

CHAPTER 7

Developing West-Northern Provinces of Vietnam: Challenge to Integrate with GMS Market via China-Laos-Vietnam Triangle Cooperation

Phi Vinh Tuong

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DEVELOPING WEST-NORTHERN PROVINCES OF VIETNAM: CHALLENGE TO INTEGRATE WITH GMS MARKET VIA CHINA-LAOS-VIETNAM TRIANGLE COOPERATION

Phi Vinh Tuong

INTRODUCTION

The economy of Vietnam has benefited from regional and world markets over the past 20 years of integration. Increasing trade promoted investment, job creation and poverty reduction, but the distribution of trade benefits was not equal across regions. Some remote and mountainous areas, such as the west-northern region of Vietnam, were left at the margin.

Even though they are important to the development of Vietnam, providing energy for industrialization, the lack of resource allocation hinders infrastructure development and, therefore, reduces their chances of access to regional and world markets. The initiative of developing one of the northern triangles, which consists of three west-northern provinces of Vietnam, the northern provinces of Laos and a southern part of Yunnan Province in China (we call the northern triangle as CHLV Triangle hereafter), could be a new approach for this region's development. Strengthening the cooperation and specialization among these provinces may increase the chances of exporting local products with higher value added to regional markets, including the Greater Mekong Subregion (GMS) and south-western Chinese markets. However, making it a feasible plan requires efforts from both central and local governments to establish a concrete institutional framework of cooperation, especially with China.

This chapter presents an overview and search for development opportunities and challenges for the three west-northern provinces of Vietnam (Son La, Lai Chau and Dien Bien), which form the CHLV Triangle area with China and Laos, by examining

The map illustrates the geographical context of Son La province. To the north is China, to the west is Laos PDR, and to the east is Hanoi. Neighboring provinces include Lai Chau to the north, Dien Bien to the west, and Yen Bai to the east. Major rivers like the Da River, Ma River, and Hong River are shown. The map highlights several industrial clusters and towns, including Phong Tho, Lai Chau, Tan Uyen, Thuan Chau, Son La, and Moc Chau. Districts such as Muong Te, Muong Nhe, Muong Lay, Muong Cha, Muong La, Muong Bang, Dien Bien Phu, Dien Bien Dong, Song Ma, and Sop Cop are also labeled. Road networks are indicated by numbers in boxes (e.g., 12, 4D, 70, 279, 32, 6, 43).

the development of enterprises, the industrial sector and its potential and the cross-border movement of goods and people. The first section offers an overview on the development of the three provinces. The second, third and fourth sections examine the opportunities and challenges of each province. The fifth section discusses challenges facing these three provinces in order to integrate the west-northern region of Vietnam into the GMS market. The conclusion summarizes the challenges and opportunities for the three provinces and suggests policy implications.

1.1. Historical Development

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Figure 2: Provinces in West-northern Vietnam



Source: <http://www.nchmf.gov.vn/web/en-US/61/18/map/Default.aspx>.

across provinces, diffusing the benefits from early developed provinces/cities, mainly large cities, to their neighbors. In addition, at some specific point of development, provinces may merge or separate to activate economies of scale and to concentrate limited resource investment.

Currently, there are two kinds of grouping provinces and cities in Vietnam. From the administrative dimension, the government has divided the country into three large regions: the northern region, the central region and the southern region. Within each of the three regions, there are subregions, such as the Hong River delta subregion and the northern midland and mountainous subregions of the northern region, the northern and central coastal subregions, the central highland subregion of the central region and the southeastern and the Mekong Delta subregions of the southern region.

From the economic dimension, Vietnam developed four key economic regions: (i) the Northern Key Economic Eegion, (ii) the Central Key Economic Region, (iii) the Southern Key Economic Region and, recently, (iv) the Mekong Delta Key Economic Region. The rationale for establishing the key economic regions is to take advantage of international integration and trade promotion to fuel economic growth in some selected

provinces/cities and to diffuse the development benefits to the peripheral regions.

Three prominent west-northern provinces (Son La, Lai Chau and Dien Bien) share a long and close historical development. They are members of the west-northern region, which is a part of the northern highland and mountainous sub-region above (Figure 1).

Located at the farthest extent of the west-northern region, these provinces are distant from development centers such as Hanoi (Vietnam), Bangkok (Thailand) or Kunming (China). Until 1904, this region was known as Son Lap province. In 1909, Lai Chau province was established by taking six districts from the north of Son La province. They (Lai Chau province and the new Son La province) were united under the new name of Son Lai province in 1948. Since 1952, this region experienced mergers and separations many times before becoming the three current provinces (Table 1). Today, Son La province (the largest province in the region in terms of area) has one city and 10 districts, Lai Chau province has one town and six districts and the newly created Dien Bien province has one city, one town and seven districts. The total area of this region is 32,806 km². Of the three, Son La province has the largest area of 14,147 km². The areas of Lai Chau province and of Dien Bien province are 9,068 km² and 9,562 km², respectively.

Table 1: Historical Development of Provinces

Chronology	Province formation		
- Aug 23, 1904	Son La Province		
Aug. 23, 1904	Son La Province Chau Thuan, Muong La, Mai Son, Chau Yen, Chau Moc, Phu Yen, Tuan Giao,		
Jun. 28,1909	Son La Province Chau Thuan, Muong La,Mai Son,	Lai Chau Province Tuan Giao, Dien Bien, Chau Lai,Quynh	
1948-52	Son Lai Province		
Jan., 1952	Son La Province	Lai Chau Province (Jun. 28, 1909)	
Nov., 2003	Son La Province (Jun.	New Lai Chau Province	Dien Bien Province
	1 city and 10 districts	1 town 6 districts	1 city 1 town 7 districts

Source: Summarized by the author based on provinces survey documents.

The provinces are connected to other provinces in Vietnam by national road (NR) No. 6, NR No. 37 (via Son La province), NR No. 4D, NR No. 12, NR No. 32 (via Lai Chau province) and NR No. 6, NR No. 12 and NR No. 279 (via Dien Bien province). People can utilize waterways of the Da and Ma Rivers for high density and high volume cargo transportation as well as for passenger transportation. People can also access this region by air to Dien Bien airport, Na San airport (when it re-opens) and Lai Chau airport (to be constructed in the future).

1.2. Geographical Characteristics

This terrain is steep and rocky in the northwest-southeast mountainous area. Influenced by the Hoang Lien Mountains, the average height of this area is 1,200 m above sea level, while certain mountains are 3,000 m above sea level. Two large rivers in this area are the Ma River and the Da River. The Ma River begins its flow in the west-northern region. These two rivers are not only a source of livelihood for ethnic minorities, but also the major source of electricity generation for the country.

Sharing over 300 km of border with China and over 610 km of border with Laos, Vietnam has established a number of border checkpoints to promote cross-border trade with the two countries. Recently, formal trade between these Vietnamese provinces and neighboring provinces of the above two countries centered mainly on two border crossings: Ma Lu Thang-Jinshuihe (with China) and Tay Trang-Panghok (with Laos).

The region is located between the two sections of the North-South Economic Corridor (NSEC). These provinces can connect with the eastern section, known as the Kunming-Lao Cai-Hanoi-Hai Phong corridor, using NR No. 4D. The distance from Tam Duong town of Lai Chau province to Lao Cai province is about 80 km. To the west, the region can connect with Kunming-Bangkok corridor via Laos. On this section, the bridge crossing the Nam Oo river on NR No. 2E (Laos) will be completed soon, facilitating movement from provinces of the CHLV Triangle to the Kunming-Bangkok corridor.

1.3. Population and Minorities

The total population of the three provinces is 2.023 million, which accounts for 47.95% of the west-northern region's population and 2.3% of the total population in

Table 2: Population of the three provinces in 2011

	Population (Thousands)	Area (km ²)	Population Density (Persons/km ²)
Dien Bien	512.3	9,562.9	53
Lai Chau	391.2	9,068.8	43
Son La	1,119.4	14,174.4	79
West-northern Region	4,218.8	50,685.0	83
Total Population	87,840.0	33,0957.6	265

Source: Calculated by the author based on GSO data.

Table 3: Major ethnic groups in Dien Bien, Son La and Lai Chau provinces

Ethnicity	Province (as of 2011)		
	Son La	Lai Chau	Dien Bien
Thai	55.00	34.09	37.99
Kinh	18.00	14.04	18.42
Hmong	12.00	22.16	34.80
Viet-Muong	8.40	0.03	0.14
Khmu	1.89	1.90	3.30
Yao	1.82	13.53	1.07

Source: Summary from provincial statistical documents.

2011. The population density across three provinces is much lower than the average of the west-northern region and of the country (Table 2).

