

Chapter 3 Review of the Logistics Status in Neighboring Countries

3.1 Seaborne Container Movements around Cambodia

3.1.1 Transit to/from Thailand

For Thailand, Laem Chabang Port is expected to play a substantial role as a gateway port for seaborne cargoes to/from Cambodia in the future. Lat Krabang ICD is also mentioned as it is recognized as an example of an ad hoc CY connected with the gateway port by rail.

(1) Shipping Lines' Services

The shipping lines' services currently calling at Laem Chabang Port are shown in Table 3.1 to 3.3 below. Currently 82 liner services are available at Laem Chabang Port. The maximum ship size is 10,062 TEU deployed in Asia/West Coast North America.

Table 3.1 Shipping Lines' Services Calling at Laem Chabang Port (Part 1)

Trade Lane		Service Name	Ship Operator	Slot Charterer	Yearly Calls	Ships Deployed	Average Ship Size (TEU)	Maximum Ship Size (TEU)	Yearly Capacity (TEU)
Pendulum (Asia-WCNA-Asia-M East)	SE Asia/F East /WCNA/F East /SE Asia/M East	SE3/PSG	NYK/Hanjin	G6 Alliance, Emirates/GoldStar/Maersk/XPress	52	12	6,738	8,180	350,393
	SE Asia/F East /WCNA/F East	NP1/PNX	Hapag /OOCL/ZIM	G6 Alliance, PIL	52	7	9,091	10,062	472,725
Trans-Pacific (WCNA)	SE Asia/F East /WCNA/F East	SE2	MOL	G6 Alliance	52	7	8,237	8,560	428,331
	SE Asia/S Asia/Med /ECNA/Med/M East	AZX	APL/Hapag /OOCL	G6 Alliance, CMA CGM, Maersk	52	11	7,492	8,750	389,575
Around-the-World (Asia-ECNA-Europe)	SE Asia/F East/ECNA /Europe/Med	Pearl String	Rickmers		30	10	1,885	1,890	56,538
East Africa	SE Asia/E Africa	Marshariki	Maersk		52	7	2,865	3,534	148,958
Middle East, Red Sea	SE Asia/F East/S Asia /M East	APG	Evergreen	Hyundai	52	7	8,480	8,480	440,960
	SE Asia/M	MESA	Maersk		52	7	4,225	4,500	219,715
	SE Asia/S Asia /M East/S Asia	AGI	Cosco/Evergreen/KLine /OOCL/Simatech	CMA CGM/Emirates/Hub/Maersk /WanHai	52	5	4,218	4,250	219,315
South Asia	SE Asia/F East/SE Asia/S Asia	SH1	MCC		52	5	2,212	2,300	115,024
	SE Asia/S Asia	HLS	NYK/Xpress	Emirates/Hapag/Hyundai	52	4	2,765	2,840	143,780
		SMX/TCS	MOL/NYK /RCL/Xpress	Advance/KLine/OOCL/Samudera/Simatech	52	4	2,703	2,840	140,530
		TCX	MOL/NYK /Xpress		52	3	1,637	1,740	85,107
		Bang Feeder	CMACGM		52	3	1,118	1,118	58,136

Source: MDS Transmodal "MDS Containership Database" as of August 2015.

Table 3.2 Shipping Lines' Services Calling at Laem Chabang Port (Part 2)

