Executive Summary

Over the past decade, Vietnam’s national agriculture and forestry initiatives have promoted large scale planting of longan trees under Programme 327 and more recently Programme 661, the ‘5 Million Hectare Reforestation Programme’. Government support for longan expansion has concentrated on the provision of seeds, seedlings, preferential loans, grants and supply of technical skills direct to the farmer through agricultural extension agencies, the Farmers Union and the Gardeners Association. At this time there was little or no regard for market analysis of the supply and demand for either fresh or dried longan at the provincial, national and international market level.

Increased supply through expanded cultivation areas and the introduction of improved varieties in other longan growing regions of Vietnam has had a detrimental effect on the longan sub-sector in Son La province. The research team found that directed interventions in the longan sub-sector have the potential to improve the livelihoods of upland households in Son La province. These interventions should focus on improving quality and yield of longan fruit from existing cultivation areas with the ultimate goal of encouraging the use of low cost/high quality processing techniques at the household level.

Main findings of Son La longan sub-sector analysis:

- Under the 5 Million Hectare Reforestation Programme the area under longan cultivation in Son La increased from approximately 50 hectares in 1992 up to 12,781 hectares in 2001 and has remained stable at that level since.
- The majority of Son La’s longan trees currently produce low quality fruit.
- The majority of Son La’s longan trees produce relatively low yields, with many only bearing fruit once every two seasons.
- The current price of fresh longan is approximately one third of prices achieved five years ago.
- Son La longans have a higher than average sugar content (18-22%). Increased sugar content reportedly produces a higher quality dried fruit.
- Up to 90% of Son La longan is processed (although only between 10-15% at the household level).
- In the past three years some upland farmers have started to replace longan trees with alternative ‘high value’ crops.
## Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AEC</td>
<td>Agricultural Extension Centre</td>
</tr>
<tr>
<td>AES</td>
<td>Agricultural Extension Station</td>
</tr>
<tr>
<td>CEW</td>
<td>Commune Extension Worker</td>
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<tr>
<td>CPRGS</td>
<td>Comprehensive Poverty Reduction and Growth Strategy</td>
</tr>
<tr>
<td>DARD</td>
<td>Department of Agriculture and Rural Development</td>
</tr>
<tr>
<td>DEW</td>
<td>District Extension Worker</td>
</tr>
<tr>
<td>DPC</td>
<td>District People’s Committee</td>
</tr>
<tr>
<td>DPI</td>
<td>District Department of Planning and Investment</td>
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<tr>
<td>FIG</td>
<td>Farmers’ Interest Group</td>
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<tr>
<td>FRD</td>
<td>Foreign Relations Department</td>
</tr>
<tr>
<td>FU</td>
<td>Farmers’ Union</td>
</tr>
<tr>
<td>MARD</td>
<td>Ministry of Agriculture and Rural Development</td>
</tr>
<tr>
<td>NAEC</td>
<td>National Agriculture Extension Center</td>
</tr>
<tr>
<td>NMPRP</td>
<td>Northern Mountains Poverty Reduction Project</td>
</tr>
<tr>
<td>PPC</td>
<td>Provincial People’s Committee</td>
</tr>
<tr>
<td>RIFAV</td>
<td>Research Institute for Fruit and Vegetables</td>
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<tr>
<td>SMACO</td>
<td>Song Ma Agriculture and Cadastral Department</td>
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<tr>
<td>SNV</td>
<td>Netherlands Development Organisation</td>
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<tr>
<td>VS</td>
<td>Veterinary Station</td>
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<tr>
<td>WU</td>
<td>Women’s Union</td>
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</tbody>
</table>
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12. **ANNEXURE**


1. Objectives of the Study

This sub-sector analysis aims to develop a better understanding of the longan industry, its potential, and constraints and to identify Business Service Providers (BSP) in Son La province.

Following are the stated objectives of the Son La longan sub-sector analysis:
1. Understanding the industry: from demand to supply side
2. Outline a broader overview of the sub sector in Son La / and its potential for added value and marketing on the local market; its prospect in wider Vietnam and in export
3. Analysis of existing constraints and opportunities in the market chain of the product
4. Overview of existing Business Service Providers (BSP) in the sub sector
5. Recommendations for existing/potential/emerging BSP for the longan sub-sector.

2. Methodology

The sub-sector analysis was primarily qualitative in nature. In order to achieve the objectives of the study, a combination of desk research and field research was conducted. Given SNV’s strong focus on cross cutting issues, particular attention was paid to gender and ethnicity.