The three provinces together form the richest cultural region in Vietnam with 36 ethnic groups out of a total of over 54 ethnic groups settled in this area (Appendix 1). Among them, the five major groups include the Thai, the Hmong, the Khmu, the Yao and the Viet-Muong, which are close to the Kinh ethnically (Table 3).

2. THE DEVELOPMENT OF SON LA PROVINCE

2.1. Overview

Son La province, with a total area of over 14,174 km², is the third largest province/city in Vietnam. Among the three provinces, Son La is the largest one in terms of population. The population of Son La province is two times larger than that of Dien

Bien province and about three times larger than that of Lai Chau province. This larger population allows the province to mobilize more labor for economic activities.

During the years 2006-2010, the provincial gross output of Son La province almost tripled, increasing from VND 5,519 billion (2006) to VND 14,566 billion (2010). By the end of 2011, its provincial gross output surpassed VND 19 trillion. The expansion of provincial gross output allowed the province to raise its per capita income from VND 5.3 million (2006) to VND 13.3 million in 2010. By the end of 2011, per capita income in Son La province increased to VND 17.0 million, which is equivalent to USD 851 per capita. Although the achievement of economic growth of Son La province was significant, the result was still lower than the national level (by the end of 2011, GDP per capita of Vietnam was USD 1,300).

The economic structure of Son La changed significantly toward greater contributions from the industrial and construction sectors. From 2006 to 2010, the share of the primary sector was reduced from 50.80% (2006) to less than 39.60% (2010). At the same time, the shares of the secondary and tertiary sectors increased from 15.78% and 33.41% (2006) to 22.10% and 38.28% (2010), respectively.

Though the contribution from the agricultural sector fell sharply, it still accounted for the largest proportion of provincial gross output. The contribution of the agricultural sector comes mainly from crops and plantation.

In the agricultural sector, the major products of the province included rice, corn, cassava and sugar cane. Son La province also produces tea, soya beans, longan and mangoes. The total land allocated for agricultural production was 261.48 thousand ha (2011). Nearly 30% of the total agricultural land area was allocated for the production of rice, corn, cassava and sugar cane (Table 4). The area of paddy field was gradually reduced due to the limitation of land for agriculture and the strategy to shift from agricultural crops to industrial crops with higher productivity. After five years, almost 10 thousand ha of land were reallocated to other crops. Nevertheless, increased productivity compensated for the reduction in the cultivated area so that total rice production in 2011 nearly reached that of 2006.

Son La province, endowed with a plateau area, also has the potential for large-scale cattle and poultry raising, providing, in turn, stock for processing industries such as dairy products. By the end of 2011, the cattle of Son La province included

Table 4: Major Agriculture Products of Son La

	Industry	2006	2007	2008	2009	2010	2011
Area (1,000 ha)	Paddy field	57.59	50.80	45.52	45.96	44.59	44.15
	Cassava	17.99	18.63	23.71	22.33	24.64	28.51
	Sugar cane	4.19	4.00	3.37	3.28	3.27	4.21
Quantity (1,000 tons)	Rice	160.85	148.81	148.35	152.81	147.00	155.76
	Corn	463.51	504.76	506.64	514.24	417.41	506.73
	Cassava	200.97	210.63	279.01	267.94	295.11	351.45
	Sugar cane	182.52	208.01	172.73	175.04	174.66	249.43

Source: Summary from provincial reports provided during the field trip.

Table 5: Fishery and forests in Son La Province

		2006	2007	2008	2009	2010	2011
Area (1,000 ha)	Water surface	2.0	2.5	2.5	2.5	2.4	2.4
	Natural forest	562.7	567.0	572.4	562.9	602.2	609.7
	Reforestation	20.3	21.8	22.1	24.1	23.8	24.0
Quantity	Fishery (ton)	748.0	803.0	695.0	662.0	691.0	704.0
	Aquaculture (1,000 ton)	3.3	4.1	4.0	4.3	4.6	4.9
	Timber (1,000 m ³)	52.0	51.8	50.1	45.4	44.3	44.0
	Wood (million ste)	52.0	906.8	918.4	1,394.6	1,016.7	1,035.9

Note: 1) ste is the abbreviation of stere (measuring cordwood, firewood): 1 stere = 3.6 cubic meters.

Source: Summary from the provincial statistics department data and reports.

170,000 buffaloes, 191,000 oxen, 523,000 pigs and 4.89 million poultry.

Da River and Ma River are not only important sources for irrigation, but also for the development of fisheries and aquaculture. The total water surface area for aquaculture production increased significantly, resulting in a production increase of 149% in six years (Table 5).

Son La province has a relatively large forestry sector, with over 634,000 ha (2011). The total area of natural forest was 609.7 thousand ha, accounting for 96.2% of the total forest area, while reforestation was 23.98 thousand ha. Over the past years, reforestation programs provided jobs and secure incomes for many poor ethnic minority households in the province.

Table 6: Enterprises in Three Provinces during the Period 2007-2009

	Year	Total Enterprises	Classified by labor			
			Micro	Small	Medium	Large
		(1)=(2)+(3)+(4)+(5)	(2)	(3)	(4)	(5)
Son La	2007	450	163	255	18	14
	2008	563	218	308	21	16
	2009	653	260	350	24	19
Lai Chau	2007	283	117	160	3	3
	2008	377	133	235	3	6
	2009	521	226	285	6	4
Dien Bien	2007	327	98	214	8	7
	2008	402	139	239	14	10
	2009	468	152	287	17	12
Northern midland and mountainous	2007	9,153	4,292	4,313	267	281
	2008	11,564	5,836	5,107	306	315
	2009	11,627	5,200	5,747	367	313
Country	2007	155,771	95,322	50,763	4,059	5,627
	2008	205,732	127,181	68,051	4,489	6,011
	2009	248,842	162,785	74,644	4,993	6,420

Source: Enterprise Census, General Statistics Office.

2.2. The Development of Enterprises

Enterprises, especially those that are small and medium-sized, are major players in fostering economic growth. They tend to be located in places having favorable business environments, such as near ports and roads or with easy access to labor and financial services.

Compared with the number of enterprises in the region or in the country as a whole, those in Son La province account for quite a small proportion (Table 6).

By the year 2011, Son La province had 10 state-owned enterprises (SOEs). The non-state enterprises increased to 1,307, 2.58 times greater than that of 2006 in accordance with the updated data as of 2011, provided by Son La Provincial government. Among private enterprises, 464 were privately-owned, 456 were limited enterprises and 387 others were joint-stock enterprises. Within the first nine months of 2012, there were 82 newly established enterprises, of which 24 were privately-owned, 38 were limited and the remaining 20 were joint-stock enterprises. Son La province also attracted investment from eight foreign enterprises by the end of 2011.

In general, the size of enterprises in Son La province was quite small: 90.43% were small and medium-sized enterprises (SMEs). The average amount of SOE capital was VND 16 billion. The size of enterprises in the private sector was much smaller. The average capital of a joint-stock enterprise was VND 7.5 billion, nearly half that of the SOE. Limited enterprises on average had VND 4.25 billion, while privately-owned enterprises were the smallest in size with an average capital of VND 2.69 billion (2011 data).

A large number of enterprises specialized in mining and industry (610), while the agricultural sector attracted only very limited investment (46). The service sector also attracted investment from a number of enterprises (540). By the end of 2011, enterprises in Son La province provided jobs for 28,841 people. Although Son La experienced some progress in attracting enterprises to invest, the number of enterprises in the province (1.16 enterprises per 1,000 people) was much lower than the country average (3.30 enterprises per 1,000 people). Therefore, the number of jobs provided was quite small compared with the supply of 684,000 laborers in the province at the same time.

2.3. The Industrial Sector and Industrial Potential

Natural conditions heavily influenced the industrial structure of Son La province, particularly with the potential development of the construction material industry and the electricity industry. According to some studies, the amount of limestone and clay in Son La is around 16,000,000 tons, the amount of nickel-bronze is 984,000 tons, while gold and talcum quantities are estimated at 23,000 tons. As shown in Table 7, the major

Table 7: Industrial Output Value of Son La Province

(Unit: VND billion)

Industry	2006	2007	2008	2009	2010	2011
Coal	5.42	5.95	18.99	30.44	26.83	29.55
Metal ore	30.60	43.25	103.65	204.99	117.91	129.85
Limestone and others	318.32	522.60	749.89	1,047.01	1,712.26	1,885.66
Food processing	200.36	363.94	461.03	593.11	823.30	3,769.05
Total Industrial Output Value	692.4	1,059.3	1,804.3	2,263.7	2,968.3	-

Source: Summary from provincial documents and General Statistics Office data.

industries in Son La are coal, metal ore and limestone mining and food processing. One common characteristic of these industries is that they exploit natural resources. In 2006, these four industries accounted for 82% of the total industrial output of the province. By the year 2010, their share of industrial output value increased to 90%. The industrial output value (1994 prices) increased 4.6 times, from VND 341 billion (2006) to VND 1,568 billion (2011).

