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Regional policy thinking and industrial development in Thai border towns

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Abbreviations

ADB	Asian Development Bank
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BOI	Board of Investment
IFCT	Industrial Finance Corporation of Thailand
NESDB	National Economic and Social Development Board
NSC	National Security Council
SIJORI	Singapore, Johor and the Riau Islands
TDRI	Thailand Development Research Institute

Since the mid 1970s the Thai government has attempted to reduce economic concentration in the Bangkok Metropolitan Region and interregional economic disparities. Industrial decentralisation policies have aimed to stimulate economic development in regional cities, including border towns. However, these policies have not achieved the ultimate goal of raising local incomes and economic benefits. Available data from Mae Sot, located on the Thai/Myanmar border, indicates limited policy achievement. These findings raise a major question: What benefits do local Thais gain when the national economy encourages export earnings and international competitiveness? This paper will focus on the relationship between government programmes and the dynamics of industrial development in Mae Sot.

There is widespread international concern about the unequal spatial distribution of economic growth in developing countries (NESDB 1997; Poppe 1998; Bird et al. 1999). Many planners and scholars have argued that a decentralisation policy can make an important impact on the development of regional cities and peripheral areas. Decentralisation policies have generally been found to promote employment generation, industrial and regional development (Rondinelli et al. 1983; Rondinelli 1990; Poppe 1998; Bird et al. 1999). Since the late 1980s, the Asian Development Bank (ADB) and Southeast Asian governments, including Thailand's, have promoted the development of border towns and cross-border regions as a mechanism for decentralisation and as a stimulus for economic cooperation (Map 1) (ADB 1993; NESDB 1997; Wu 1998). Van

Grunsvan et al. (1995), Tse et al. (1997), and Scott (1999) acknowledge that the main role of government in policy implementation has a major influence on the success of the decentralisation.

However, in the case of Thai border town development, experience has shown that the industrial decentralization is not necessarily achieving the ultimate goal of raising local incomes and increasing economic benefits (MacLachlan et al. 1998; Maneepong 2002–03; Maneepong 2003; Maneepong et al. 2004). Available data from Mae Sot, in the northwest of Thailand, bordering Myanmar (Map 2), indicates limited achievement of the government's policy aims to increase jobs and reduce inequality by boosting rural incomes. In terms of employment generation, about 20,000 migrant workers from Myanmar have taken most of the available jobs. This is a direct result of an explicit border town development strategy by Thai government. In terms of industrial development, one third of the total factories in this town are mainly in the garment industry as a direct result of incentives in border town development strategy. This industrial development is export-oriented with limited economic linkage to the local economy.

These findings raise the following question: What benefits does the local population gain from industries when the national economy encourages export earnings and international competitiveness? This paper will focus on the relationship between government programmes and the dynamic of industrial development in Mae Sot. The intention is to outline how other forms of support for local and regional industries and their growth might be encouraged.

Impetus for decentralisation and border town development in Thailand

Thailand's decentralisation policy for promoting border town development has been driven by two main issues: (1) regional disparities within Thailand and (2) the international context of the Southeast Asian sub-regional co-operation programmes.

Regional disparities

The Thai government, like that of many other industrialising countries, has been concerned with the "over-concentration" of development in and around its capital city Bangkok. It has developed and implemented a number of policies aimed at relocating industry and urban growth away from Bangkok, towards regional centres and peripheral areas of the country (NESDB 1987, 1992, 1997). Border towns have been considered one of the best target areas to support these policies because of their lower production costs and export potential (NESDB 1997). Bilateral and multilateral funding agencies such as the Asian Development Bank (ADB) have also favoured the development of peripheral areas including border towns (Tierney & Partners Pty Ltd. 1994; ADB 1996; GIBB Ltd. et al. 1998; Thant et al. 1998).

Southeast Asia Sub-regional Cooperation

The Southeast Asia sub-regional cooperation programmes, namely the Greater Mekong Sub-region Programme, commenced in 1992, and the Indonesia–Malaysia–Thailand Growth Triangle Programme commenced in 1993. These programmes

aim at facilitating and enhancing trade flows, improving investment climates and raising living standards in the sub-regions. Since 1997, the ADB, together with other donors and the private sector, has assisted the financing of high priority projects and programmes, such as cross-border road planning and investment, and policy development that attempts to overcome regulatory barriers to borders (ADB 1998; Thant et al. 1998). In July 2004, seven governments of the Asian sub-continent signed an agreement for the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC). With the completion of ongoing and planned projects due to sub-regional cooperation, it is expected that the pace of development in border towns will accelerate. In addition, some border towns such as Mae Sot in the Thai northwest and Mukdahan in the northeast region are expected to become the locations for industrial cooperation with neighbouring countries under the economic corridor development scheme (NESDB 1998).

Government objectives and implementation of border town development policies

While the above section outlines the formulation of Thai border town development policy, this section discusses policy objectives, assumptions and implementation.

Policy objectives

- a Moving labour-intensive and resource-based industries to border towns: A significant part of a decentralization strategy projects industrial development

MAP 1: Border town areas of Thailand



Major border towns targeted by the National Economic and Social Development Board, 1997

Source : Maneepong, 2002

Map 2: Case studies in the north : Mae Sai and Mae Sot border areas



Source : Maneepong, 2002

to accelerate the economic growth of border towns by generating employment and inducing other related economic activities. Industries located on borders, especially labour-intensive and resource-based industries, will, it is assumed, attract investors because of differences in prices, wage levels, and the quality and availability of goods and services (GIBB et al. 1999). In addition, being adjacent to neighbouring countries, industries in these towns should gain the location-related advantages of cooperation in their

industrial development, trade, and other businesses with neighbouring countries by maximizing the international division of labour and minimizing transaction costs (International Development Center of Japan et al. 2000; ADB Study Team 2000). Responding to these possibilities, government agencies have designed a variety of projects, often in conjunction with bilateral or multilateral agencies, to promote export-oriented, multinational enterprises as key agents of industrial development in border towns (TDRI 1991).

