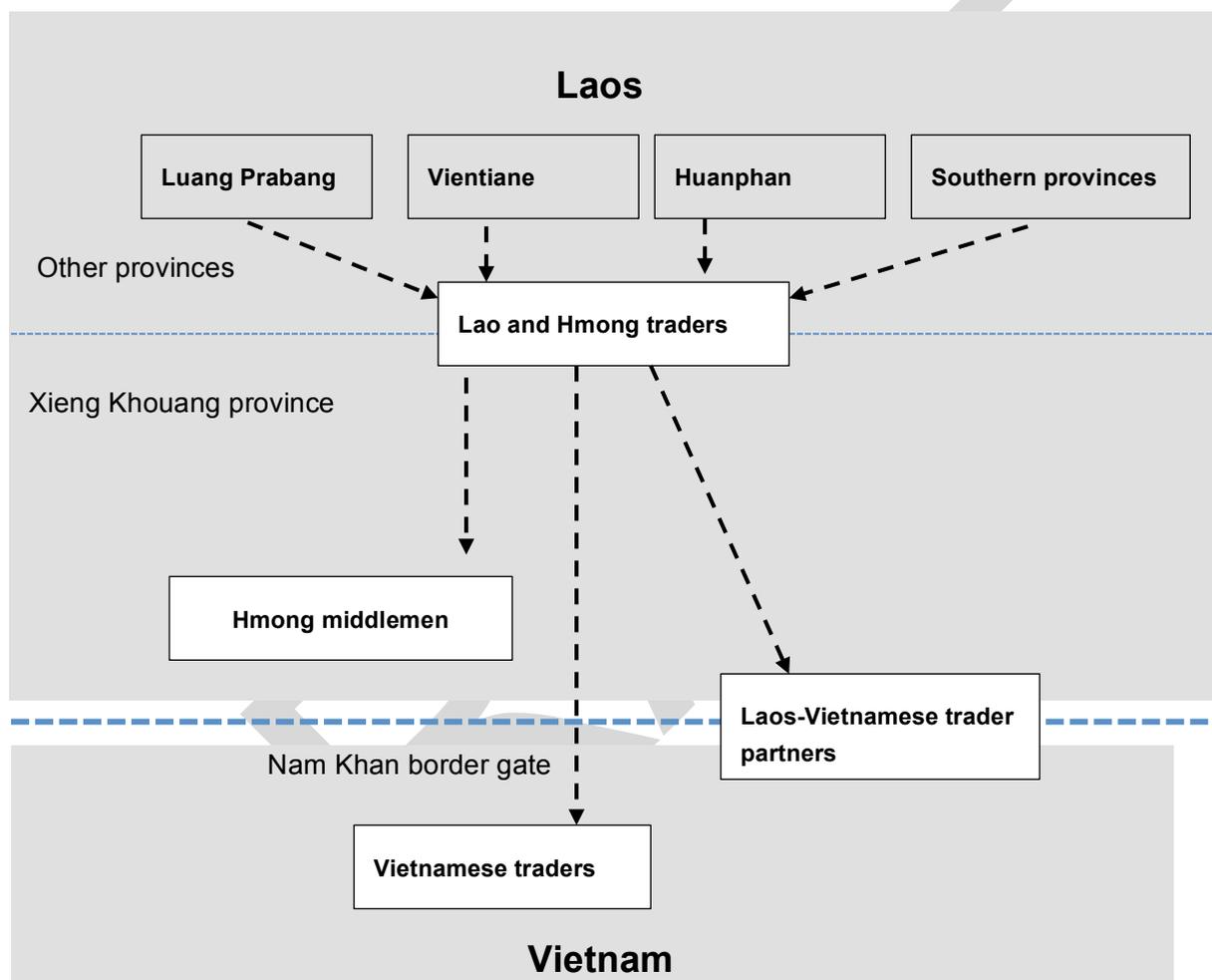


Figure 4: Pathways for cattle movement from Xieng Khouang province to Vietnam

Source: Adapted from Lüthi (2010)

Transit movements from Thailand to Vietnam through the southern provinces of Laos

There is an officially recognized movement of livestock from Thailand to Vietnam, which transits through the Southern provinces of Laos. Most animals being transited follow the officially recognized pathway, but the number of animals being moved is generally underreported by the companies facilitating the movement and by the officials responsible for checking the animals, checking certification and collecting the taxes.

The cattle movements were through three main border gates, including Na Phao - Cha Lo gate, Densavan-Lao Bao gate, and Phou Kheau-Bo Y border gate (Figure 2). See Vietnam cattle profile for further information.