In the industrial sector, Son La has advantages in developing electricity generation, agricultural and forestry products processing industries and construction materials, such as cement and bricks. Aiming to foster industrialization by exploiting these advantages, Son La also developed a number of industrial zones and clusters to attract enterprise investment. The Mai Son industrial zone, approved by the central government under decision 1107/TTg-CP, is designed to exploit the advantages of Son La province. The first phase of construction will be finished by the end of 2012. The completed construction area of 150 ha will be finished in 2015.

Currently the Mai Son industrial zone has attracted four enterprises, including the Vietnam Research Center on Rubber Seeds, a cassava starch factory, a construction materials factory and a machinery factory. Besides the industrial zone, Son La also has three other industrial clusters: the Muong Bu-Muong La industrial cluster, the Moc Chau industrial cluster and the Son La Town industrial cluster (Figure 1).

The design of the Muong Bu-Muong La industrial cluster aimed at promoting the construction materials industry so that their products supported the construction of the Son La hydropower plant in the past and continue to support the Nam Chien and Huoi Quang hydropower plants in the future. Additionally, this industrial cluster also aims at attracting agricultural and forestry processing industries. The Son La Town industrial cluster also aimed to promote construction industries, while the Moc Chau industrial cluster, with an area of 150 ha, was designed to help Son La promote the dairy industry, beverages and certain handicraft products.

2.4. Cross-Border Movement

The border with Laos creates opportunities for cross-border trade and promotes economic growth for the province. Cross-border trade between Son La province and provinces of Laos and of other countries in the GMS has grown sharply. Import value

has increased from USD 0.8 million (2005) to USD 34 million in 2010 and almost doubled in 2011 to USD 58 million (Table 8).

However, the trade balance situation has changed significantly. In 2005, there was a trade surplus with Laos, though the value was quite small (less than USD 1.5 million). By the end of the decade, Vietnam experienced a trade deficit of more than USD 50 million.

The transaction structure of commodities exchanged with Laos changed quickly over the period 2005-2010. Concerning exports, the share of agricultural products fell sharply from 79.86% in 2005 to 21.05% in 2010 and 0.0% in 2011. Exported light industry products also fell, though an increased share of products manufactured by heavy industry and mining was noted (Table 9).

Table 8: Cross-Border Trade

(Unit: USD Million)

	2005	2009	2010	2011 ¹⁾
Import	0.848	34.714	34.735	58.244
Export	2.046	1.678	2.233	5.949

Note: 1) Estimated data.

Source: Summary from provincial documents and general statistic office data.

Table 9: Cross-Border Trade between Son La Province and Laos

	2005	2009	2010	2011 ¹⁾
Import (USD million)	0.848	34.714	34.735	58.244
Machinery and Equipment (%)	11.44	78.18	59.19	76.83
Materials (%)	75.00	20.26	39.20	22.09
Food products (%)	NA	NA	0.03	0.10
Consumer products except food products, medicine (%)	13.56	1.56	1.58	0.98
Export (USD million)	2.046	1.678	2.233	5.949
Heavy industry products and mining products (%)	NA	3.40	NA	52.23
Light industry and handicraft products (%)	20.14	73.30	78.95	47.77
Agricultural products (%)	79.86	23.30	21.05	0.00

Note: 1) Estimated data

Source: Summary from provincial documents and general statistics office data.

As for import activities, the share of consumer products and materials imports fell from 13.56% and 75% to 0.98% and 22.09%, respectively, while the share of imported machinery and tools increased from 11.44% to 76.83%. Therefore, the trade balance of Son La province with Laos changed from an export surplus to an export deficit within the last five years.

2.5. Development Challenges

Though an increasing number of enterprises helped Son La province promote economic growth and reduce poverty, the number of poor is still high. In 2006, Son La province was ranked fifth on the list of the poorest provinces. Five years later (2010), the ratio of poverty in Son La province was 37.9% and the province was ranked sixth on the list of the poorest provinces, after Dien Bien (50.8%), Lai Chau (50.1%), Ha Giang (50.0%), Lao Cai (40.1%) and Cao Bang (38.1%). Son La province and other provinces in the west-northern region are still the poorest provinces in Vietnam (Appendix 2).

Most of the poor in Son La province are small minority groups. They are scattered across the province and the geographical conditions, characterized by high mountains, deforestation and flooding and a lack of roads and transportation, have isolated them and hindered access to markets. In this context, their livelihoods are limited and vulnerable. In the next decade of development, fighting poverty for minorities is,



Construction to Eliminate Land Slide.

Source: Taken by the author.

perhaps, the greatest challenge of the west-northern provinces, including Son La.

Although Son La province experienced growth in provincial output value and the economic structure shifted toward a higher contribution from the industrial sector, the size of the economy was still small. The provincial output value in 2011 was estimated to reach VND 19 trillion, which accounted for 0.75% of the output value of the country.

The small size of the provincial economy implied that the presence of enterprises in Son La province was limited. Out of 1,317 enterprises (2011), those in Son La province accounted for only 0.24% of the total registered or 0.45% of total operating enterprises. Promoting economic development and reducing the proportion of households who are living just above the poverty line are other challenges. These challenges cannot be solved effectively unless there is an increasing number of investors in the province.

Behind the challenge of developing enterprises is the challenge of creating a favorable business environment, which is closely related to the development of industrial zones and the development of road infrastructure. The investment in the Chieng Khuong-Long Sap Border Economic Zone and other industrial zones and clusters would not be effective unless connecting roads from major ports to these places are upgraded at the same time. Road infrastructure also hampers the cross-border trade because firms cannot reach other markets except those in neighbouring provinces where the markets are small and variable.

Compared with the other two provinces, Son La has a great advantage stemming from its connection to Hanoi and other provinces in the Northern Key Economic Region (NKER). Nevertheless, to attract enterprises, it is necessary to improve the quality of the roads. Although the distances from the Mai Son industrial zone to major ports in the northern region are not so far (280 km to Hai Phong port, 290 km to Cai Lan port, 300 km to Noi Bai international airport), it takes around eight hours to get there. As a whole, connecting roads are good except in some sectors from Hoa Binh province to Son La province where landslides and flooding sometimes threaten the transportation schedule and may cost firms time and money (See Photograph). Thus, incentives for firms to shift from the NKER to the province are still low despite

increasing labor costs in the NKER.

Although Son La province has an advantage in promoting hydropower plants and the subsequent development of the electricity generation industry may have contributed significantly to the output value of the industrial sector and the provincial gross output, the growth of this industry also poses some development challenges. These challenges include the resettlement of households living along the river deltas. Many of these households are minority groups with a culture of cultivation along the rivers. They will lose their traditional way of life and helping them adapt to a new environment will take time.

Another challenge of building these hydropower plants is to preserve nature. Hydropower plants require roads to access the places where the plants will be constructed. This process may exacerbate deforestation and cause damage to the environment and the potential development of tourism.

The most important challenge is the lack of labor, especially skilled labor, when the province is pursuing an industrialization strategy. Low population and a widely dispersed labor force prevent firms from expanding their operations to achieve efficiency of scale.

2.6. Development potential and opportunities

On the one hand, Son La province, endowed with mountains and rivers, has the potential to develop service sectors, especially the tourism industry. Natural attractions, such as the Moc Chau Plateau (200 km from Hanoi), the Xuan Nha Natural Reservation Zone, Sop Cop (40 km from Moc Chau), the Tham Tet Toong Cave (280 km from Hanoi) and the Chi Day Cave, Yen Chau (245 km from Hanoi) are sites that can help Son La province promote tourism.

In addition, some historical places, including the Le Thanh Tong Dynasty Shrine and Son La Prison (290 km from Hanoi) are also advantageous for attracting tourists. The rich culture of the 12 minorities located in Son La is another area of interest to develop and promote together with the exploration of natural beauty. Tourists can stay in the minority villages and experience their living traditions.

On the other hand, the Da River and the Ma River offer great potential for

Table 10: List of Major Hydropower Projects in Son La Province

Power Plant	Operating Company or Investor	River/ Spring	Status	Capacity (MW)
Son La	Vietnam Electricity Corporation (EVN)	Da	Completed	2,400
Nam Chien	Nam Chien Hydropower Joint stock Company	Suoi Chien	Completed	210
Huoi Quang	Vietnam Electricity Corporation (EVN)	Nam Mu	Under Construction	520
Nam Cong	Tay Bac Electricity Investment and Development JSC	Nam Cong	Completed	4.37
Nam Cong 3	Lilama 10 JSC	Nam Cong		8
Nam La	Tay Bac VIWASEEN Hydropower JSC	Nam La	Completed	27
Nam Pia 1	Nam Pia Hydropower JSC			
Suoi Sap	Xuan Thien Commerce, Construction, Investment and Development Co., Ltd.	Sap		
Suoi Tac 1	Hoang Long Co., Ltd.	Tac		2.25
Quang Minh	Song Da Hydropower Construction JSC			3.5

Source: Summary from provincial documents and General Statistics Office data.

electricity generation in Son La province. Son La province has the three largest hydropower projects with a designed capacity of 3,130 MW (Table 10). The Son La hydropower plant is one of the national projects. Upstream and downstream on the Da River, three large hydropower projects are either under construction or in operation. These are the Lai Chau hydropower project, the Son La hydropower plant, which became fully operational on September 26 2012, and the already operating Hoa Binh hydropower plant.¹ The six units of the Son La hydropower plant will supply 10.246 billion kWh for the country annually. This is an important source of energy, meeting the demands of industrialization and modernization in the coming decades.