Sampling
The sample group was identified by SNV in conjunction with the taskforce (particularly AEC) and AES staff. Effort was taken to ensure that the sample group was balanced both by gender and ethnicity. Traders and other actors in the market chain were identified primarily through the producers in the sample group. Data was collected via ‘Depth Interview’ and ‘Observation Technique’ (refer annex).

Validation Workshop
The research team conducted a validation workshop with participation of selected members of the longan sub-sector who were identified during the interview process. The workshop was designed to validate the findings from the research and encourage further discussion about opportunities and constraints within the sub-sector that were not identified or expanded upon during the interview process.

Geographical Scope of Sub-Sector Analysis
In consultation with the AEC, the research team identified three districts in Son La province, namely Son La, Song Ma and Mai Son. Within these districts, AES staff were consulted to identify producers within SNV’s ‘target, focus and impact’ groups.

Research Team
The Research Team consisted of:
Phillip Smith (Advisor, SNV Son La)
Tran Hung (Project Assistant, SNV Son La)
Le Anh Tuan (Project Assistant, SNV Son La)
Nguyen Hung Cuong (Office Assistant, SNV Dien Bien)
Cam VanVinh (AEC, Son La)
3. Overview

The expansion of longan cultivation area in Son La province over the past decade has primarily been driven by the national 327 Programme and more recently Programme 661, the '5 Million Hectare Reforestation Programme'. While both of these programmes have successfully increased the area of cultivation they have been essentially limited in scope and have not addressed key market issues such as quality and demand.

In Son La province, longan trees take approximately 4 to 6 years from seedling to the first marketable harvest, hence there was a significant lag-time between the first push for longan production expansion in the early to mid 1990's and when longan supply materialised. The sustained increase in longan cultivation area inevitably lead to massive increases in supply at all market levels.

A simultaneous increase in longan production in southern Vietnam, where the climate is also considered favorable, has undoubtedly contributed to reduced demand and price of Son La longan. In addition, in the mid 1990’s producers in the south began to plant an imported variety of longan from China that yields high quality fruit twice per annum. The climatic spread and resulting harvest times for the southern provinces also mean that traders and wholesalers are able to source fresh longan from southern Vietnam for most of the year.

The over-supply has served to saturate the domestic market (at all levels) during peak harvest times (traditionally between July and September), subsequently prices for fresh Son La product have fallen to as low as 1,000 – 1,500 VND per kilogram in some local markets. Many producers stated that prices are now approximately one third of those five years ago.

Amongst Son La producers, the market saturation has compounded the existing constraints and has resulted in a cycle of negative quality and price returns. The reduced prices obtained for the fruit has discouraged producers from investing further labor and capital, which has resulted in a marked reduction in the quality of fruit and reduced market prices.

Many of the producers interviewed reported that the longan varieties they have are biennial bearing (produce fruit on average once every two years). These trees tend to over-crop one year, producing poor quality fruit and produce a very light or no crop the following year. Further research is needed to confirm if this is due to the variety of longan or tree maintenance problems.

<table>
<thead>
<tr>
<th>Son La Province Longan Cultivation Area</th>
</tr>
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<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>1990</td>
</tr>
<tr>
<td>1991</td>
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<td>2001</td>
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<tr>
<td>2002</td>
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<tr>
<td>2003</td>
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</tbody>
</table>

Source: Son La Department of Statistics, 2003
4. Market Chains

The Son La longan sub-sector has a large number of actors, including input suppliers, producers, processors, traders, wholesalers, retailers, and transport providers. Many similarities exist between the market chain for fresh and processed longan, with the exception of the export market. During the study it was claimed that ninety per cent (90%) of the total longan produced in Son La is eventually processed, and only ten per cent (10%) consumed as fresh fruit. This is attributed to the poor quality of the fruit: minimal flesh and a large seed. The study team was unable to obtain an accurate estimation of how much of the longan is processed at each level of the market chain, however it was generally agreed that only around ten to fifteen per cent (10-15%) was processed at the household level.

Fresh Longan
The market chain for fresh product is relatively well developed, with identifiable linkages between input suppliers, producers, traders/wholesalers and retailers. Refer to Figure 1: ‘Son La Fresh Longan Market Chain’

Local Market
The local market is supplied through producers or local market retailers. The producers, or a representative from the household will transport and sell the product to either:
1. Nearby villages
2. Roadside
3. Local market
4. Retailers (at local market)
Retailers will usually be well known to, and trusted by the producer. They will generally agree to sell the product on a ‘per cent’ basis with the producer not receiving any money until the product has been sold to the consumer.