- b Increasing jobs and reducing inequality by boosting rural incomes: Thailand's overall objective for pursuing border town development emphasizes lessening regional economic disparities and poverty. The growth of trade and businesses in border towns is expected to promote these towns as 'regional growth poles', which will have multiplier effects on nearby areas in terms of job generation, higher wages and household income, better education, and enhanced welfare assistance. For example, the stated rationale for infrastructure investment in the border town of Chong Mek is to promote the town as a gateway for trade linking Thailand with Laos, Cambodia and Vietnam in order to promote wider opportunities for the northeast region (Thailand's most disadvantaged region) (Office of the Secretary for the Ministry of Interior 1993).
- c Developing regional linkages with neighbouring countries: Differences in wages levels, the cost of land, the cost of living, and other production costs may be major locational advantages for cross border cooperation of border towns between neighbouring countries. Concern that the sub-region is landlocked has motivated the ADB and the recipient countries to develop an East-West economic corridor from Myanmar through Thailand to Laos and Vietnam. The development aims to accelerate the transnational movement of goods, services, finance, people and information throughout the corridors themselves and their surrounding areas (ADB Study Team 2000; NESDB 2000). Mukdahan at the east end of the corridor and Mae Sot at the west end of the corridor in Thailand are prime targets.

Measures and implementation of border town development policies

The Thai government has implemented border town development policies through a number of programmes, especially large-scale projects of transport networks, public utilities, land use, and more efficient customs and immigration procedures (GIBB Ltd et al. 1999). Unlike other countries, Thailand currently has no comprehensive cross-border development programme with neighbouring countries nor does it designate any special economic zones for border towns. The major programmes all tend to include infrastructure investment, tax reductions, soft loans and special work permits for migrant workers.

Infrastructure investments. The basic assumption of the Thai government is that good physical infrastructure will attract investors to border towns. Therefore, the government has sponsored a number of large-scale strategic infrastructure projects to reduce the cost of transportation by building new bridges crossing borders, and improving road networks to border towns. For example, at Mae Sot, a new cross-border bridge was built by the Department of Highways to provide good transportation networks to link with the road leading to the seaport of Matabun in Myanmar (International Consultancy Network Co. Ltd 1996).

Tax reductions. Under the Investment Promotion Law, the Thai Board of Investment (BOI) has granted promotion zone privileges to domestic and international investors who invest in regional cities. For example, in all border town areas that are categorized as Zone 3,

investors receive the highest investment privileges including exemptions from import duties, business taxes and other taxes on machinery, equipment and raw materials for a limited time as well as speedier customs clearance (BOI 2002).

Soft loans. The Industrial Finance Corporation of Thailand (IFCT) was specially set up to offer financial support to businesses in regional cities and to those who plan to relocate to regional cities. Since 1997, the IFCT has modified the qualification requirements for small-scale enterprises by decreasing property value amount from US\$0.59 million to US\$2.37 million (Advanced Group 1997). Regional IFCT offices provide soft loans and financial advice in every region, including border provinces.

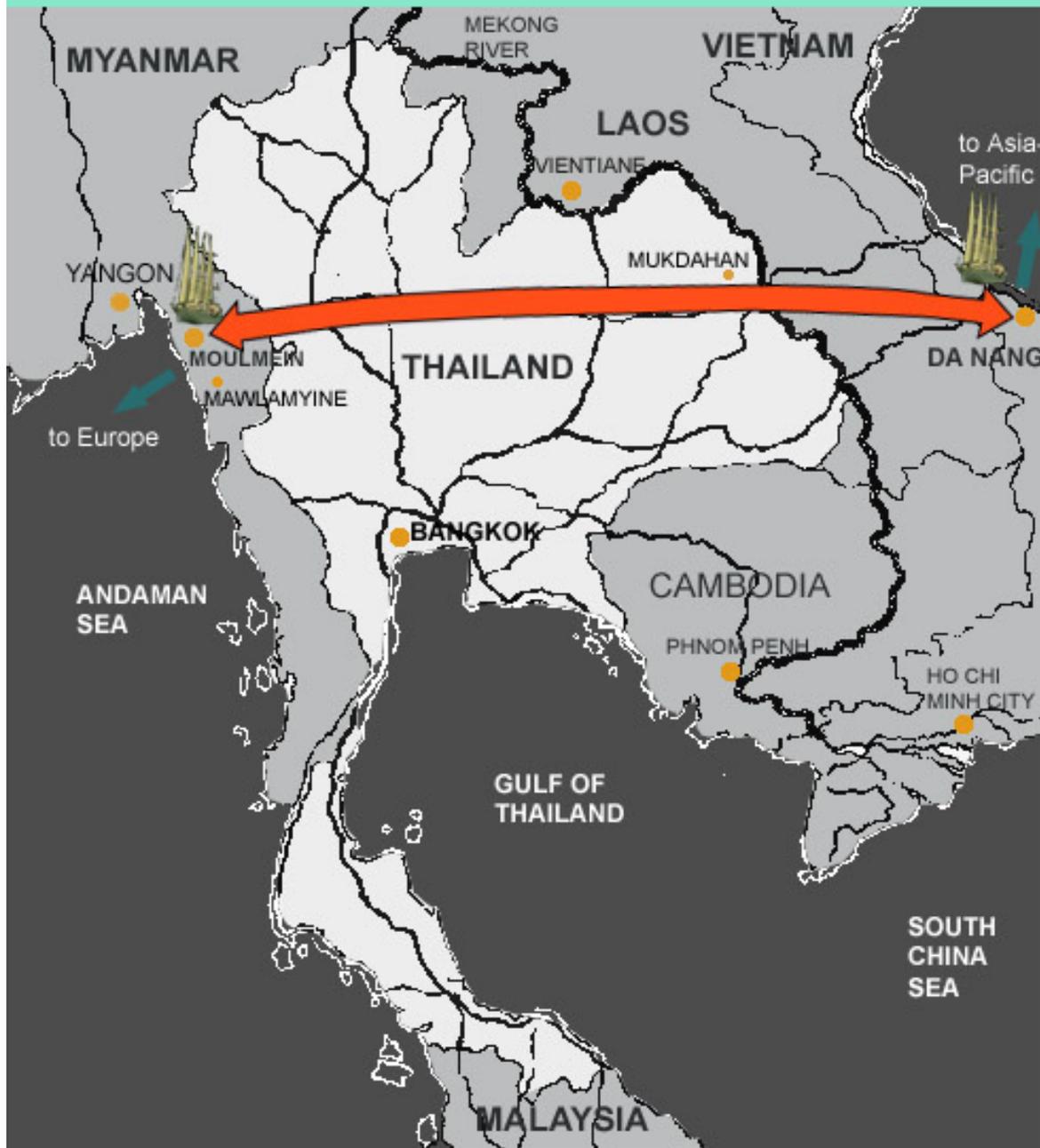
Work permits for illegal migrant workers. The 1950 Immigration Act and the 1978 Alien Employment Act allowed professionals to enter Thailand without limit during periods of labour shortages. However, other types of immigrants were restricted for national security reasons. Despite these restrictions, since the Second World War, the number of undocumented, unskilled workers entering Thai borders from neighbouring countries has significantly increased (Chalamwong 2004).