In addition to these three large hydropower plants, rivers and springs in Son La province will also allow the development of small and medium-sized hydropower projects, including the completed Nam La hydropower plant (designed capacity of 27

¹ Son La hydropower plan news (<http://thuydienonla.com/hoa-luoi-thanh-cong-to-may-6-thuy-dien-son-la>, access date 27th September, 2012).

Table 11: Cross-Border Movement between Son La and Laos

	2005	2009	2010	2011	2012 ¹⁾
People					
In (time)	18,453	31,953	29,708	24,251	34,253
Out (time)	18,665	20,910	17,473	94,302	36,099
Vehicles					
In	3,241	15,431	17,127	12,406	11,953
Out	4,254	10,314	6,995	9,963	15,827

Note: 1) The values in 2012 are data measured between January and September.

Source: Provincial reports.

MW), the Nam Cong No. 3 hydropower plant (designed capacity of 8 MW) and the Nam Cong hydropower plant (design capacity of 4.37 MW).

The cross-border movement between Vietnam and Laos has increased annually (Table 11). During the period 2005-2010, the number of people immigrating to Vietnam via the border with Laos increased from 18,453 (2005) to 29,708 (2010). The number of immigrants fell in 2011 (24,251) before turning round as part of the development trajectory.

Located on the trade road from northern Vietnam to the GMS market, Son La province has the potential to promote logistic services. Although the number of enterprises engaged in the service sector is quite low, the number of households involved in cross-border trade is quite large. To date, Son La province has more than 3,700 households engaged in cross-border trade. They are a source of logistic services in the future when the necessary policy to promote these services is introduced.

3. THE DEVELOPMENT OF LAI CHAU PROVINCE

3.1. Overview

In comparison with Son La province, Lai Chau has a shorter development history. Additionally, the development of Lai Chau province faced many challenges after some well-developed towns and a city separated to form Dien Bien province in 2003, leaving the new Lai Chau province with many less-developed areas.

During the period 2006-2010, the Lai Chau provincial gross output nearly tripled, increasing from VND 1,358 billion (2006) to VND 3,037 billion (2010). By the year 2011, the gross output value of Lai Chau province was VND 4,073 billion, which was equal to 80% of the Son La gross output value in 2006. The Lai Chau province per capita income increased from VND 2.7 million (2006) to VND 5.7 million in 2010. By the year 2011, per capita income increased to VND 7.6 million. Therefore, Lai Chau is still the poorest province in the region and in Vietnam. In the year 2011, 50.1% of the households lived under the new poverty line.²

The economic structure of Lai Chau province is relatively balanced across

Table 12: Major and Potential Products of Lai Chau Province

		2006	2009	2010	2011
Area (1,000 hectares)	Paddy field	16.73	18.29	18.70	18.66
	Tea	3.93	3.25	3.05	2.66
	Cotton	0.76	0.58	0.50	0.43
	Rubber		3.73	6.25	8.80
	Cardamom	2.24	5.09	4.50	5.29
Quantity (1,000 tons)	Rice	92.73	111.86	116.77	117.98
	Tea	15.04	18.85	18.33	19.80
	Cotton	0.34	0.30	0.23	0.20

Source: Summary from provincial documents and General Statistics Office data

Table 13: Fishery and Forestry Products of Lai Chau Province

		2006	2009	2010	2011
Area (1,000 hectare)	Water surface	0.48	0.59	0.60	0.61
	Natural forest	215.7	343.5	358.6	362.5
	Reforestation	116.4	19.9	25.2	28.3
Quantity	Fishery (ton)	113	157	162	254
	Aquaculture (ton)	631	980	1,035	1,131
	Timber (1000 m3)	5.5	10.0	9.4	5.3
	Wood (million ste)	0.7	1.1	1.0	0.8

Source: Summary from provincial documents and General Statistics Office data.

² According to the new poverty line, introduced by the government, a household is defined as VND 400 thousand /one person/one month for rural areas and of VND 500 thousand/one person in mountainous areas.

sectors. The shares of the agricultural, industrial and construction, and service sectors in gross provincial output in 2011 were 30.86%, 37.23% and 31.91%, respectively. Endowed with a large mountainous area, Lai Chau province has an advantage with industrial crops rather than agricultural crops. The total paddy field of Lai Chau province is just 42.3% of the total paddy field of Son La province. With the small area of paddy field and a large area characterized as producing one crop per year, Lai Chau province can produce high quality rice. Nevertheless, the volume of rice is limited and it is a challenge if greater production in this sector is to be promoted. Interestingly, the areas of the two major products, tea and cotton, experienced a decreasing trend over the past five years (Table 12), but the productivity has increased annually (except for cotton). In the agricultural sector, aside from rice, tea and cotton, Lai Chau province also produces soya beans and peanuts. The mountainous areas limit the variety of agricultural products. The total land allocated for agricultural production was 89.74 thousand ha (2011), which was just one-fifth of the total land area for forestation.

Lai Chau province also has significant production of cattle and poultry, providing stock, such as meat products, for processing industries. By the year 2011, Lai Chau province had 96 thousand buffaloes, 14.9 thousand oxen, 193.89 thousand pigs and 996 thousand poultry. The scale of agricultural production in Lai Chau province is much smaller than that of Son La province. In the agricultural sector, the Da River also played an important role in the development of fisheries and aquaculture. The total area of water surface for aquaculture production increased significantly from 481 ha in 2006 to 602 ha in 2010 and 610 ha last year (Table 13). The increase in the area of water surface helped Lai Chau province to increase productivity of aquaculture from 631 tons to 1,131 tons during the period 2006-2011. The production of aquaculture accounted for a large share of the fisheries sector. The aquaculture productivity of Lai Chau province is lower than that of Son La province and, therefore, significant efforts are needed to raise productivity in the aquaculture sector.

The total forested area in Lai Chau province is just about 60% of that in Son La province (2011). The total area of natural forest was 369.3 thousand ha, accounting for 92.8% of the total forested area. Reforestation was significant in 2005, with 116 thousand ha, but has recently been reduced to less than 30 ha.

3.2. Development of Enterprises

The number of enterprises invested in Lai Chau province is few compared with that of other provinces in the region and of the country as a whole. Most of the enterprises are micro and small enterprises. Only a few are large in size. The total number of medium and large-sized enterprises in Lai Chau province was fewer than 10 during the period 2006-2010.

In 2011, the province attracted only 119 enterprises newly registered for investment, mainly for commercial activities, while 72 enterprises were closed down. By the end of the first half of 2012, the number of enterprises operating in the province was 863 firms, which increased from 807 firms in 2005. These include 12 SOEs (including eight joint stock companies: JSCs) and 851 private enterprises. Although these enterprises provided jobs and helped the province to fight poverty, the development of Lai Chau province still needs the establishment of more enterprises.

3.3. The Industrial Sector and Industrial Potential

The industrial sector of Lai Chau province has a similar structure to that of Son La province, mainly characterized by industries that exploit natural resources, such as metal ore and limestone, or process agricultural products. Nevertheless, terrain characteristics limit the varieties and quantities of products in the mining industry. In 2011, the major products of Lai Chau province included timber (1725 m³) and wood (1.450 m³), limestone (552.5 thousand m³) and cement (1.7 thousand tons). Electricity production was 21.3 million kWh.

Table 14: Industrial Output Value of Lai Chau Province

	(Unit: VND billion)			
	2005	2009	2010	2011
Total mining	32.0	91.6	125.6	130.0
Metal ore mining	18.0	12.1	11.8	14.5
Limestone and other mining products	14.0	79.5	113.8	115.5
Processing industry	83.4	203.9	252.1	261.4
Food processing	49.8	93.8	125.5	127.5
Total Industrial Output Value	117.0	319.8	481.3	497.9

Source: Summary from provincial documents and General Statistics Office data.