District Market
Producers who live within transportation range supply the district market. Other sources of supply come through traders/wholesalers and retailers (often under similar circumstances to that which occurs in the local market).

(Inter) Provincial Market
Wholesale/traders were identified as the main source of supply for the provincial market level. In Song Ma district it was claimed that 10 tonne of longan per day was sold through traders to provincial markets, primarily Ha Tay province.

Export Market
Interviews did not identify any fresh Son La longans making the export market. The primary reasons given were lack of suitable infrastructure, distance from markets and poor quality of Son La fresh fruit.
Two producers interviewed had been involved in an attempt to export fresh longan direct to the Chinese market. They hired a truck and transported the longan to the boarder, however when they got there they found that they did not have the right ‘connections’ and were essentially excluded by local traders from conducting business. Due to the perishable nature of the product, they were forced to sell to a local trader for a price similar to that which they would have received from a wholesaler in Son La, despite the fact that they had transported the goods to the market place.
Figure 1. Son La Fresh Longan Market Chain

<table>
<thead>
<tr>
<th>Inputs (non-seed): AEC, AES, Farmers Union, Gardeners Association and local chemical/fertilizer trader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer</td>
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<tr>
<td>Producer</td>
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<td>Producer</td>
</tr>
</tbody>
</table>

Producer to Traders:
- AEC, AES, Farmers Union, Gardeners Association and local chemical/fertilizer trader

Retailer:
- Local Market
- District Market
- (Inter) Provincial Market
- Export Market (eg China)

Markets:
- Local Market
- District Market
- (Inter) Provincial Market
- Export Market (eg China)
**Processed Longan**

There are several different ways that dried longan can be presented, including:

- Whole (with skin and seed)
- Peeled with seed intact
- Peeled and de-seeded

The interviews revealed that the most common form of processed longan in Son La is peeled, de-seeded and dried. The quality of processed longan varied greatly depending on the processing technique used, for example Black Thai households traditionally dry fruit by placing them above the cooking fire inside the house. This technique results in a less desired product that is very dark in colour and has a strong flavour of smoke. Other households have utilized technology from alternative fruit processing models such as ‘solar’ drying technology, to produce a cleaner product that sells for up to twice the price of other techniques. Most of the larger processors in Hung Yen and Ha Tay use techniques that utilize hot air via fans and an indirect heat source. Please refer to Figure 2: ‘Son La Processed Longan Market Chain’ for the product flow from producer to market.

Other forms of processed longan include canning and powdered (for use as a herbal medicine), however no evidence of either was found in Son La province.

**Local Market**

The interviews identified that the demand for processed longan at local market level was still very low. The local market is supplied either direct by the producing household, or through a local level retailer, often with similar payment arrangements to that of fresh longan.

**District Market**

The district market is supplied by small scale local producers, through local and district level retailers and also through processors/traders.

**(Inter) Provincial Market**

Wholesale/traders were identified as the main source of supply to the Hanoi market. Other sources also came both directly and indirectly (usually through the wholesalers) from Son La traders/processors and retailers.

**Export Market**

Indirectly the export market accounts for a large per cent of Son La’s processed longan, however it is clear that the value chain is heavily weighted towards the wholesalers located in other provinces, ie Hay Tay, Hung Yen and Nam Dinh. Wholesalers/processors from these provinces reportedly buy all qualities of processed longan from Son La. The product is then graded and the majority exported to the China market. This study was unable to confirm prices that are paid by the Chinese market for processed longan, however traders/processors paid up to 90,000 VND per kilogram for high quality processed longan from Son La, and from 20,000 to 30,000 VND per kilogram for low quality.

Interviews with traders/processors from Hung Yen province revealed that the preferred market chain originates from southern Vietnam because of the high quality of fruit and regular supply.
Figure 2. Son La Processed Longan Market Chain

Inputs (non-seed): AEC, AES, Farmers Union, Gardeners Association and local chemical/fertilizer trader

Inputs

Producers

Processors/Traders

W/sale Traders

Retailer

Markets

Producer

Producer

Producer

Producer

Producer

Local Market

District Market

(Inter) Provincial Market

Export Market (eg China)

Fresh Longan Market Chain (see Figure 1)

Trader/Wholesaler

Son La Processors/Traders

Wholesale Traders (Ha Nam, Nam Dinh, Hung Yen, Ha Tay, Hanoi)
5. Pricing

Obtaining accurate prices past that received by the producer was extremely difficult and is considered a serious limitation of this study. Questions asked of traders and wholesalers were often ignored or the response was vague and the responses that did address the question varied so much (sometimes up to 200%) that it is not possible to provide an accurate answer.