Immigrants from neighbouring countries have often been forced to leave their homes because of civil wars. In addition, immigrants have been attracted to Thailand since the economic boom in the 1980s, while Thai workers have also rejected menial work and sought higher paying and less arduous jobs (Chalamwong 2004). Illegal migrant workers from Myanmar, Laos and

Cambodia have largely replaced local Thai workers in agriculture and fishery sectors, especially in doing the dirty, dangerous, and difficult jobs often found in the main border provinces. In 1995, prompted by the Federation of Thai industries, the Thai government finally acknowledged a growing labour shortage. Consequently, at the beginning of 1996, an agreement was signed by the Ministry of Labour and Social Welfare, the National Security Council and other state agencies that would allow existing illegal immigrants to work legally in Thailand for two years. It was hoped that the agreement would also prevent a new influx of immigrants. Immigration and border patrol police may deport illegal migrant workers when their granted periods of stay have expired. Registration does not extend Thai minimum wages and social welfare benefits to migrant workers (Chalamwong 2004; Department of Employment Development 2004).

On the initiative of the Secretariat of the National Security Council (NSC), the current administration set up the Office of the Administrative Commission on Irregular Workers in 2001. This office is under the jurisdiction of the Ministry of Labour and Social Welfare, and is charged with the management of illegal migrant workers. In August 2001, the government launched a new policy. This allowed all illegal migrant workers already residing and working in Thailand, to remain in the country beyond their previously granted period on the proviso they report to the Royal Immigration Police. After passing a physical examination, migrants could then have their work permits extended for another year. Those registered migrants

Diagram 6.1 Conceptual framework map of East-West Economic Corridor Development, from Myanmar (at the West) to Vietnam (at the East)



Source : Maneepong, 2002

who could not pass the physical check up were to be deported (Chalamwong 2004; Department of Employment Development 2004).

These new registration measures have allowed government agencies and research institutes to ascertain more accurate figures on the number of migrant workers in Thailand. Table One shows there were 568,249 registered migrants employed by 152,718 employers, concentrated in the central and southern regions (Table 1) (Department of Employment Development 2004). About 80 per cent of all migrant workers are from Myanmar (Table 2) (Department of Employment Development, 2004). Recent registration statistics in June 2005 from the Department of Employment Development show that there are about one million migrant workers, excluding

about 200,000 family members and children under 15 years of age. However, Chalamwong (2004) believes that there may be more than one million illegal migrants who have not registered. Many of these are temporary workers who come to work in Thailand seasonally along the border provinces of the country.

A case study of Mae Sot

Mae Sot district, as the main border with Myanmar, is the most important border of Tak Province.¹ The district occupies 16,406 sq km and is the second largest land area in the north of Thailand. Tak province is in the north of Thailand, about 426 km from Bangkok, and it forms one of the northern borders between Thailand and Myanmar, stretching 355 km along the Moei River (Provincial Office of Commerce of Tak

Table 1 Total number of registered migrant workers, classified by regions

Regions	Number of registered migrant workers
Total number	568,249
Bangkok Metropolitan Area	110,536
Northern region	102,039
Central region	124,666
Southern region	118,783
Eastern region	62,548
Northeast region	12,132
Western region	37,545

Source: Office of Management for Illegal Migrant Workers Committee, 2005

Table 2 Total number of registered migrant workers, classified by nationalities

Nationalities	Number of migrant workers	Per cent
Total migrant workers	568,249	100.00
Burmese	451,335	79.4
Laotian	59,358	10.4
Cambodian	57,556	10.2

Source: Office of Management for Illegal Migrant Workers Committee, 2005

1999). In 1998, the total district population was 105,003 (National Statistics Office of Thailand 1999). Due to rural-to-urban migration, the population growth rate was about ten per cent annually from 1993–98 (Table 3). Due to geographical constraints and the influx of migrants from the neighbouring countries, Mae Sot district faces problem of over-population and urban sprawl (Asian Engineering Consultant Corp. et al. 1998; Harintornvech 1998).

The economic structure of Tak province shares a similar pattern with other northern provinces: industry and trade sectors predominate (about 40 and 17 per cent of gross provincial product respectively, Table 3). Due to national tourism promotion and an abundance of famous tourist destination places, the service sector significantly increased between 1993 and 1998 (about 5.36 per cent per annum) (Table 3). The people of Tak province are considered to be in the medium income group. Their provincial per capita income (about US\$1,019) is about forty per cent below the national average (Table 3).

In the 1990s, Mae Sot district gained economic opportunities in conjunction with the economic boom of Thailand. It became a favoured destination for relocating garment and other labour-intensive industries, a tourist destination, and a shopping attraction (TDRI 1991; NESDB 1998; International Development Centre of Japan et al. 2001). Recently, under the GMS program, the ADB also designated the East–West Corridor and Mae Sot town for sponsorship of this GMS recent development as part of the strategic network (GIBB Ltd et al. 1998; ADB Study Team 2000).