In 2006, the three major industries (metal ore, lime stone and food processing) accounted for 71% of the total industrial output of the province as shown in Table 14. But that share shows downward trend and by the year 2011, they accounted for only 66% of the total industrial output. The total industrial output value in 2011 was VND 224 billion (1994 prices), of which the SOE sector contributed VND 80.1 billion and the private sector contributed VND 143.5 billion, while the FDI sector contributed just VND 0.7 billion. These data show that there were significant changes in the industrial structure of Lai Chau province toward greater contributions from the processing industries over the past five years of development. Nevertheless, while the contribution of the FDI sector at the national level increased significantly, the low contribution in the case of Lai Chau province implies that it is still facing difficulties in attracting FDI for its economic development. In addition, Lai Chau province also has some local industries that produce consumer products for the local market.

Aimed at shifting the industrial structure toward higher value added, the province recently decided to expand the area of industrial plantation, such as rubber or tea. By the year 2011, the newly planted areas included 2,268.5 ha of rubber and 41.6 ha of tea while the total planted area of tea has decreased (Table 12).

According to the Lai Chau province industrial development orientation, the province put high priority on the development of the agricultural and forestry processing industries, the mining and refining of ore, the hydropower industry, cement production, animal feed for poultry and fish and the construction material industry, making them dynamic forces for economic development.

A favorable business environment is being prepared for the development of these industries, including the development of industrial zones. By the year 2020, the province plans to construct two industrial zones and four industrial clusters to attract investment from firms. These zones include the Muong So industrial zone (220 ha) located in the Phong Tho district near the Ma Lu Thang border crossing. During the first phase, two firms invested. One company operated in the field of construction materials (investment capital of VND 6 billion and employing 100 laborers) and the other is an ore refinery factory (with a VND 13.5 billion investment and employing 60 laborers). From this industrial zone, enterprises may send their commodities to Hai

Phong port (280 km) and Noi Bai international airport (300 km) in under eight hours or to Dien Bien airport (161 km) in less than four hours. In addition to the Muong So industrial zone, Lai Chau will build another: the Tam Duong industrial zone (located at Tam Duong town) with a total area of 200 ha. Lai Chau also aims at promoting economic development through the establishment of a border economic zone with a total area of 326 km² covering Huoi Luong village, Muong So village and Ma Ly Pho village of the Phong Tho district.

3.4. Cross-Border Movement

Sharing a 265.095 km border with China, Lai Chau province has the advantage of being one of the gateways for exporting commodities to a potential market. Currently, the province has two border crossings (Ma Lu Thang, U Ma Tu Khoong) and many border check points. The economic activities are mainly concentrated on the Ma Lu Thang border crossing.

Despite a geographical disadvantage compared with the neighboring province (Lao Cai), the movement of people, both doing business and visiting via Ma Lu Thang

Table 15: Cross-border movement via Ma Lu Thang

	2005	2009	2010	2011
People				
Using passports	916	5,300	6,036	7,214
Total	16,552	32,890	35,331	41,128
Vehicles				
Total	1,392	1,361	1,396	897

Source: Summary from provincial documents and General Statistics Office data.

Table 16: Cross Border Trade via Ma Lu Thang Border Gate

	2005	2009	2010	2011 ¹⁾
Import	1,620	3,081	3,964	4,315
Export	63,410	2,684	10,271	3,250

Note: 1) estimated data.

Source: Summary from provincial documents and General Statistics Office data.

border crossing, increased annually. By the year 2011, the number of people crossing this border increased 2.5 times compared with 2005. In particular, the number of visitors who used passports increased eight times to 7,214 (Table 15).

The increase in the number of people doing business between Vietnam and China also helped to raise trade volume and value. Different from the cross-border trade with Laos, the export activities with China have varied greatly for years, while import value has increased annually, albeit with low value. The reason for this variation of export value is that the import policy of the Chinese government applied across border crossings with Vietnam. Changes in import policy from China will redirect the flow of goods across the border crossings. In some years, when China promotes goods via the Ma Lu Thang border crossing, the total value of exports will increase; in other years, the total value of exports will fall (Table 16).

The structure of trading is similar to that of Laos. Exports include mainly handicraft and light industry products, while the proportion of heavy products and mining products has fallen recently. Imports of health care items, however, have

Table 17: Cross-Border Trade between Lai Chau Province and China

	(Unit: %)			
Activities	2005	2009	2010	2011 ¹⁾
Imports				
Machinery, Equipment		21.83	5.67	9.32
Materials	20.76	5.25	3.58	0.37
Food products	29.71	0.11	0.06	0.25
medical products	6.82	0.00	69.54	73.38
Consumer products (except food products, medical)		72.80	21.16	16.68
Total	100.00	100.00	100.00	100.00
Exports				
Heavy industry products and mining products	42.72	23.13	19.48	18.54
Light industry and handicraft products	20.76	74.15	77.88	78.35
Agricultural products	29.71	-	-	-
Total	100.00	100.00	100.00	100.00

Note: 1) Estimated data.

Source: Summary from provincial documents and General Statistics Office data.

increased significantly (Table 17).

3.5. Development Potential and Opportunities

As a neighbor of China, Lai Chau province has a number of opportunities to access that large potential market. Promoting trade with China may help the province to shift its economic structure and specialize in certain industries. Lai Chau province can be the gateway of the CHLV Triangle to the Chinese market.

Like Son La province, mountains and rivers bring Lai Chau province advantages in promoting tourism and industry, including industrial crop plantation, mining and electricity generation. Hot springs and the scenic beauty of Sin Ho and Phong Tho towns are resources for tourism. The culture of minorities is another source from which Lai Chau can develop tourism. Lai Chau province also has a number of historical places, including some ruins from the Le Loi dynasty.

Lai Chau, endowed with the Da River, also has great potential to develop an electricity industry based on hydropower plants. Currently, a number of investment projects involving hydropower plants are under construction (Table 18). They include power plants at Lai Chau (1,200 MW), Huoi Quang (520 MW) and Ban Chat (220 MW).

Table 18: List of Major Hydropower Projects in Lai Chau Province

Power Plant	Operating Company or Investor	River / Spring	Status	Capacity (MW)
Lai Chau	EVN	Da	Under construction	1,200
Huoi Quang	EVN	Nam Mu	Under construction	520
Ban Chat	EVN	Nam Mu	Under construction	220
Nam Na 1	Hai Hung Co., Ltd	Nam Na	Under construction	30
Nam Na 2	Hai Hung Co., Ltd	Nam Na	Under construction	66
Nam Na 3	Hai Hung Co., Ltd	Nam Na	Under construction	84
Nam Mo 3	Nam Mo Hydropower JSC	-	Completed	10
Nam Lung	Tien Thanh General Construction and Commerce Co., Ltd	-	Completed	3.6
Nam Cau 1	Northern Cement JSC.,	-	Under construction	7.5
Nam Cau 2	Northern Cement JSC.,	-	Under construction	6.3

Source: Summary from provincial documents and General Statistics Office data.

When these power plants are completed, they will contribute greatly to the industrial output of the province, promoting economic development and poverty reduction.

In addition, Lai Chau province has also invested in many other small and medium-scale hydropower plants, such as the Nam Na 1 (30 MW), the Nam Na 2 (66 MW) and the Nam Na 3 (84 MW) and many small-scale hydropower plants with a capacity of less than 10 MW/each. Together with the hydropower plants in Son La province, they have become important sources of energy supply for the processes of industrialization and modernization.

3.6. Development Challenges

Currently, Lai Chau is the poorest province in Vietnam. Therefore, in the coming decades of development, fighting poverty is still the greatest challenge for the province, and even for the region (Appendix 2). According to the new definition of the poverty line, the rate of poverty in Lai Chau is 50.1% (2010). According to the Lai Chau report, poverty tended to increase from 46.78% in 2010 to 47.2 % in 2011 (applying the old definition of the poverty line). Most of the poor are minorities (Mang, La Hu, Kh'mu, Cong, Khang, etc.) located in remote and mountainous areas difficult to access.



Condition of Connecting Road from Lai Chau to Dien Bien.

Source: Taken by author.

The development of hydropower plants may have certain negative consequences concerning the livelihood of some minorities, e.g., changing their culture of cultivation and dependence on nature. Therefore, changing their customs may need more time than was estimated.

Given government support for policies to reduce poverty, such as Resolution 30a or the national targeted program on poverty reduction, the basis of assisting the poor is the development of enterprises. Currently the number of enterprises in Lai Chau province is very small in terms of the number and the investment amount. They are mainly focused on trading and exploiting natural resources for export. Therefore, the value added created is low, though Lai Chau province has opportunities to increase it.

The development of processing enterprises could help the province increase the ratio of value added. It is rational to develop selected industrial zones or border economic zones to promote international trade and investment, provide jobs for local people and reduce poverty. Unfortunately, enough incentives do not exist to attract firms.

In a global economy, transportation costs greatly influence the competitiveness of firms. The market for firms will expand only if the cost of transportation is reduced. When value added is still at a low level, an increase in the cost of transportation will sweep away the tiny profits of the firm. Therefore, enhancing the quality of the roads as well as expanding the road network connecting the industrial estates to major ports or major markets is important.