Fresh Longan
On average, producers received between 1,500 to 3,500 VND per kilogram, with some receiving as little as 1,000 VND and one producer, well known for the quality of his fruit and seeds, receiving up to 9,000 VND per kilogram. A common response in the interviews was that longan prices have dropped to about one third of what they were five years ago.

Processed Longan
The price obtained for dried longan is directly linked to the processing technology used. Lesser quality processed longan (dried over a coal fired) will sell for between 20,000 to 30,000 VND per kilogram, while products dried using alternative ‘clean’ technology (ie solar) can sell for up to 90,000 VND per kilogram.

Advantages of processing longan for upland households
Processed longan has several comparative advantages over fresh longan:
1. Increased market price
2. Extended product life
3. Increased potential take advantage of market cycles
4. Reduced bulk and weight to transport to market

Further investment required:
1. Processing technology
2. Processing skills
3. Processing labor
4. Education (processing techniques, negotiating skills, market identification etc)
5. Packaging
6. Storage (potentially)

During the interviews it was stated that approximately 10 kilograms of fresh Son La longan is required to produce between 1.1 to 1.3 kilograms of processed longan. At current prices a Son La producer expects to receive an average of 2,500 VND per kilogram for fresh, and between 20,000 to 30,000 VND for low quality and 60,000 to 90,000 VND per kilogram for high quality processed longan. Therefore at current prices and assuming the of use suitable technology, approximately 25,000 VND per kilogram of fresh longan can be worth approximately 60,000 VND per kilogram of processed longan (minus cost of processing technology and labor).

What are the key factors influencing pricing?
Saturation of Vietnam’s longan market has inevitably led to a decrease in the price commanded at all levels of the market chain. Son La producers have been particularly badly affected by this due to the relatively poor quality of fruit, poor quality and access to suitable infrastructure, difficulties in accessing markets, increased competition (particularly from southern provinces), a lack of government
policies addressing the longan industry and a lack of detailed market information available to the producers and market chain actors closest to the production level.

6. Product and price information

As previously mentioned, the research team was unable to sufficiently identify price information and its flow from/to traders/processors and the next level in the market chain. We can say that the flow of product and pricing information channels are poorly developed from consumer back to the producer and vice versa. The interviews identified that Son La producers rely primarily on three sources of product and pricing information:

1. Traders/processors – farmers are forced to rely on traders/processors for information on pricing and how the product will be used (potential for value adding). This leads to an inevitable conflict of interest on the traders behalf and stories of under pricing and in accurate measuring techniques are extremely common.

2. State owned media (VTV2) – during the harvesting season this government television station regularly broadcasts the price of fresh longan fruit. However, the prices stated on this channel rarely reflect the actual prices obtained ‘at the gate’ and seem to be more reflective of the price that traders can expect to receive from wholesalers at the national level. Farmers need to understand the relationship between the broadcast price and farm gate price.

3. Informal networks – farmers have developed effective informal information sharing networks that include locally obtained prices, however this information is not necessarily accurate at the provincial and national levels and is often still dependant on information from traders and processors.

7. International Market Scenario

Thailand, China and Taiwan are currently the main centres of commercial production, with the majority of the fruit produced in these countries being consumed fresh by domestic markets. The exception to this is Thailand, which has a large scale export business of canned fruit, including longan and lychee.

China was the only export destination identified. Logically, this market consumes its own product fresh and imports processed fruit from Vietnam for consumption and also to be further processed for use in traditional herbal medicine. This study was not able to identify these techniques, however the product is used either in its whole dried form or as a powder.

Demand also exists in countries that have large numbers of Asian expatriates, particularly from Thailand, China, Taiwan and Vietnam, however the demand is primarily for high quality fresh fruit. Some of these countries, such as Australia, are attempting to cultivate longan to meet domestic demand and also to take advantage of the difference in harvest times.
8. Gender and Ethnicity

Longan production, from plantation through to harvest is traditionally a male dominated role. From the point of harvest through to local fresh markets sees a more equal gender balance. Of the few households that were involved in processing of longan, women played a major role in the preparation and drying of the product.