Trade Lane	Service Name	Ship Operator	Yearly Calls	Ships Deployed	Average Ship Size (TEU)	Maximum Ship Size (TEU)	Yearly Capacity (TEU)	
Intra-Asia	SE Asia /F East	IA2	MCC	52	4	2,137	2,600	111,124
		VTX4	MCC/SITC	52	4	1,487	2,506	77,298
		JTX	CNC	52	4	2,088	2,762	108,550
		JTP	CNC/Hyundai/TS Lines	52	3	1,954	2,824	101,608
		RBC	CNC/RCL	52	3	1,888	2,740	98,159
		CTS	CNC/Cosco/YangMing	52	4	1,852	4,360	96,317
		CBW	MOL	52	3	3,339	4,578	173,645
		RBC4	MOL/RCL	52	3	2,649	4,380	137,765
		CBE	MOL	52	3	1,662	1,710	86,441
		JTV	APL	52	3	1,907	2,840	99,147
		JT2	APL/YangMing	52	3	1,879	2,496	97,691
		PHX1	NYK	52	3	3,193	4,578	166,019
		PHX2	NYK	52	3	2,733	4,250	142,099
		RBH	NYK/RCL	52	2	1,380	1,700	71,760
		CSS	OOCL	52	4	1,263	1,626	65,663
		KTX2	OOCL	52	4	2,138	2,825	111,163
		NPS	OOCL	52	4	1,410	2,478	73,294
		CVT	OOCL/WanHai	52	4	1,818	2,959	94,536
		JABCO1	KLine/SITC	52	3	1,716	1,740	89,232
		JABCO2	KLine/SITC	52	4	1,817	2,474	94,471
		TWT	Evergreen	52	2	2,018	2,540	104,936
		LKX	Evergreen	52	2	1,380	1,700	71,760
		JTC	YangMing	52	4	1,525	2,468	79,274
		NTS	Hanjin/KMTC	52	3	2,000	2,500	104,000
		CSE	Hanjin/KLine/PIL	52	4	1,613	2,490	83,876
		RBC2	Cosco/RCL	52	3	2,819	4,578	146,571
		CVT	CSCL	52	5	1,368	1,368	71,136
		JST	WanHai	52	4	1,670	2,950	86,814
		NTE	WanHai	52	4	1,533	2,770	79,690
		JTT	WanHai	52	4	1,410	1,726	73,307
		VTX2	SITC	52	4	2,247	2,742	116,844
		CPX3	SITC	52	3	1,502	1,705	78,087
		CKV	SITC	52	5	1,448	2,090	75,296
		VTX1	SITC	52	5	1,229	1,368	63,908
		KTS	KMTC	52	3	2,087	3,380	108,507
		CHT	KMTC/TS Lines	52	3	1,263	1,700	65,693
		NTX	CKL/Namsung/Dongjin	52	3	2,321	2,664	120,709
		Viet2/KVT	CKL/Namsung	52	3	2,867	4,250	149,067
		VTS	CKL/KMTC/Sinokor	52	3	1,990	2,730	103,480
		CVX	GoldStar	52	4	1,555	2,468	80,873
ANX	GoldStar/KMTC/Sinokor	52	4	1,456	1,645	75,699		
JHT	TS Lines	52	4	1,894	4,360	98,475		
BHS	HeungA	52	3	2,167	2,740	112,667		
KCT	HeungA/KMTC/TSL	52	3	1,733	1,800	90,133		
SEAFN	Gemadep	52	1	1,800	1,800	93,600		

Source: MDS Transmodal "MDS Containership Database" as of August 2015.

Table 3.3 Shipping Lines' Services Calling at Laem Chabang Port (Part 3)

Trade Lane	Service Name	Ship Operator	Yearly Calls	Ships Deployed	Average Ship Size (TEU)	Maximum Ship Size (TEU)	Yearly Capacity (TEU)	
Intra-Asia	SE Asia Regional	TR1	MCC	52	3	1,482	1,708	77,064
		Thai Exp	MSC	52	1	1,700	1,700	88,400
		Thai Exp 2	MSC	52	1	1,800	1,800	93,600
		Thai Feeder	CMA CGM	52	3	2,029	2,546	105,491
		RTI	MOL/RCL	52	2	1,700	1,700	88,400
		MSS	MOL/RCL	52	2	1,700	1,700	88,400
		APX	NYK	52	2	2,125	2,550	110,500
		ASECO-S	KLine	52	1	1,850	1,850	96,200
		TJS	KLine/WanHai	52	2	1,700	1,700	88,400
		TMI	Evergreen	52	2	1,775	1,850	92,300
		SEA	YangMing	52	2	1,750	1,800	91,000
		BKX2	Cosco/Samudera	52	2	1,700	1,700	88,400
		BKX1/NVS	Samudera	52	3	1,782	2,500	92,681
		BKX3	Samudera	52	2	2,200	2,550	114,400
		TSX	XPress	52	1	1,900	1,900	98,800
		TSX2	XPress	52	1	1,800	1,800	93,600
		MTS	GoldenSea	52	3	2,145	2,824	111,523
		VTS	GoldStar/GoldenSea/OOCL	52	3	1,839	2,700	95,645
		RTS2	RCL	52	1	1,900	1,900	98,800
		Nusantara2	SITC	52	1	1,800	1,800	93,600
BKS	Advance	52	2	1,700	1,700	88,400		
VOSCO	VOSCO	52	2	2,550	2,550	132,600		
TVS	Vinalines	52	1	1,800	1,800	93,600		
Total		82 services	4,242	289	2,910	10,062	9,921,273	