The network that connects Lai Chau with other provinces and major ports includes NR No. 4D, NR No. 12, NR No. 32 and NR No. 279. NR No. 4 connects Lai Chau to Lao Cai province, NR No. 12 to Dien Bien province and NR No. 32 to Yen Bai Province. A significant consensus exists in the business sector that the quality of roads connecting Lai Chau to other provinces is poor (See Photograph). Therefore, business investors won't come unless the road conditions are improved and the road infrastructure is expanded. Investment to upgrade road infrastructure is one of the challenges that needs changes within an institutional framework, such as public-private partnerships, because of limitations in local budgets.

Like Son La province, Lai Chau province also faces difficulties preparing its

labor force for the anticipated arrival of firms. Local laborers do not have the necessary skills needed by investors. Therefore, certain measures to attract laborers from neighboring provinces, even from the NKER, are necessary. In addition to direct incentives to attract skilled laborers, developing urban areas and improving road infrastructure also contribute to creating favorable conditions to attract people.

Promoting the shift of industrial structure toward some industries with higher value added is important in the sense that it will provide decent jobs and help to eliminate poverty in Lai Chau province. However, there should be careful consideration of the type of industry because some will not succeed in the climate conditions of Lai Chau. Rubber is an example. Geographical conditions, such as soil and water, may be suitable to plant rubber and pressure from poverty reduction may create incentives for rubber plantation, but rubber forests cannot manage or conserve rain water: floods will continue to occur. Natural disasters like strong winds or floods may damage the trees before the latex can be collected or the quality of latex may not be high and the investment will be lost. In such a situation, it is a challenge to select a good industrial plan and it is the role of public research institutes to consult with policy makers.

Lai Chau province also has the potential to promote tourism. But in order to fully exploit that asset, a set of measures is necessary. Mass production to secure food and the creation of attractive programs for tourists to enjoy are important. The current fragmentation of programs allows intermediaries to enjoy the benefits of tourism, but not the local people. The efforts of Lai Chau province, Dien Bien province, Son La province and other neighboring provinces in the CHLV Triangle should be coordinated to create an experience of tourism that benefits all. No single province can tackle the problem alone due to resource limitations.

4. THE DEVELOPMENT OF DIEN BIEN PROVINCE

4.1. Overview of Development

Dien Bien province is the newest of the provinces in the west-northern region. It was spun off from the old Lai Chau province in 2003. Dien Bien is the only province of

Vietnam that shares a border with both China and Laos; it shares a nearly 40 km long border with Yunnan province and a 360 km long border with Laos. Dien Bien is the gateway of the northern region to the North-South Economic Corridor via the Tay Trang-Pang Hoc border crossing with Laos. The other two border crossings connecting Vietnam and Laos are Huoi Puoc-Na Son and Si Pha Phin-Huoi La. The only border crossing with Yunnan, China is at A Pa Chai-Longfu.

During the period 2006-2010, the Dien Bien provincial gross output experienced a high growth rate of 11.62% per year. Nominal gross output of the province was VND 5,625 billion. The agricultural and service sectors are the two sources of economic growth of Dien Bien province, while the industrial and construction sectors remained less developed. The real provincial gross output of Dien Bien province increased from VND 1,281 billion (2006) to VND 2,002 billion (2010). It was equal to two-thirds of the gross provincial output of Lai Chau province in the same year. According to the new poverty line published by the central government, Dien Bien province was the poorest in Vietnam. The total of poor households accounted for 50.8%.

Dien Bien province also experienced changes in economic structure over the period 2005-2010. The contribution of the agricultural and service sectors fell from 37.15% and 37.75% in 2005 to 35.27% and 35.92% in 2010, respectively. At the same time, the industrial and construction sectors increased 3.7% to reach a new contribution of 28.81%.

The area of land for agriculture increased annually. Dien Bien province has the largest area of paddy field among the three provinces. In 2011, the total area of rice field was 47.55 thousand ha, which raised rice production from 127.56 thousand tons in 2005 to 155.08 thousand tons in 2011. Dien Bien province also has short-term industrial crops, but the economic efficiency was not high so the incentive to expand the area of such crops has recently declined (Table 19). The long-term industrial crops include tea, coffee and rubber. Since 2008, 3.48 thousand ha of rubber have been planted.

Dien Bien province has also mass produced cattle and poultry, providing stock for processing industries which make meat products. By the year 2010, the cattle of Lai Chau province increased to 431.35 thousand animals, including 115.42 thousand

Table 19: Major and Potential Products of Dien Bien Province

		2005	2009	2010	2011
Area (1,000 ha)	Rice	40.03	44.91	46.46	47.55
	Cotton	0.81	0.77	0.69	0.66
	Soya beans	8.57	9.20	7.73	7.15
	Sugar cane	0.09	0.03	0.02	0.03
	Peanuts	1.28	1.89	1.64	1.62
Quantity (1,000 tons)	Rice	127.56	146.56	155.11	155.08
	Corn	49.14	66.79	67.38	71.02
	Cotton	0.79	1.12	0.95	0.93
	Soya beans	10.12	11.76	9.95	9.48
	Sugar cane	2.30	0.52	0.46	0.57
	Peanuts	1.27	1.96	1.90	1.97

Source: Summary from provincial documents and General Statistics Office data.

Table 20: Fishery and Forests in Dien Bien Province

		2005	2009	2010	2011
Area (1,000 hectare)	Water surface	1.40	1.75	1.86	1.86
	Natural forest	357.35	379.27	330.90	369.27
	Reforestation	14.68	18.35	16.32	15.84
Quantity	Fishery (ton)	55.00	70.40	80.80	152.60
	Aquaculture (ton)	736.00	1,202.80	1,234.60	1,312.00
	Timber (1000 m ³)	65.71	47.76	34.78	24.40
	Wood (million ste)	0.63	0.80	0.84	0.92

Note: 1) ste is the abbreviation of stere (measuring cordwood, firewood): 1 stere = 3.6 cubic meters.

Source: Summary from provincial documents and General Statistics Office data.

buffaloes, 39.10 thousand oxen, 276.83 thousand pigs while the poultry increased to 996 thousand. Total meat products increased to 12.4 thousand tons.

The total area of water surface for aquaculture production increased significantly, from 1,397 ha in 2005 to 1,860 ha in 2010 and 1,862 ha in 2011 (Table 20). Increasing the area of water surface helped Dien Bien to become the largest province among the three studied provinces in supplying fish products for the market. Total production of aquaculture increased from 736 tons to 1,312 tons during the period 2005-2011 and the production from fisheries increased from 55 tons to 152.6 tons in the same period.

Table 21: Industrial Output Value of Dien Bien Province

(Unit: VND billion)

	2005	2009	2010	2011
Mining industry	31.7	69.3	101.1	159.5
Coal mining	6.6	7.8	8.7	9.6
Metal ore mining		0.3	1.36	61.8
Lime stone and other excavations	25.1	61.1	91.1	88.0
Food processing	308.6	667.3	737.2	1,012.3
Total Industrial output value	439.8	922.6	1,172.8	1,552.0

Source: Summary from provincial documents and General Statistics Office data.

The total forested area in Dien Bien province also increased from 372 thousand ha in 2005 to 385 thousand ha in 2011. During the period 2006-2010, over 175 thousand ha of forest were allocated for households to protect and to cultivate. This was an important measure to fight poverty in Dien Bien province.

Regarding the industrial output, the output of coal mining, metal ore mining and food processing shows a significant upward trend while the output of lime stone decreased from 2010 to 2011. Especially, the total industrial value increased more than three times from 2005 to 2011 (Table 21). Such a trend is similar to Son La Province (Table 7).

4.2. The Development of Enterprises

Although the province had a very short experience of development, the number of enterprises in Dien Bien grew quickly compared with those of Lai Chau province. In particular, the number of medium and large-sized enterprises is greater than that of Lai Chau province.

In 2010, Dien Bien had 694 enterprises operating in the province with a total capital of VND 5.96 billion, higher than that of 2005 (258 enterprises). Among them, 11 are SOEs which had already been equitized under the state-owned enterprise reform program. By the end of 2011, the number of enterprises operating in Dien Bien province increased to 757 firms, despite macro-economic difficulties. The total registered capital of these firms increased to VND 6.67 billion. The increase in the number of enterprises not only supplied more commodities for the needs of local people, but also created jobs and reduced the rate of poverty. Additionally, they became

an important source for the local government budget.

4.3. The Industrial Sector and Industrial Potential

The industrial sector of Dien Bien province shares the same characteristics as the other two provinces, i.e., Son La and Lai Chau. Dien Bien province also has a construction materials industry that includes cement production, tunnel brick production and construction stone exploitation. Although the total number of enterprises in Dien Bien was low, 325 enterprises engaged in the industrial sectors mentioned above.