Most ethnic groups were represented in the study, however the producer level was dominated by Black Thai and the processor/trader level was dominated by Kinh. The research team believes that a wide spread of ethnic minority groups are involved in longan farming and that interventions would have the potential to reach the ‘impact group’.

9. Business Service Providers

The BSP market for the longan sub-sector in Son La is weak from both the supply and demand side. The BSP’s are predominately state-owned companies that have enjoyed either direct government subsidies or through programmes such as 327 (661). Demand oriented stimulation of the BSP market will no doubt encourage growth in this area. Listed in Table 1 are the current and perceived potential BSP’s for the Son La longan sub-sector.

| Table 1: Son La Longan Sub-Sector Business Service Providers |
|----------------------------------|-----------------|-----------------|
| BSP Sector                       | Current         | Potential       |
| Input & Supply                   | Local pesticide/fertilizer retailers | Farmers Union Gardeners Association Dept of Science and Technology Son La Seed Company |
| Training and technical assistance| AEC/AES Farmers Union | Gardeners Association Dept of Science and Technology Son La Teacher Training College |
| Market access                    | N/a             | DoI DoTT Private traders Media |
| Infrastructure                   | Xe Om Bus companies Truck drivers |
10. **Opportunities and Constraints**

Listed below in tables 2 and 3 are the opportunities and constraints as identified by the research team. Table 4 outlines potential interventions to address the existing constraints.

**Table 2: Opportunities**

<table>
<thead>
<tr>
<th>1.</th>
<th>Climatic and soil conditions in Son La are favorable for longan growing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Demand for longan is stable (particularly processed)</td>
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<tr>
<td>3.</td>
<td>Son La longan is reported to have a higher than average sugar content, which has potential to produce high quality dried product</td>
</tr>
<tr>
<td>4.</td>
<td>Potential for processing longan at the household level</td>
</tr>
<tr>
<td>5.</td>
<td>Potential to improve longan quality through currently available expert knowledge from Gardening Association and Farmers Union</td>
</tr>
<tr>
<td>6.</td>
<td>Potential to diversify processing technology to include canning.</td>
</tr>
</tbody>
</table>

**Table 3: Constraints**

<table>
<thead>
<tr>
<th>1.</th>
<th>Large price fluctuations in fresh and dried fruit</th>
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</thead>
<tbody>
<tr>
<td>2.</td>
<td>Traders/processors determine quality/price of fresh and dried longan at point of sale</td>
</tr>
<tr>
<td>3.</td>
<td>Processed longan market depends almost entirely on traders from Ha Nam, Nam Dinh, Hung Yen, Ha Tay and Hanoi</td>
</tr>
<tr>
<td>4.</td>
<td>Limited technical knowledge of farmers in longan production technology</td>
</tr>
<tr>
<td>5.</td>
<td>Fruit yield unreliable (often only once every two years)</td>
</tr>
<tr>
<td>6.</td>
<td>Limited processing knowledge at household level results in low level processed good</td>
</tr>
<tr>
<td>7.</td>
<td>Lack of adequate infrastructure, particularly transportation facilities to carry inputs and take produce to selling centers</td>
</tr>
<tr>
<td>8.</td>
<td>Lack of systematic and organized marketing activities for Son La longan (fresh and dried)</td>
</tr>
<tr>
<td>9.</td>
<td>Lack of developed market chains</td>
</tr>
<tr>
<td>10.</td>
<td>No specified policies supporting production, processing and marketing of longan</td>
</tr>
</tbody>
</table>
11. Interventions

Several levels of intervention are recommended to ensure that poor upland households in Son La province are able to maximize their income from prior investments in the longan sub-sector. Outlined below are some initial suggestions, however further discussion should occur with the Son La Taskforce to ensure that a viable and effective intervention plan is designed and implemented. Please see Table 3 for full list of potential interventions in the longan sub-sector.

Access to information
Improved access to information relating to best practice agricultural techniques, post-harvest processing technology, market information (with an emphasis on price and product demand) and market identification is required at the production level. A clear and feasible strategy needs to be developed to ensure producers can easily access current market prices at all levels of the market/value chain.