Source: MDS Transmodal "MDS Containership Database" as of August 2015

(2) Traffic of Transit Containers to/from Cambodia

Some export seaborne "transit" containers from Cambodia are moving through Laem Chabang Port. The commodities are mostly the garments produced at the factory located in Sisophon, and agricultural products from the areas close to the Thai-Cambodia border. As the ASEAN Economic Community (AEC) was officially established in December, 2015, the volume of export transits from those areas is expected to grow in future keeping pace with the increase of investments into the area by Thai companies. In that event, Laem Chabang Port will strengthen its presence as the gate port of the western region of Cambodia.

The import transit containers were not identified in this study, while some "local"

cargoes stuffed in marine containers were recognized to be moving between Cambodia and Thailand. On that traffic, marine containers may be used just for the convenience of carrying cargoes in “waterproof” or “intact” conditions.

3.1.2 Transit to/from Vietnam

For Vietnam, Cai Mep Port and Ho Chi Minh Port are reviewed. ICDs in Ho Chi Minh are also mentioned as they are recognized as an example of an ad hoc CY connected with the gateway port by barge.

(1) Shipping Lines' Services

The shipping lines' services currently calling at Cai Mep Port are shown in Table 3.4 below. Currently eight weekly liner services are available at Cai Mep Port. The maximum ship size is 10,100 TEU deployed in the Asia/Europe mainline.

Table 3.4 Shipping Lines' Services Calling at Cai Mep Port

Trade Lane		Service Name	Ship Operator	Slot Charterer	Yearly Calls	Ships Deployed	Average Ship Size (TEU)	Maximum Ship Size (TEU)	Yearly Capacity (TEU)
Trans-Pacific (ECNA)	SE Asia/ECNA/SE Asia /Far East	SVS /AUE3	MOL /Evergreen	G6 Alliance	52	11	6,714	7,024	349,128
		Z7S	Zim	OOCL	52	10	5,775	8,440	300,295
Trans-Pacific (WCNA)	SE Asia/Far East /WCNA/Far East	SE2	MOL	G6 Alliance	52	7	8,237	8,560	428,331
Pendulum (WCNA-Asia-Mediterranean)	SE Asia/Far East /WCNA/Far East /SE Asia /Mediterranean	TP2	Maersk /MSC	2M Alliance	52	15	7,976	9,418	414,731
		MD1 /PM1	COSCO /Hanjin	CKYHE/CMA CGM /CSCL/UASC	52	16	9,996	10,110	519,773
Europe	SE Asia/Red Sea /Europe/SE Asia /Far East	EUA /LP1	MOL /NYK	G6 Alliance	52	11	9,280	10,100	482,569
Intra-Asia	SE Asia/Far East	IA9	MCC Transport		52	4	1,678	1,740	87,256
	SE Asia/Far East	CBW	MOL	Hapag Lloyd /HeungA /Interasia /Wan Hai	52	3	1,050	1,060	54,600
Total		8 services			416	77	7,510	10,110	2,636,683

Source: MDS Transmodal “MDS Containership Database” as of August 2015

The shipping lines' services currently calling at Ho Chi Minh Port are shown in the Table 3.5 and 3.6 below. Currently 73 liner services are available at Cai Mep Port.