The total labour force of Tak province is about half of the total population although the total labours significantly during the economic boom. Even existing enterprises suffer from labour shortages because of the lure of job opportunities in Bangkok and other provinces. The 1997/98 national economic crisis severely affected employment opportunities. Table 4 indicates negative and zero growth rates of employment and a radically increasing unemployment rate in 1998. This is because many migrant workers who were laid off in Bangkok and other provinces returned to their home towns and provinces. Moreover, job opportunities in border provinces were limited. Most workers have few skills because of low education levels (Table 4).

One specific cause of unemployment in Tak province has been the low cost of migrant labour. Myanmar labour costs about half as much as Thai labour (ADB Study Team, 2000). Since 1993 the Thai government has allowed migrant workers along the borders to work temporarily in Thai border provinces in some labour-intensive jobs (Chintayananda et al. 1997; Provincial Chamber of Commerce of Tak 2000) and most enterprises tend to employ these migrants.

Major outcomes: Industrial development of Mae Sot border town

The conventional development framework conducted by and for the Thai government and analyzed from secondary data such as the number of factories, size of capital investment and employment generation in border towns points to the success of government investment and measures

Table 3 Economic indicators of Tak province and Mae Sot District

Sector	Tak province		1997	1998	Growth (%)
	1993	1995			
Agriculture	20.52	20.00	19.42	19.25	-1.55
Industries	45.79	39.47	36.72	38.91	-3.76
Manufacturing	7.49	8.00	8.25	6.34	-3.84
Wholesale and retail trade	13.27	17.04	17.32	14.75	2.78
Services	8.07	7.89	9.54	9.80	5.36
Gross Regional Product of (GRP) the north (mill.)	5,466.81	6,233.93	6,403.38	6,034.57	2.60
Gross Provincial Product (mill.)	240.53	229.24	223.90	231.02	-0.99
Percent out of GRP	4.40	3.68	3.50	3.83	-3.25
Population of the whole province	427,609	450,153	471,596	484,678	2.67
Population of the Mae Sot district	69,140	97,462	124,627	105,003	10.37
Per capita income of the whole kingdom (US\$)	1,301	1,681	1,862.36	1,800.64	9.60
Per capita income of the northeast region (US\$)	642.31	818.83	917.64	926.74	11.07
Per capita income of case study province (US\$)	828.43	929.33	975.90	1,019.38	5.76
Differences of per capita income of case study province and per capita of the whole kingdom (%)	-36.33	-44.70	-47.60	-43.39	
Tourism data					
Thai tourists	167,594	235,448	253,546	225,758	8.68
International tourists	2,197	1,887	2,211	3,004	9.18

Note: US\$ = 42 Thai Baht

Source: NESDB, 2002; Bank of Thailand, Northeast branch; National Statistics Office of Thailand; Tourism Authority of Thailand

(International Consultancy Network Co. Ltd 1995; ADB Study Team 2000). However, Boapeah et al. (1992), öscan (1995) and Helmsing (2003) argue that local benefits and local equal distribution at community level are considered as key indicators of development. They highlight the main components in generating local benefits and

local equal distribution as local initiatives using mainly local resources and community agencies, especially the local labor force, materials, skills and technology under local management control.

In cases of border town development, due to limited linkages with and contribution to local economy there is

Table 4 Labour force of Tak Province

Items	1992	1993	1996	1998	1999	2000	Growth (% p.a.)
Total provincial labour force	-	-	185,533	182,895	-	-	-0.71
Total provincial population	-	-	461,508	479,105	-	-	1.91
Percentage of total population	-	-	40.2	38.17	-	-	-2.52
Number of employees	-	-	165,748	169,251	-	-	1.06
Percentage of total labour force	-	-	89.34	92.54	-	-	1.79
Number of unemployed	-	-	19,607	9,426	-	-	-25.96
Percentage of total labour force	-	-	10.57	5.15	-	-	-25.64
Level of educational attainment							
Elementary (%)	-	-	64.06	-	65.96	63.78	-0.11
Secondary (%)	-	-	13.07	-	11.92	11.28	-3.42
University (%)	-	-	4.4	-	3.13	4.76	2.05
Vocational (%)	-	-	3.17	-	1.57	0.75	-19.09
Others (%)	-	-	15.29	-	17.42	19.44	6.79
Total (%)			100		100	100	

Source: Custom Department, Thailand, 2001; National Statistics Office, 2001.

uncertainty over how much real benefit industries in border towns gain from government investments and measures. Grundy-Warr et al. (1998) and Ho (1999) both associate a lack of local participation with the failure to attract economic activities and sustain economic growth, especially in the case of SIJORI (Singapore, Johor, the southern most state in peninsular Malaysia, and the Riau Islands, the cluster of Indonesian islands nearest to Singapore). MacLachlan et al. (1998) reports that the growth of large, export-oriented industries, referred to as the "Maquiladoras", has not promoted backward linkages to the Mexican economy, but has increased Mexican dependence on imported materials from the United States.

An assessment of industrial decentralisation policy in Mae Sot therefore

uses both a macro perspective, gleaned from secondary data, and a local economic development perspective, developed from a survey of 39 entrepreneurs in Mae Sot in 2002.² In assessing the major outcomes of industrial decentralisation policy, the focus is on relocation of industries, employment generation, local and regional labour and producers, market areas and regional linkages with neighbouring countries. Major survey findings are as follows.

Significant increase in the number of factories. At the beginning period of 1990s, due to well-developed infrastructure and government investment incentives and privileges, there was a marked growth rate in the number of factories in Mae Sot. The average growth rate between 1993 and 2000 was 21 per cent per annum (Table 5).

Mae Sot is the second district after Muang district (Muang district is the provincial centre district of every province) in Tak province. Their shares of the province's total number of factories were equal over the seven years from 1993. Nonetheless, the growth rate of Mae Sot district was higher, and the Mae Sot workforce was also larger and increased faster. During the economic boom, Mae Sot factories generated more than fifty per cent of provincial industrial employment. Even though capital investment in Mae Sot factories was less than that of Muang district, the growth rate exceeded its Muang district, especially during the peak economic boom in 1995/96 (Table 6).