Product development
At current prices, there is an opportunity to improve the income of primary producers by identifying and introducing low cost/high quality processing and storage techniques at the household level. This may reduce reliance on current market prices by allowing producers to process and store the product until an optimal market price can be obtained.
A clear and feasible strategy needs to be developed to ensure producers can easily access current market information for the demand of the product (specifically fresh or dried).

Training
Producer training in marketing, processing, mixed garden improvement technique and simple financial calculations should be conducted.
Marketing: Market identification, demand for products, price, promotion.
Technology: Best practice processing technology (with a focus on clean and renewable)
Technique: grafting, caring, developing nurseries
Financial: Basic cost/benefit calculations to assess the benefits of processing or not processing at the household level.
Policy: Review of current provincial policy. Stimulation of policy review based discussion at the provincial level.
<table>
<thead>
<tr>
<th>Constraint</th>
<th>Business Service Provider Sector</th>
<th>Suggested Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Large price fluctuations in fresh and dried fruit</strong></td>
<td><strong>Market Access</strong>&lt;br&gt;SMACO/RIFAV&lt;br&gt;DOST&lt;br&gt;DoTT&lt;br&gt;AEC/AES&lt;br&gt;FU&lt;br&gt;Gardeners Association (GA)</td>
<td>- Identify ways in which producers can better take advantage of market cycles. Processing will allow for longer product life and will enable producers to enter market when it suits them. (Need to be aware that cyclical demand is a big part of Vietnamese culture).&lt;br&gt;- Work with BSP to improve quality fruit&lt;br&gt;- Work with BSP to promote stable output/supply&lt;br&gt;- Work with BSP( DoTT, AEC/AES) to provide import and domestic market information related to price of both fresh and dried longan.</td>
</tr>
<tr>
<td><strong>Traders/processors determine quality/price of fresh and dried longan at point of sale</strong></td>
<td><strong>Input and Supply</strong>&lt;br&gt;FU&lt;br&gt;GA&lt;br&gt;AEC/AES</td>
<td>- Provide ToT style training to BSP re classification/sorting of fruit quality to ensure producers can achieve optimal income&lt;br&gt;- Work with BSP (AEC/AES) to identify and strengthen market information channels (including price) at all levels</td>
</tr>
<tr>
<td><strong>Processed longan market depends almost entirely on traders from Ha Nam, Nam Dinh, Hung Yen, Ha Tay and Hanoi</strong></td>
<td><strong>Market Access</strong>&lt;br&gt;DoTT&lt;br&gt;SLTTC</td>
<td>- Work with BSP to identify and develop alternative markets&lt;br&gt;- Post and update dried longan information on Son La DoTT website</td>
</tr>
<tr>
<td><strong>Limited technical knowledge of farmers in longan production technology</strong></td>
<td><strong>Training and Technical Assistance</strong>&lt;br&gt;FU&lt;br&gt;GA&lt;br&gt;AEC/AES</td>
<td>- Identify suitable BSP and provincial staff for ToT course in optimized longan production technology and techniques.</td>
</tr>
<tr>
<td><strong>Fruit yield unreliable</strong></td>
<td><strong>Input and Supply/Training and Technical Assistance</strong></td>
<td>- Identification of biennial species. SMACO &amp; RIFAV are currently involved in a joint programme to classify fruit tree varieties. (SM District Agr &amp; Cadastral Dept)</td>
</tr>
<tr>
<td>Issue</td>
<td>Sectors</td>
<td>Actions</td>
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<td>----------------------------------------------------------------------</td>
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</tbody>
</table>
| Limited processing knowledge at household level results in low level processed good | Training and Technical Assistance                                      | - Taskforce to identify different types of processing technology and conduct a cost/benefit analysis on selected types  
- Pilot study with processing technology established within a ’processing cluster’ at village level  
- Training on value added products and brand development |
| Lack of adequate infrastructure, particularly transportation facilities to carry inputs and take produce to selling centers | Infrastructure                                                          | - Establish production/processing clusters (ie per village) and arrange for bulk purchase and transportation of inputs to households and transportation to local, national and international markets  
- Identify trusted sources of transportation and advise/encourage stable/transparent fee structure and business practices |
| Lack of systematic and organized marketing activities for Son La longan (fresh and dried) | Market Access/Training and Technical Assistance                          | - Priority is to improve quality and quantity of longan processing at the household level. Once achieved, marketing activities should be considered( provide training on marketing to local traders) |
| Lack of developed market chains                                       | Market Access                                                           | - Facilitate and advise sub-sector actors on the identification and formation of transparent market chains at the local, national and international level |