Table 3.5 Shipping Lines' Services Calling at Ho Chi Minh Port (Part 1)

Trade Lane		Service Name	Ship Operator	Slot Charterer	Yearly Calls	Ships Deployed	Average Ship Size (TEU)	Maximum Ship Size (TEU)	Yearly Capacity (TEU)	
Around the World (Eastbound)	SE Asia /F East/ECNA /Red Sea	CEC	NYK/Hapag/OOCL		52	11	8,721	9,590	453,478	
	SE Asia/F East/ECNA /Europe/Med	PEARL STRING	Rickmers		30	10	1,885	1,890	56,538	
Red Sea	SE Asia /Red Sea	RSEAB	Thoresen		26	1	1,316	1,316	34,216	
Oceania	SE Asia/Oceania/F East	APA	Swire Shipping	CNCO	52	3	2,001	2,080	104,035	
Intra-Asia	SE Asia /Far East	SE Asia/F East/Russia	IA5	MCC Transport	Gold Star	52	8	1,115	1,147	57,961
		IA3/VTX4	MCC/SITC		52	4	2,769	2,824	143,988	
		IA9	MCC		52	4	1,678	1,740	87,256	
		CTS	CNC Line/COSCO/YangMing	CSCL/Evergreen	52	4	2,741	2,824	142,532	
		NCX	CNC/TSL	KLine	52	3	2,701	2,824	140,469	
		KPS	CNC/HeungA		52	3	1,740	1,740	90,480	
		JTV	CNC/TSL		52	3	1,626	1,740	84,552	
		RBC	CNC/RCL	COSCO/MOL/OOCL	52	3	1,340	1,498	69,697	
		HS3	MOL/Wan Hai		52	4	4,250	4,250	221,000	
		RBC4	MOL/RCL		52	3	2,686	2,959	139,689	
		CBE	MOL	CNC/Evergreen /HeungA	52	3	2,043	2,730	106,253	
		JTV	APL	Hanjin/Hyundai /MOL	52	3	2,468	2,468	128,336	
		NS1	APL		52	3	1,833	1,858	95,299	
		CKI	Hvundai/KMTC/TSL	Hanjin/YangMing	52	4	2,631	2,950	136,812	
		PHX2	NYK		52	3	2,723	2,840	141,579	
		PHX1	NYK		52	3	1,440	1,440	74,880	
		CSS	OOCL		52	4	2,420	2,540	125,840	
		CVT	OOCL/Wan Hai	CNC/Samudera	52	4	1,451	1,740	75,465	
		JS4	KLine/NYK	Hanjin/Hapag	52	4	4,570	4,830	237,640	
		CSE	Hanjin/KLine/PIL		52	4	2,505	2,550	130,234	
		JABCO1	KLine	Evergreen	52	3	1,700	1,700	88,400	
		JABCO2	KLine/SITC	CNC/Evergreen /Interasia/NYK	52	4	1,091	1,200	56,706	
		NTS	Hanjin/KMTC		52	3	1,692	1,800	88,001	
		JTC	Yang Ming	CNC	52	4	1,626	1,805	84,565	
		NHS	Evergreen/Hanjin	HeungA/Sinokor	52	4	2,514	2,553	130,728	
		THX	Evergreen/OOCL /YangMing		52	3	1,910	2,300	99,320	
		NSC	Evergreen		52	3	1,618	1,618	84,136	
		TWT	Evergreen	Cosco	52	2	1,164	1,164	60,528	
		CVT	CSCL		52	5	2,500	2,500	130,000	
		CMX	CSCL	GoldenSea	52	4	1,103	1,200	57,343	
		PCI	HeungA/Sinokor/SITC	Evergreen/Yanghai	52	4	2,693	2,824	140,036	
		BHS	HeungA	Hanjin/MOL /Namsung	52	3	1,115	1,284	57,963	
		ANX	GoldStar/KMTC/Sinokor	CNC/Hyundai/MCC /TSL/Winland	52	4	2,644	2,950	137,462	
		CVX	GoldStar	Cosco/CSCL/Gematrans/HASCO /Mariana/XPress	52	4	1,435	1,700	74,620	
		VTX2	SITC		52	4	1,775	1,800	92,300	
		VTX1	SITC	Cosco/Hasco	52	5	1,724	1,800	89,648	
		CKV	SITC		52	5	1,058	1,100	55,037	
		JSV	Wan Hai	MOL	52	3	1,659	1,660	86,251	
		JCV	Wan Hai	KLine	52	3	1,632	1,660	84,847	
		CVM	Wan Hai		52	3	1,597	1,710	83,027	
		KVS	Wan Hai		52	4	1,229	1,368	63,921	
		KCV	Wan Hai/YangMing	CNC/Interasia	52	3	1,576	1,805	81,952	
		KTS	KMTC	Hvundai/Sinokor	52	3	1,585	1,585	82,420	
		VLET2	CKL/Namsung	KMTC/CNC/Heung	52	3	1,867	1,900	97,067	
		VTS	CKL/KMTC/Sinokor	HeungA	52	3	1,666	1,900	86,615	
		NTX	CKL/Namsung/Dongjin	CNC	52	3	1,577	1,850	81,987	
		SVC	AdvanceCont	Evergreen	52	3	1,088	1,088	56,576	
		JTV2	TSL		52	3	1,069	1,118	55,605	
		SEAFN2	Gemadent		26	1	740	740	19,240	