Non-indigenous industries, mainly labour-intensive industries. Due to the agricultural dominance within Tak province and its distance from Bangkok, the agricultural industry, mainly that of traditional rice mills, is the largest industry in Mae Sot border town. The second largest sector is the service-oriented industry, responsible for maintaining local vehicles, spare parts and accessories, and for household decorations (Table 7). Other

industrial sectors consist of a mixture of indigenous and non-indigenous industries.³

The export garment industry in Mae Sot clearly generates the highest levels of employment and the greatest capital investment (Table 7). Wood processing follows this, which accounts for about 17 per cent of total employment and eight per cent of total capital investment (Table 7). Industries registered as other industries involving light production such as artificial flower production and chilled fishes were responsible for generating the highest capital and the second highest source of employment in 2000 (Table 7).

Large-scale and company registered type of ownership. Even though single owners own more than 61 per cent of enterprises in Mae Sot, the company-registered type of enterprise uses the highest amount of capital, labour and horsepower engine. Mae Sot's percentage of the company business type is quite high because most recently relocated industries are originally from Bangkok or are jointly owned with international investors (27.31% of total factories; Table 7). As exporters are included in the decentralisation programme, half the

Table 5 Manufacturing data of Mae Sot Border Town

Towns	Year	No. of factories	Capital investment (US\$ million)	Workers	Machinery horsepower
Mae Sot of Tak Province	1993	118	4.54	3,708	11,666.09
	1995	138	7.21	4,716	13,845.33
	1997	152	10.22	6,735	15,631.40
	2000	218	24.21	14,793	21,838.09
Growth rate (%)		21.19	108.41	74.74	21.80

Note: US\$ 1 = 42 Thai Baht.

Source: Department of Industrial Works, 2002

Table 6 Manufacturing statistics of Tak province, Muang District and Mae Sot District

	1993	1994	1995	1996	1997	1998	1999	2000
Tak province								
No. of factories	370	390	403	411	429	453	487	518
No. of employees	7,531	7,937	8,701	9,482	11,323	13,149	18,139	20,044
Capital (US\$ million)	95.76	99.92	102.48	104.19	194.04	199.28	209.47	212.02
<i>Growth (%)</i>								
No. of factories		5.41	3.33	1.99	4.38	5.59	7.51	6.37
No. of employees		5.39	9.63	8.98	19.42	16.13	37.95	10.50
Capital (US\$ million)		4.34	2.56	1.67	86.24	2.70	5.12	1.22
Muang district								
No. of factories	136	143	145	147	155	158	159	166
% of provincial factories	36.76	36.67	35.98	35.77	36.13	34.88	32.65	32.05
No. of employees	2,426	2,492	2,506	2,510	2,637	2,661	2,666	2,706
% of provincial factories	32.21	31.40	28.80	26.47	23.29	20.24	14.70	13.50
Capital (US\$ million)	77.22	78.25	78.48	78.60	83.18	85.12	85.13	85.34
% of provincial factories	80.64	78.31	76.58	75.44	42.87	42.71	40.64	40.25
<i>Growth (%)</i>								
No. of factories		5.15	1.40	1.38	5.44	1.94	0.63	4.40
% of provincial factories		5.15	-1.87	-0.59	1.02	-3.47	-6.39	-1.85
No. of employees		2.72	0.56	0.16	5.06	0.91	0.19	1.50
% of provincial factories		-2.53	-8.27	-8.09	-12.02	-13.10	-27.37	-8.15
Capital (US\$ million)		1.33	0.30	0.15	5.82	2.33	0.01	0.24
% of provincial factories		-2.89	-2.20	-1.49	-43.18	-0.36	-4.85	-0.96
Mae Sot district								
Number of factories	120	129	139	145	153	170	203	225
% of provincial factories	32.43	33.08	34.49	35.28	35.66	37.53	41.68	43.44
No. of employees	3,591	3,838	4,586	5,363	6,470	8,222	13,207	15,067
% of provincial factories	47.68	48.36	52.71	56.56	57.14	62.53	72.81	75.17
Capital (US\$ million)	4.28	4.63	6.95	8.55	9.89	12.47	22.65	24.91
% of provincial factories	4.47	4.64	6.79	8.20	5.10	6.26	10.81	11.75
<i>Growth (%)</i>								
No. of factories		7.50	7.75	4.32	5.52	11.11	19.41	10.84
% of provincial factories		1.99	4.28	2.29	1.09	5.22	11.08	4.20
No. of employees		6.88	19.49	16.94	20.64	27.08	60.63	14.08
% of provincial factories		1.41	9.00	7.31	1.03	9.43	16.44	3.24
Capital (US\$ million)		8.30	50.05	22.92	15.68	26.08	81.68	9.97
% of provincial factories		3.80	46.30	20.90	-37.89	22.77	72.84	8.65

Source: Department of Industrial Works, Ministry of Industry, 2000

Table 7 Industrial structure of Mae Sot case study town

Industrial types	No. of enterprises	% of total enterprises	Employees	% of total enterprises	Capital (US \$mn)	% of total enterprises	Horsepower engine	% of total enterprises
Agriculture	54	25.00	151	0.93	0.483	0.89	1,076	5.07
Construction materials	20	9.26	541	3.35	2.078	3.85	3,558	16.76
Food and beverage	25	11.57	428	2.65	1.128	2.09	5,185	24.42
Wood processing	20	9.26	2,769	17.13	2.110	3.91	4,653	21.92
Garment	58	26.85	10,600	65.56	17.500	32.41	3,777	17.79
Chemical and plastic	3	1.39	175	1.08	0.603	1.12	284	1.34
Metal and non-metal	3	1.39	119	0.74	0.430	0.80	734	3.46
Services oriented	25	11.57	429	2.65	0.868	1.61	565	2.66
Others	8	3.70	957	5.92	2.206	4.09	1,397	6.58
Total	216	100	16,169	100	27,406	51	21,229	100