Similar to the situation in the other provinces in the farthest west-northern region, the mining and food processing industries also accounted for a large proportion of the total industrial output value in Dien Bien province. In 2005, they accounted for 77% of the total output value. By the year 2011, they accounted for 75.5% of the total industrial output value. In 2011, the productivity of major industries was 620 thousand m³ of limestone, 13.5 thousand tons of coal, 170 thousand tons of cement, 8.1 thousand m³ of timber and 34.88 thousand tons of food and food products. Unlike Son La and Lai Chau provinces, Dien Bien province has only small and medium-scale electricity production. In 2010, the total electricity supplied by Dien Bien province was 75 million kWh, which was far below the supply of Lai Chau province in the same year (21.3 million kWh). Total industrial output value (1994 prices) experienced a slight decrease recently, from VND 62.64 billion in 2009 to VND 58.54 billion in 2011

Dien Bien province also developed a number of industrial zones for firms to invest and to do business in, but at a smaller scale. For example, there were two projects to construct industrial zones: Thanh An, with total area of 70 ha, and the Tay Bac industrial zone, with a total area of 100 ha. When the first phase of development is completed, the total area of industrial land will be 20 ha and 45 ha, respectively.

The province also developed two industrial clusters: one with a total area of 50 ha located to the east of Tuan Giao district, the other with a total area of 49.8 ha in Sam Mun village, Dien Bien district. Compared to other industrial zones and industrial clusters, the industrial zones in Dien Bien have the smallest scale.

Table 22: Cross Border Trade with Laos

(Unit: USD 1,000)

	2009	2010	2011	2012 ¹⁾
Imports	5.200	8.500	10.253	5.660
Exports	4.000	4.800	6.131	3.540

Note: 1) Estimated data of the first half.

Source: Summary from provincial documents and General Statistics Office data.

4.4. Cross-Border Movement

Dien Bien is the only province that shares a border with both Laos and China. By the end of first half of 2012, total trading value with China via the A Pa Chai-Longfu border crossing was USD 3.55 million, of which the export value was USD 1.32 million and the import value was USD 2.23 million. Major exported items included agricultural and medicinal products, while major imported goods included fruit and agricultural products.

Table 22 shows that the cross-border trade from Dien Bien Province shows an upward trend. And the total cumulative value of trade with Laos during the period between 2006 and 2012 reached USD 71.44 million. The cumulative export value was USD 39.06 million, while the import value was USD 32.38 million.

The tourism industry in Dien Bien is relatively developed when compared with that of Son La and Lai Chau provinces. It was estimated that over 40 firms involved in tourism were located in Dien Bien province. There are eight hotels and many inns, providing over 653 rooms for tourists and other visitors. The Muong Thanh paddy field and the historical site of the Dien Bien Phu victory are examples of local attractions. The opening of Dien Bien airport has also played an important role to attract foreign visitors. Nevertheless, the number of visitors remained small and, therefore, tourism's contribution to the provincial budget was limited.

4.5. Development Potential and Opportunities

Sharing borders with Laos and China, Dien Bien province has opportunities to promote trading with the two countries. Cross-border trade may provide jobs for thousands of

people. Increasing trade activities may boost the development of logistic services as well as changes in the economic structure of Dien Bien.

Unlike the other two provinces, Dien Bien province does not have large hydropower plants due to geographical conditions. Most of the hydropower plants in Dien Bien province have capacities of less than 10 MW (Table 23).

Table 23: List of Hydropower Projects in Dien Bien Province

Power Plant	Operating Company or Investor	River / Spring	Status	Capacity (MW)
Na Loi	Song Da Corporation	Nam Rom	2003	9.3
Thac Trang	Song DaNo 11 Hydropower JSC.	Nam Rom	2006	6
Thac Bay		Nam Rom	1989	2.8
Pa Khoang	Duc Thanh Production and Commerce Co., Ltd.	Nam Rom	2010	2.4
Na Son	Dien Bien Agriculture and Rural Development Department	-	2006	0.2
Nam Can	-	-	1972	0.12
Ta Con	-	-	1970	0.12
Nam Muc	Nam Muc Hydropower JSC.	Nam Muc	Under construction	44
Nam Pay	Northern Electricity Company	–	Under construction	7.5
Nậm He	Song Da–Dien Bien Energy JSC.	–	Under construction	15
Nam Mu 2	Nam Mu Hydropower JSC.	–	Under F/S	8
Nam Khau Hu	Na Loi–Dien Bien Hydropower JSC.	Nam Khau Hu	Under F/S	3
Song Ma 3	Hung Hai Group	Ma river	Under F/S	24
(TaLaCao)	Dien Bien Prosperity JSC.	Nam Muc –Da	Under F/S	2.7
Sinh Phinh				
Nam Ngam	Vietnam Auto technology Development and Application JSC.	Nam Ngam- Nam Rom - Mekong	Under F/S	3.2
Nam Nua (Nam Rom)	Thai Tuan Construction Business	Nam Nua	Under F/S	10.8
Long Tao		Nam Muc - Da	Under F/S	42
Trung Thu	BTT Technology Investment and Development JSC.	Nam Muc - Da	Under F/S	29.6
Huoi Vang		Nam Muc - Da	Under F/S	13.2

Source: Summary from provincial documents and General Statistics Office data.

4.6. Development Challenges

Dien Bien is one of the poorest provinces in Vietnam and fighting poverty is still its greatest challenge not only for the province but also for the region (Appendix 2). According to the new definition of the poverty line, the rate of poverty in Lai Chau was 50.8% (2010). According to a Dien Bien report, poverty showed a decreasing trend (old poverty line) from 44% in 2006 to 32.37% in 2010. Nevertheless, the number of poor increased to 50.01% (2010) by applying the new poverty line. In addition to 51,644 poor households, Dien Bien province has 8,617 households near the poverty line. Therefore, it is a challenge to help these households maintain a higher living standard.

The high ratio of poverty is closely related to the low number of enterprises and fewer jobs. This is one of the reasons why a large number of households and laborers engage in trading activities. Promoting the development of enterprises, especially the SMEs, is seen as an effective way to reduce poverty in Dien Bien as well as for other poor provinces. Nevertheless, firms tend to agglomerate at favorable places: near airports, ports or places where it is easy to mobilize factors of production like a labor force. Therefore, developing favorable business conditions is one of the challenges for Dien Bien province.

When promoting SMEs, it is important for Dien Bien to focus on processing industries because these help to increase the value added of their products and are characterized as labor intensive: they can provide jobs for thousands of local laborers. The border economic zones could help households which are engaged in trading to develop and become SMEs, contributing more to the budgets of local governments.

Dien Bien also has some attractive places for developing tourism, such as Muong Thanh paddy field, the historical site of the Dien Bien Phu victory or minority villages rich in local culture. But the current status of low contributions from tourism, especially the low level of benefits diffused to the poor, implies that changes are needed in the design of tourist programs. The lack of tourist activities, such as viewing minority festivals, does not allow local people to sell their products and hampers them from raising their income. The lack of linkage across activities is one reason why



The Beautiful Field of Rice at Sin Ho.

Source: Taken by author.

tourists often visit the province for only a short period of time and the reason why local people do not benefit from tourism.

5. CHALLENGE OF INTEGRATING THE WEST-NORTHERN REGION INTO THE GMS MARKET

Provinces in the CHLV Triangle have definite economic advantages. They are endowed with rich natural resources, including forests, rivers and minerals, and an enriched society of local cultures. In the agricultural sector, there are rice and other crops, industrial plantation and fisheries. In the industrial sector, assets include construction materials and electricity generation. All of this is in addition to tourism.

Additionally, the CHLV Triangle is located between the two sections of the North-South Economic Corridor, which is described by the large triangle of Kunming, Bangkok and Hanoi. The CHLV Triangle has great development potential once these three development centers of the GMS are connected. Connections from the triangle to the west of the NSEC have been significantly improved (road quality as well as gasoline stations). The bridge on NR No. 2E (in Laos) that crosses the Nam Ou River is nearing completion. The fourth Mekong Friendship Bridge crossing the

Mekong River, scheduled for completion by the first half of 2013, connects Laos and Thailand. It will make travel between the CHLV Triangle and the west side of NSEC smoother.

The first and most important step to encourage growth in the CHLV Triangle is to enhance the traffic across provinces within the triangle, especially between provinces in Vietnam, and between Dien Bien and Phongsaly provinces. The bad quality of connecting roads not only increases transportation time, but also the cost of transactions because it is risky to move cargo and passengers across provinces using these roads. The connection between the CHLV Triangle on the east side of the NSEC (inside Vietnam), especially NR No. 4D, also needs to be improved and expanded. The current two-lane road cannot accommodate the expected transportation of agricultural and manufactured products.