Source: MDS Transmodal "MDS Containership Database" as of August 2015

Table 3.6 Shipping Lines' Services Calling at Ho Chi Minh Port (Part 2)

Trade Lane	Service Name	Ship Operator	Slot Charterer	Yearly Calls	Ships Deployed	Average Ship Size (TEU)	Maximum Ship Size (TEU)	Yearly Capacity (TEU)	
Intra-Asia	SE Asia Regional	SVN1	MCC		52	2	2,612	2,950	135,824
		VIET	CMACGM	MCC/Puhai	52	1	1,740	1,740	90,480
		VIET3	CMACGM	Maersk	52	2	1,713	1,726	89,076
		VIET1	Gemadep	CMA-CGM	52	1	830	830	43,160
		MSS	MOL/RCL		52	2	2,656	2,762	138,112
		VMI	Evergreen	Hanjin/Maersk	52	2	1,699	1,700	88,348
		VSM	Evergreen	Xpress	52	2	1,164	1,164	60,528
		SE2	YangMing	Evergreen	52	2	1,805	1,805	93,860
		SEA2	UASC		52	1	1,740	1,740	90,480
		JKT/HCX	Samudera	APL/MCC/MOL	52	2	1,740	1,740	90,480
		RHS	RCL	APL	52	1	1,550	1,550	80,600
		JVS	Advance Cont/COSCO	PIL/KLine/MOL/UASC	52	2	1,470	1,510	76,440
		VTS	GoldStar/GoldenSea/OOCL	ZIM/Puhai	52	3	1,430	1,700	74,360
		VOSCO	VOSCO		52	2	630	700	32,760
		TVS	Vinalines		26	1	1,118	1,118	29,068
VSS	BienDong	MOL	52	2	529	700	27,482		
VSS2	BienDong		52	2	515	610	26,780		
Coastal	Vietnam Coastal	SaigonExp	MSC	MCC	52	1	1,932	1,932	100,464
		Coastal	Vinalines		52	2	460	460	23,920
		Coastal	Bien Dong		26	1	200	200	5,200
Total		73 services			3,670	232	1,847	9,590	6,881,950

Source: MDS Transmodal "MDS Containership Database" as of August 2015

(2) Traffic of Transit Containers to/from Cambodia

1) Export Transit from Cambodia

Currently, the majority of export transit containers are moving by barge from Phnom Penh Port through Mekong River waterways, except for some containers by surface transportation in case of contingency. Sovereign Base Logistics started the regular barge service in 2009 with the support of MOL and the garment exporters in Phnom Penh, as the barge can accommodate 72-128 TEUs per voyage at far lower price than that for the truck.

2) Import Transit to Cambodia

Some import transit containers may be moving by truck across the border to SEZs in Bavet. Most of those containers are assumed to be the materials such as fabric and threads for garment manufacturing.