Types of business registration	Mae Sot district	% of total enterprises	Size of factory	Mae Sot district	% of total enterprises
Single owner			Micro		
No. of factories	130	60.19	No. of factories	102	30.36
Capital (US \$ Mill.)	4,842	17.67	Capital (US \$ Mill.)	0,554	0.93
No. of employees	2,716	16.80	No. of employees	1,164	37.26
Horsepower	4,919	23.17	Horsepower	2,933	3.99
Company			Small		
No. of factories	59	27.31	No. of factories	59	17.56
Capital (US \$ Mill.)	18,857	68.80	Capital (US \$ Mill.)	4,814	8.12
No. of employees	11,335	70.10	No. of employees	2,207	70.65
Horsepower	11,632	54.79	Horsepower	6,234	8.48
Corporated company			Small to medium		
No. of factories	25	11.57	No. of factories	41	12.20
Capital (US \$ Mill.)	3,253	11.87	Capital (US \$ Mill.)	8,530	14.39
No. of employees	1,924	11.90	No. of employees	7,690	246.16
Horsepower	4,415	20.80	Horsepower	9,714	13.21
Public company			Medium		
No. of factories	1	0.46	No. of factories	12	3.57
Capital (US \$ Mill.)	0.386	1.41	Capital (US \$ Mill.)	7,247	12.23
No. of employees	124	0.77	No. of employees	3,652	116.90
Horsepower	190	0.89	Horsepower	2,136	2.90
Others			Large		
No. of factories	1	0.46	No. of factories	2	0.60
Capital (US \$ Mill.)	0.069	0.25	Capital (US \$ Mill.)	6,262	10.56
No. of employees	70	0.43	No. of employees	1,456	46.61
Horsepower	75	0.35	Horsepower	214	0.29
Total			Total		
No. of factories	216	100	No. of factories	216	64.29
Capital (US \$ Mill.)	27,41	100.00	Capital (US \$ Mill.)	27,407	64.28571429
No. of employees	16,169	100	No. of employees	16,169	46.24
Horsepower	21,231	100	Horsepower	21,231	517.5736236

Note : US\$ 1 = 42 Thai Baht

Source: Department of Industrial Works, Ministry of Industry, 2000

factories (registered as companies) are also granted full investment privileges by the Board of Investment of Thailand (BOI, 2002).

Dependency on migrant Myanmar workers. Government incentives and cheap Myanmar migrant labour has attracted a number of non-indigenous industries, mainly labour-intensive industries to Mae Sot. About 20,000 migrant workers have taken about eighty per cent of available jobs (Interviews with the private sector, 2002).⁴ According to factory owners and managers in Mae Sot and Chintayanada et al. (1997), apart from costing half the official minimum wage,⁵ Myanmar migrant workers are in demand because they are perceived to work harder and longer than Thai workers. Furthermore, they do not leave work for farming in the rainy season, nor do they take days off during Thai festivals. The Thai national economic recession and the Myanmar government's fight against minority groups continuously push these migrants to work in Mae Sot (Interviews with the private sector, 2002).

Limited economic linkages with neighbouring countries. Economic linkages with neighbouring countries in Mae Sot border town (except labour) are limited. This is because of regulatory cross-border barriers, the low purchasing power of people in the neighbouring countries, and different customer behaviour that combine to form major bottlenecks. Less than ten per cent of surveyed industries such as wooden furniture and gemstone decoration acquire raw materials or have customers from neighbouring countries (Interview with the private sector, 2002; Maneepong 2003).

Market areas and source of raw materials.

About one third of the surveyed enterprises in Mae Sot have international and national market share. In particular, more than a quarter of garment industries directly export their products to the United States, Europe and other Asian countries. Since most regional suppliers function as wholesalers for Bangkok factories, the flow of raw materials indicates strong linkages to Bangkok factories and Bangkok suppliers, especially for secondary and non-indigenous industries. This suggests the lack of value-added and intermediate local suppliers. Most serviced-oriented, construction material and garment industries have direct raw material linkages with the Bangkok Metropolitan Region (BMR). It is clear that secondary and non-indigenous industries including the garment, service-oriented and other industries use a high proportion of imported raw materials.

On the other hand, indigenous, resource-based and primary industries such as agriculture, construction materials and food industries supply local and regional markets and have strong backward linkages to local and regional farmers and producers such as sand and gravel suppliers. Cement is the only main raw material that construction firms obtain from Bangkok. Service-oriented industries such as printing and household decorations also find a strong local market.

Subcontracting system in Mae Sot.

Producers of standardized products, such as garments, electronics and plastics, subcontract either intermediate or finished products. This is because these production processes are time-consuming and labour-

intensive but require little technology. Furthermore, contractors in Bangkok and other countries and subcontractors in border towns find that communication and travel are often inconvenient. Since subcontracted jobs require some technology and industrial production, most subcontractors are small and medium sized factories. About one-fourth of those interviewed work solely as subcontractors. The low cost of migrant labour from Myanmar significantly increases their advantage. With high skills and technology, contractors in Bangkok produce most design and high technology work. Border subcontractors' work generally involves assembling components, producing whole products and packaging. The contractors in Bangkok send their quality control staff to border towns for interim check before the final check in Bangkok. Payment is based on pieces of work (Interviews in 2001).

Issues for regional policy thinking

As in other border towns in China, Indonesia and Mexico, this investigation indicates that industrial development in Mae Sot has significantly accelerated processes of industrialization and urbanization (Chen 1995; van Grunsven et al. 1995; Chen et al. 1997; MacLachlan et al. 1998). With the significant numbers of large-scale industries in Mae Sot, a resource endowment and border trade, the town structure has, since the early 1990s, shifted from an agricultural to an industrial base (Department of Industrial Works 2001). Chen (1995), van Grunsven et al. (1995), Chen et al. (1997), GIBB et al. (1999) and International Development Centre of Japan et al. (2001) stress that the economic growth

in manufacturing in border towns promotes employment generation, and local and regional economic linkages that result in higher rural incomes. However, industrial development in Mae Sot provides marginal local economic benefit and welfare because as in the Maquiladoras, it has tended to generate unskilled, low waged and subcontracted work. As non-indigenous industries, these manufacturing activities have weak intermingling with other local economic sectors (MacLachlan et al. 1998). In particular, more than 20,000 migrant Myanmar workers have taken most of the available manufacturing jobs.