Because enterprises play an important role in exploiting advantages and increasing potential contributions to economic growth and poverty reduction, it is the highest priority to create a favorable business environment for enterprises in these provinces during the next decade of development.

Another challenge is human resource development. In 2011, the total number of laborers in the three provinces accounted for 40.78% of the west-northern region's labor force and only 2.35% of the total labor force (Table 24). In addition, the majority of the population and, therefore, the majority of the labor force in these three provinces are ethnic minorities with different ways of doing business. Therefore, it is a great challenge to ensure easy access to the labor force once enterprises begin to invest. In this context, these provinces, instead of following the same development model that other provinces in Vietnam have pursued, may encourage the development of local industries, based mainly on the development of SMEs, so that their development could foster trade and attract both foreign and domestic investments in the future.

Still another challenge is to specify the industry/sector that will act as the driver of economic growth in this region and which all other industries must be designed to support. The current method of designing development strategies might not fully take into account the impact of one industry on the others and vice versa. It is easy to imagine that pollution created by the mining industry, cement industry or hydropower

Table 24: Labor Force (Above 15 Years Old) for Development

(Unit: 1,000 persons)

	2005	2007	2008	2009	2010	2011 (est.)
Lao Cai	332.8	326.4	345.8	355.5	357.5	377.8
Phu Tho	734.3	767.7	777.4	827.8	844.3	841.3
Dien Bien	235.7	257.4	263.6	271.2	276.4	300.4
Lai Chau	199.8	212.0	219.0	213.2	228.5	224.8
Son La	605.2	641.0	617.0	644.5	649.0	684.0
Hoa Binh	492.1	559.3	488.5	500.9	506.6	536.2
West-northern region	2,599.9	2,763.8	2,711.3	2,813.1	2,862.3	2,964.5
The whole country	44,904.5	47,160.3	48,209.6	49,322.0	50,392.9	51,398.4

Source: Summary from GSO.

electricity industry will have negative consequences on the development of tourism. But it is difficult to imagine that the underdevelopment of processing industries, as well as the lack of mass production in the agricultural sector, may also hinder the development of tourism.

Provinces in the CHLV Triangle have great potential for tourism. However, local people, especially ethnic minorities, did not benefit from past programs because they often lacked coordination and intermediaries took a large share of the benefits. In the next decade, the challenge will be to redesign tourism services so that the allocation of benefits between intermediaries and local people will be more equitable. The important challenge is to sustain tourism and reduce poverty among ethnic minorities. Greater research on the culture of minorities is necessary so that a suitable tourism program can be prepared to fully exploit the potential of this culturally enriched region.

CONCLUSION

There is a need to reconsider the design for the current development strategy, taking into account the impact of developing one industry on the development of others. It would be helpful to select a set of industries to become the driver of economic growth for the region as a whole. In other words, it will not only help local governments select

industries for break-through development, but also prevent pressure from short-term development targets, including the pressure of poverty reduction.

Attracting firms' investment is the root of economic growth and poverty reduction. These provinces need an enterprise development strategy which includes the development direction for certain specific industries, such as construction materials, the mining industry, the agriculture processing industry and tourism.

Improving road infrastructure is one of the most important conditions to attract firms. Given the current situation, a public-private partnership (PPP) could be a suitable measure for local governments to solve the issue. Nevertheless, there must be some adjustment in the current laws that regulate PPP activities; otherwise, most people may not be able to access national roads.

Given the development of road infrastructure, policies may be considered to integrate tourism into the GMS tourism chain so that domestic tourist firms may enjoy higher value added from that chain. The development of firms in the agricultural sector is also of importance because they not only help government to secure food for development, but also support tourism by enlarging the proportion of value added in the tourism chain. The development of electricity will contribute more to the industrial output at the risk of environmental deterioration and negative consequences for other industries, especially a service industry such as tourism. Therefore, more research will be needed on the pattern of industrial development that these provinces may follow. Ideally, the development of one industry will support the development of others and vice versa.

Promoting trade across provinces in the northern region and between the region and other provinces in the GMS plays an important role in promoting investment. However, the trade policy between Vietnam and China concerning border crossings (not only via Lai Chau province) has never been stable. Abrupt changes in trade policies from the China side happened many times in the past and raised the cost of transportation and storage charges for firms in Vietnam. Therefore, the challenge is to reduce the risk of trading with China as this result is beyond the capacity of local provinces. The country must support these provinces in negotiating with China for improved trade policy, lowering the cost of transactions to attract investment.

REFERENCES

- Dien Bien (2012), Socio-economic development plan of Dien Bien 2011-2015, People Committee, (Document No. 979/KH-UBND, dated July 5th 2011).
- Dien Bien (2012), Report to the joint research of Japan, Laos and Vietnam on September 19th 2012, People Committee.
- Dien Bien (2012), Report on the socio-economic development of 2011 and planning for 2012, People Committee (document No 158/BC-UBND, dated December 09th 2011).
- Le Anh Vu(2007) “The development of farm economy in Dien Bien and Lai Chau,” *Journal of Economic Studies*, Volume 3, pp. 43-50.
- Luong Chien Cong (2011) “Human resource development for economic growth in the Lai Chau,” *Journal of Commerce*, Volume 23, pp. 9-11.
- Lai Chau (2012), Report on major socio-economic development indicators of 2011, People Committee (Document No.253/BC-UBND).
- Prime Minister, (2006), Master Plan on Socio-economic development of Lai Chau province during 2006-2020, Approval by Decision 87/2006/QĐ-TTg dated April 20th 2006.
- Lai Chau (2012), Report to provide basic information in accordance with prior request from the joint research team of Japan, Laos and Vietnam (Prepared by the People Committee).
- Lai Chau (2012), Report to provide basic information in accordance with prior request from the joint research team of Japan, Laos and Vietnam (Prepared by the Department of Planning and Investment).
- Lai Chau (2012), Report on the major activities of Ma Lu Thang Border Economic Zone, Lai Chau province, Board of Management (document No 174a/BC-KTCK dated September 10th 2012).
- National MDG Report (2010) *Vietnam on the Way to Reach MDG Targets*, mimeo, Da Nang City.
- Phan Duc Ngu(2003)“About investment attraction policies of Son La”, *Journal of Science Activities*, Volume 8, Pp. 43-45.
- Son La (2012), Industrial development strategies and priority, prepared documents for

the meeting between join research team of Japan, Laos and Vietnam and the Department of Planning and Investment in September 17th 2012.

Son La (2012), Report on the socio-economic development during 2006-2010 and 2011, People Committee.

Appendix 1: Ethnic Groups in Son La, Lai Chau and Dien Bien provinces

(Unit: %)

Ethnicities	Provinces		
	Son La	Lai Chau	Dien Bien
Thai	55.00	34.09	37.99
Kinh	18.00	14.04	18.42
Hmong	12.00	22.16	34.80
Viet-Muong	8.40	0.03	0.14
Khmu	1.89	1.90	3.30
Yao	1.82	13.53	1.07
Chinese	2.89	0.15	0.50
Tay		0.07	0.32
Laos		1.55	0.93
Xinh-mun			0.39
La Ha			
Khang		0.04	0.86
Hani		3.72	0.77
Nung		0.05	0.14
Si La		0.14	0.03
Cong		0.32	0.18
Giay		3.16	0.03
Lu		1.59	
La Hu		2.58	
Mang		0.76	
San Diu			
Khmer			
Rhade			
H're			
Bru			
La Hu			
Yi			
Pa-Hng			
Jarai, J'rai			
Stieng			
La Ha			
Bouyei			
Tho			0.05
Phu La			0.04
San Chay			0.03

Source: Summary from provincial documents and General Statistics Office data.

Appendix 2: Poverty Situation across Regions in Vietnam

Region	1993	1998	2002	2004	2006	2008	2010	2010 ¹⁾
Red River Delta	62.70	29.30	22.40	12.10	8.80	8.10	6.50	8.40
North-eastern	81.60	62.00	38.40	29.40	25.00	24.30	17.70	24.20
West-northern	81.00	73.40	68.00	58.60	49.00	45.70	32.70	39.40
Northern of Central	74.50	48.10	43.90	31.90	29.10	22.60	19.30	24.00
Southern Coastal of Central	47.20	34.50	25.20	19.00	12.60	13.70	12.70	16.90
Highland	70.00	52.40	51.80	33.10	28.60	24.10	17.10	22.20
South-eastern	37.00	12.20	10.60	5.40	5.80	3.50	2.20	3.40
South-western	47.10	36.90	23.40	19.50	10.30	12.30	8.90	12.60
Country	58.10	37.40	28.90	19.50	16.00	14.50	10.70	14.20

Note: 1) New poverty line introduced by the government.

Source: Households survey of GSO, 1993, 1998, 2002, 2004, 2006, 2008 and 2010