3.2 Logistics Facilities in Thailand and Vietnam

3.2.1 Logistics Facilities in Thailand

(1) Laem Chabang Port

In Thailand, river ports in Bangkok City were main ports until the 1980s. Laem Chabang Port was developed in Chonburi Province, approximately 130km southeast of Bangkok, as a part of the Eastern Seaboard Development Project with support of Japanese ODA. Having been the largest port in the country since its commencement of operation in 1991, the port handled 6.8 million TEUs in 2015 and ranked 21st in the world in container throughput for the year. The port also has terminals for automobiles, which are now the major exports from Thailand. The port had a significant effect on the development of the manufacturing industries of the country, accelerating the relocation of manufacturing industries from the vicinity of Bangkok to eastern Bangkok, represented by the Amata Industrial Estate. It is undeniable that the relocation was promoted in consideration of the convenience of being close to the port.

Laem Chabang Port cannot be a hub port even with its handling volume. Thailand depends on transshipment in Singapore for its cargo bound for Europe. Therefore, major shipping companies calls at Sihanoukville Port are not realistic. It is believed that Sihanoukville Port needs to be clearly positioned as a feeder port.

Laem Chabang Port is in the Chonburi Province of Thailand, located approximately 130km southeast of Bangkok. The port is situated on the coastline of the Eastern Seaboard. Having been the largest port in the country since its commencement of operation in 1991, the port now ranks 20th in the world in container throughput for the year 2014.

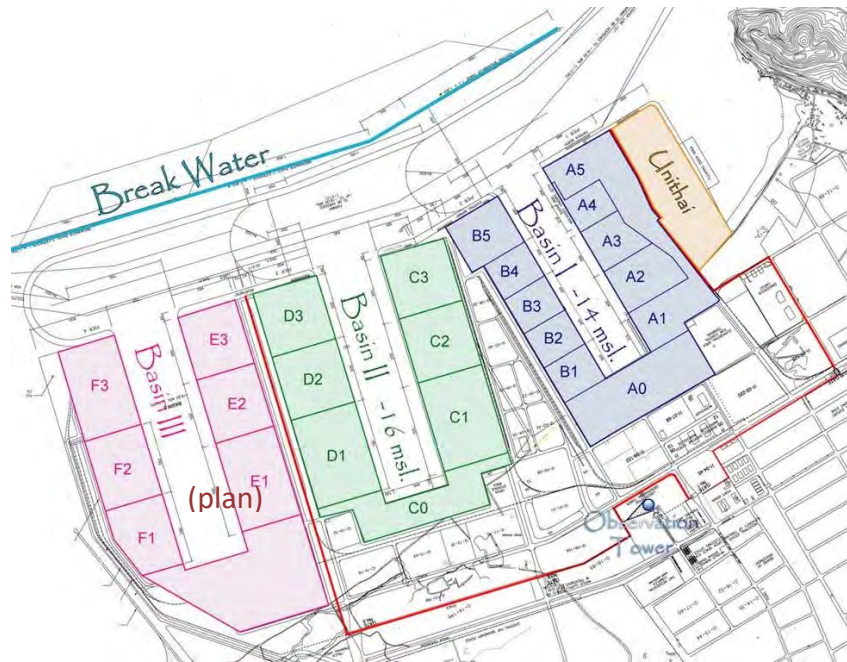


Source : Hutchison Port Holdings

Figure 3.1 Aerial View of Laem Chabang Port

Laem Chabang Port is administrated by the Port Authority of Thailand (PAT in short). PAT, a state enterprise under the control of Ministry of Transport, was established in 1951 as an administrator of Bangkok Port. Now PAT's jurisdiction has expanded to Chiang Saen Port, Chiang Khong Port as the gateway ports of the Greater Mekong Sub-region, and Ranong Port as the gateway of Andaman Sea, in addition to Bangkok and Laem Chabang Port.

Layout of the berths currently in operation and for future expansion is depicted in Figure 3.2. The eleven berths surrounding the basin and four berths (C0, C1, C2, C3) surrounding basin are currently in operation. Basin I, was constructed as Phase I of the development plan, and commenced operation in 1991 with 14m depth and the capacity of 4 million TEUs per annum. Basin II was planned as Phase II with 16m depth, all civil works were done by Hutchison Port Holdings; the single concessionaire and delivered to the same company as the first case of the port, while three berths (D1, D2, D3) are yet to be in operation in spite of the original assumption of the concession contract to inaugurate the full berths within the year of 2011. With the full utilization of Basin II, the total capacity of the port will increase to 10.8 million TEUs per annum. The schedule of the development of Basin III has not been determined yet.