This raises the issue of the economic benefit and sustainability of border town development, especially in relation to three key elements; regional and local economic benefits, sustainability and competitiveness and international human rights and the environment.

Regional and local economic benefits

Examining European cross-border relationships, Krätke (1999) and Strykiewicz (1998) found that many metropolitan firms are re-exporting products from border regions by establishing branches or manufacturing operations close to neighbouring countries with relevant market destinations. However, due to the economic dominance of the metropolitan region, this pattern tends to benefit the metropolitan firms rather than the border regions. Typically, this spatial linkage also generates growth on one side of the border region, while the other side is neglected. It indicates a fragmented and territorially uneven distribution of economic activities and growth.

As a non-indigenous industry, the garment industry, owned by non-locally born entrepreneurs in Mae Sot does not complement local resources, labour or skills and technology. This footloose industry uses high-quality raw materials from Bangkok and international suppliers, and serves non-local markets: Bangkok, regional and international markets. Thus, as with European cross-border development, industrial growth in Mae Sot has tended to benefit overall national competitiveness rather than the economic growth of border town.

Sustainability and competitiveness

Most governments emphasise three supply-oriented factors that are required to accelerate the economic growth of border towns: local inputs such as raw material, transferred inputs such as technology and capital and outside demand such as national and international markets. Local demand for non-transferable resources is determined by the local market, which is not usually a priority. New industries depend primarily on an external market, so these industries are subject to a volatile market. Industries developed under this policy typically compete by increasing the scale economies of the above mentioned production costs. In the global economy, such competitiveness does not seem to be sustainable because of rising costs for labour and raw materials (Reinhardt 2000).

With regard to immigrant workers, Asian countries including Thailand have implemented migration policies that aim to reduce their overall dependence on migrant labour and to protect and promote local employment. However, when the mutual

dependence between employers and migrant workers becomes a “structural feature”, the elimination and the cost of elimination of migrant labour is difficult and comes at a high price for employers and the country. In the long-term, it would retard the upgrading of technology and industrial development because entrepreneurs often tend to focus their business development on a low production cost strategy (Martin 2002; Chalamwong 2005).

Non-indigenous industries depend on government incentives and policies and have limited local economic embeddedness. Thus when government policy changes, Mae Sot industrial development becomes vulnerable. For example, after the economic crisis in 1997/98, when the Thai government changed its migrant labour policy and prosecuted migrant labour from Myanmar, some Mae Sot factories that employ only Myanmar migrant labour had to relocate, and the remaining factories began to stagnate. The Asian Development Bank Study Team (2000) report together with interviews conducted with provincial government officers in 2001 indicate a fall in production of about thirty per cent.

With regard to the prosecution of illegal Myanmar migrants, Tak Chamber of Commerce and Federation of Industry of Tak, representing the local private sector, have taken an active role since 1999 to urge appropriate measures to solve the problem of illegal migrants and decrease the economic and business impact. For example, in 1999 the Federation made a submission to the Prime Minister to reconsider prosecution and to propose alternatives. In addition, interviews with major provincial and local government

agencies in July 2001 showed that many disagreed with central government policy because of the reliance on Myanmar workers. However, a number of provincial and local government agencies were instructed to pursue radical prosecution and to repatriate migrants to Myanmar. This led to conflict between government agencies and the private sector (Provincial Chamber of Commerce of Tak 2000).

Impact on international human rights and the environment

Enterprises in Mae Sot employ large numbers of Myanmar migrant workers, paying only half the official daily minimum wage. This is because there are no rules and regulations requiring that a minimum daily wage be paid to migrant labour. Interview with managers and owners of factories, suggest that they take responsibility for health, onsite housing and food expenses (Interviews in 2001). It was estimated that by employing migrant labour rather than Thai labour, Thai businesses could reduce labour costs up to US\$308 million annually (Krungthep Business News, 2005).

It was mentioned earlier that registration of migrant workers does not guarantee social and health welfare. This is because, at present, the government has not improved health promotion measures and other related human rights for migrants. This is despite the fact that revenue derived from the registration of migrants is as high as US\$38 million (*Krungthep Business News* 2005). As a result of this lack of government concern there has been a number of humanitarian and labour abuse cases. For example, from 19–21 September 2003, a garment factory illegally forced 75

labourers to work 14 hours daily until 2 am. They were paid less than US\$2 for the daily wage and US\$0.12 for overtime wages (Asian Human Rights Commission 2005). A female Myanmar worker in a garment factory was raped and murdered in May 2003. The prime suspect was a Thai guard from that factory. Her case was not thoroughly investigated and three witnesses were intimidated to keep them quiet. Consequently, one thousand of her colleagues engaged in a protest (Asian Human Rights Commission, 2005).

The gap in terms of economic development and per capita income between Thailand and Myanmar is very high. The gross domestic product of Thailand is 92 times higher than that of Myanmar. The per capita income of Myanmar is 8.8 times lower than that of Thailand (NESDB 2003). In addition, the Myanmar government continues its fight with minority groups along the Thai border. These economic and political factors force migrant workers to tolerate unfair treatment and breaches of their international human rights.

At the community level, many factories are acknowledged as sources of local employment and as purchasers of various raw materials from nearby villages. Unfortunately, some of these industries that use intensive technology and labour do not have much community awareness and often disrupt their communities with noise, water pollution and traffic problems. Government officers claim that they have received many complaints from residents (Interview with stakeholders, 2001). The environmental impacts of fast-growing large and medium-sized factories in both

rural and urban areas such as Mae Sot are severe because of excessive pollution, inadequate environmental infrastructure and poor monitoring and evaluation (Asian Engineering Consultant Corp. et al. 1998). Due to limited resources, local government agencies depend on technical support and financial subsidies from the central government. Without appropriate levels of funding and other technical assistance, they face major difficulties in trying to deal with environmental degradation.