Transit movements from Thailand to China through the north-western provinces of Laos

Since 2009, there have been increasing movements of cattle and buffalo traded from Asian countries to China. Thailand has become the main hub for quarantining and fattening cattle and providing legal trade documents. Cattle come from various sources including Malaysia, Myanmar, Bangladesh and India. One major cattle trade route is through north-western provinces of Laos, namely Bokeo and then Luang Namtha. From the field work, it was estimated that 160 head of cattle and buffalo per day or 58,000 head in 2014 were transited from Thailand to China through this route.

Indigenous cattle trade from Laos to China

Cattle and buffalo in Laos have also increasingly traded to China via Luang Namtha Province. Local traders operate this trading route, and source the animals starting from borders in Cambodia-Laos to Luang Namtha Province and then informally to China. The traders also sourced the animals from other northern provinces such as Xieng Khouang, Luang Prabang and Huaphanh to sell through this route. These traders had the official document process for animal movement which indicated the final destination to Luang Namtha Province. It is expected that the animals would be informally transported to China. The quantity of trading these animals was seasonally fluctuated and remained unknown, but roughly estimated to be 20% of the total large ruminants traded.

Importation of cattle from Thailand into Pakse, Champasak Province

The license, or quota, for importation from Thailand only permits import of cattle and buffalo for consumption within Champasak province. However, the traders operating in this movement hope to gain future permission to expand their trade to supply Vietnam. A quota of 10,000 head (not limited in duration) was provided to a single company which then distributed this quota and provides administrative services to livestock traders. There are four livestock traders, all of which are related, operating in this movement.

The traders from Pakse go to Thailand to source animals and are accompanied by traders from Saravan province who had experience in purchasing cattle in Thailand and assisted with the negotiation and transaction. The animals are selected at livestock markets in Ubon Ratchatani province and a price is negotiated, including purchase price of cattle; transportation to the Lao side of the border; taxes; fees and necessary certification. After passing quarantine for 3-4 days on the Thai side of the border, the animals are delivered to the Laos by the Thai intermediaries, at which point the actual transaction occurs.

Transboundary trade of live large ruminant animals in the Indo-China region may cause a wide spread of transboundary disease particularly Food and Mouth Disease. As Laos has increasingly become a transit hub of this transboundary trade, an epidemic of transboundary diseases could pose a great threat to smallholder cattle population. For example, Elisabeth (2010) found that Ethiopian's livestock exports suffered from repeated trade bans due to importing countries' concerns over trans-boundary diseases. On the other hand, export of meat processing remained small in volume, due to inefficiencies markets, poor animal handling and inadequate facilities, low meat quality and stiff competition.

References

- ACO 2012. Lao Census of Agriculture 2010/2011. Vientiane Department of Planning, Ministry of Agriculture and Forestry.
- ADB. 2014. *Key Indicators for Asia and the Pacific 2014* [Online]. Available: <http://www.adb.org/publications/key-indicators-asia-and-pacific-2014> [Accessed March 15 2015].
- COCKS, P., ABILA, R., BOUCHOT, A., BENIGNO, C., MORZARI, S., INTHAVONG, P., NGUYEN, V. L., , BOURGEOIS-LUTHI, N., SCOIZET, A. & SIENG, S. 2009. FAO ADB OIE Study on CrossBorder movement and market chains of large ruminants and pigs in the Greater Mekong SubRegion. FAO, ADB, OIE and SEAFMD.
- DELGADO, C. L., NARROD, C. A., TIONGCO, M. M., BARROS, G. S. D. C., CATELO, M. A., COSTALES, A., MEHTA, R., NARANONG, V., POAPONGSAKORN, N., SHARMA, V. P. & ZEN, S. D. 2008. Determinants and implications of the growing scale of livestock farms in four fast-growing developing countries. *Research Report - International Food Policy Research Institute*, xiii + 131 pp.
- DLF 2013. Livestock statistics 2001-2013. Vientiane, Lao PDR: Department of Livestock and Fisheries.
- FAO 2009. *The State of Food and Agriculture: Livestock in Balance*, Rome, Italy, Food and Agriculture Organization.
- FAOSTAT. 2014. *FAO statistic databases* [Online]. Available: <http://faostat.fao.org/> [Accessed 10th June 2014].
- LÜTHI, N. B. 2010. *Beef cattle and buffalo trade patterns from Xieng Khouang province, Lao PDR to Vietnam* Msc, The University of London.
- NAFRI & IPSARD 2013. Strategy for Agriculture, Farmers and Rural Development in Lao PDR. Vientiane: NAFRI.
- PHONVISAY, A. 2013. Economic analysis of cattle market and production in Lao PDR (Lao Version). Vientiane: Livestock Research Center.
- WORLD BANK. 2014. *World Bank Database* [Online]. Available: <http://data.worldbank.org/indicator/NY.GDP.PCAP.CD> [Accessed 10 Dec 2014].