Conclusion and recommendations

The implementation of regional policy on industrial development in Thai border towns

Mae Sot has significantly contributed to the Thai economy during and after the 1997 East Asian financial crisis. In terms of decentralisation to the province, industrial development of Mae Sot has achieved only a few of the goals of economic and social distribution. Moreover such successes have also come at some costs in relations to international human rights, the environment and other social issues.

To increase the efficiency and effectiveness of industrial decentralisation, this paper makes some recommendations that, if implemented, will hopefully lead to an increase in regional and local economic benefits and sustainability and a better quality of life for local people and migrant workers.

Supporting local and indigenous industries in border towns

Stryjakiewicz (1998) and Wu (1998) suggest that industrial development in cross-border

regions does not need to depend upon modern and large-scale industrial development from other countries or outsiders. Potential industrialists should also utilize local endowments and preserve local natural resources and the local environment. Examples include cottage industries that rely on local materials and the informal sector. To attract and strengthen local indigenous industries, main production inputs such as technology, raw materials and skills training need to be supported.

- a Technological assistance should be made available and not just be limited to new products. Such assistance should also be extended so as to diversify existing niche and customised products For example, to increase current market segments as it is more difficult for local small and medium-sized manufacturing industries to seek new markets than to expand their current ones (Maneepong 2003).
- b Government agencies should encourage improved access to sources of local raw materials. This would directly promote the quality and the quantity of local raw materials, especially agricultural products. A suppliers' database should be developed at provincial and regional levels and for Bangkok, especially via the provincial chambers of commerce and the provincial federations of industry (Maneepong 2003).
- c To support existing demand and promote new factories, labour-training schemes should target local industries, especially indigenous ones. In return, this mechanism also generates better job opportunities for local people. Local entrepreneurs should participate in designing, providing and evaluating

such training schemes to ensure that the needs and requirements of local industries are met (Dilokpreechakul 1992).

Encouraging new local entrepreneurs

Apart from outside investors, government and financial agencies should also encourage locally born people to be entrepreneurial, especially the children of entrepreneurs who can inherit not only their parents' business but also their networks of information, suppliers and customers (Tambunlertchai 1990; International Development Centre of Japan et al. 2001; Maneepong 2003). Graduate students from regional universities could also be another potential group because they tend to have social networks with local people and business people. (Tambunlertchai 1990; Ministry of Industry et al. 1997).

Encouragement and training programmes should focus on young entrepreneurs and entrepreneurial clinics. It is more efficient to organise these programmes at a regional level for several border towns. These programmes also provide a good opportunity to exchange views and for business networking. Educational institutes and the local private sectors should also collaborate to share experience and show support.

Promoting fair wages and social welfare for migrant workers

The wages and welfare of migrant workers must be equal to those of Thai workers. This is vital, because Thai and international entrepreneurs should reward these hard-working workers fairly, even though there is at the moment no legal requirement to

do so. In this way the Myanmar government might also support more Thai development in border towns. Since the 'A' appeal industry in Mae Sot was granted investment privileges from the Board of Investment, it has already successfully shifted employment from hundreds of Myanmar migrant workers to local Thai employees from five nearby villages to comply with the central government's ban on migrant labour (Interview with the private sector, 2001). Several rubber industries and other food-processing industries in Sadao, in the south, bordering Malaysia, have also attracted thousands of migrant workers from the northeast of Thailand (Maneepong et al. 2004).

Increasing government investment in and monitoring and assessment of infrastructure

The quantity, quality and stability of infrastructure: electricity, water supply, low-cost housing, environment protection, and health services are urgently needed to contribute to a better quality of life. Importantly, local and provincial government agencies also need to increase their absorptive capacity and their resources of monitoring and assessing environmental impacts and enforcing environmental laws and regulations.

Mitigating regulatory barriers to border crossing and the negative perception of the neighbouring countries

Trust and cooperation between Thailand and neighbouring countries would promote mutual benefits and technical support. Examples might include short-term training, study tours and scholarships for

studying in technical colleges and government and private agencies in border towns. In return, such activities would be useful for promoting understanding between the two countries' systems and mitigate the differences in rules and regulations. In addition, the central government should increase international relationships with neighbouring country to promote the role of border towns—through official visits, for example.

Including a framework and indicators of local benefits in assessment

Measurements for assessment of industrial development in border towns should also examine the local benefits such as sources of products, market areas, sources of contracting and subcontracting work, industrial relationships in the border economy and the advantages and disadvantages of local linkages (Markusen 1994; Stryjakiewicz 1998; Krätke 1999; Reinhardt 2000; Yeung et al. 2000; Maneepong 2003).

Notes

- ¹ Under Thai administration, the hierarchical structure starts from the capital of Bangkok at the national level, goes down to province at provincial level without regional level, then to district, then to the sub-district and finally to village.
- ² The survey involved interviews with all target groups including manufacturing enterprises, and collecting secondary documents and information related to the institutions and industrial development of the case study areas. In Mae Sot, the survey interviewed business people in nine types of manufacturing enterprises, namely agricultural industry, construction materials,

food and beverage, wood processing and furniture, garments and textiles, metals and non-metals, chemicals and plastics, service-oriented and others. The data collected in the interview schedule include information about: i) the background of the enterprise establishment and the owner; ii) the current situation of production, raw materials, markets, finance, technology, workers and management; iii) business networks; iv) business capacity, potential and plans, v) experiences and attitudes to business with the neighbouring countries, vi) experiences and attitudes to industrial development in border towns generally, and the role of government policy, and vii) personal information about the interviewee.

- ³ An indigenous industry is defined as an industry that mainly uses local production inputs such as materials, labors and technology and mainly serves local market. An non-indigenous industry is defined as an industry that mainly imports production inputs and exports products to other markets, not local market.
- ⁴ An interview with the private sector was given by enterprise owners, managers, human resource managers and managers of financial section.
- ⁵ The daily minimum wage was Thai Baht 131 or US\$3.12.

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