Source : PAT

Figure 3.2 Berth Layout of Laem Chabang Port

Foreign investors are entitled to form the concessionaire companies with majority shareholdings given to local companies registered in Thailand. Table 5.7 indicates the details of the facilities and the concessionaires with the names of the foreign shareholders.

Table 3.7 Facilities and Concessionaires of Laem Chabang Port

Terminal		Facilities			Concessionaires				
Berth No.	Type	Length (m)	Depth (m)	Nos of Quay Cranes	Name of Company	Foreign Investors Participation	Contract Effectuated	Valid Years	
Basin I	A0	Multi Purpose	590	10	—	LCMT Co., Ltd.	APM Terminals	2004	30
	A1	Cruise, RoRo	365	14	—	Laem Chabang Cruises Center Co., Ltd.	NYK	2000	30
	A2	Containers	400	14	} 8	Thai Laem Chabang Terminal Co., Ltd.	Hutchison Port Holdings	1996	30
	A3	Containers	350	14		Hutchison Laem Chabang Terminal Co., Ltd.	Hutchison Port Holdings	2004	30
	A4	Conventional	250	14	—	Aawthai Warehouse Co., Ltd.		1996	25
	A5	RoRo	450	14	—	Namyong Terminal Co., Ltd.		1996	25
	B1	Containers	300	14	8	LCB Container Terminal 1 Co., Ltd.	APM Terminals, PSA	1995	27
	B2	Containers	300	14	4	Evergreen Container Terminal (Thailand) Co., Ltd.	Evergreen	1993	27
	B3	Containers	300	14	4	Eastern Sea Laem Chabang Terminal Co., Ltd.	Marubeni, Kamigumi, PSA	1995	27
	B4	Containers	300	14	5	TIPS Co., Ltd.	MOL, NYK	1995	27
B5	Containers	400	14	4	Laem Chabang International Terminal Co., Ltd.	DP World, NOL	1996	30	
Basin II	C0	RoRo	500	16	—	Laem Chabang International Ro-RoTerminal Co., Ltd.	NYK	2005	n/a
	C1	Containers	700	16	} 12	Hutchison Laem Chabang Terminal Co., Ltd.	Hutchison Port Holdings	2004	30
	C2	Containers	500	16		Hutchison Laem Chabang Terminal Co., Ltd.	Hutchison Port Holdings	2004	30
	C3	Containers	500	16	4	Laem Chabang International Terminal Co., Ltd.	Hutchison Port Holdings	2003	30
	D1	Containers	500	16	—	Hutchison Laem Chabang Terminal Co., Ltd.	Hutchison Port Holdings	2004	30
	D2	Containers	500	16	—	Hutchison Laem Chabang Terminal Co., Ltd.	Hutchison Port Holdings	2004	30
	D3	Containers	500	16	—	Hutchison Laem Chabang Terminal Co., Ltd.	Hutchison Port Holdings	2004	30

Source : PAT

Terminal-wise container throughput is shown in Table 3.8 for the year 2015, and in Table 3.9 for the historical years from 2010.

Table 3.8 Container Throughput of Laem Chabang Port by Berth (2015)

	Inbound			Outbound			Total		
	Laden	Empty	Sub Total	Laden	Empty	Sub Total	Laden	Empty	Total
A0	167	165	331	342	8	350	508	172	681
A2	85	28	113	145	3	148	229	31	260
A3	21	11	32	42	0	43	63	12	75
B1	162	193	355	334	6	340	496	200	695
B2	73	203	276	334	2	336	406	205	611
B3	148	116	264	263	4	267	411	120	531
B4	246	108	353	417	6	423	662	114	776
B5	208	128	336	324	10	334	532	138	670
C1-C2	530	414	943	899	13	912	1,429	426	1,855
C3	240	114	354	299	15	314	539	129	668
Total	1,877	1,480	3,357	3,398	67	3,465	5,274	1,547	6,821

Source : Bangkok Ship owners and Agents Association

Table 3.9 Historical Container Throughput of Laem Chabang Port by Berth

('000 TEUs)

	2010	2011	2012	2013	2014	2015
A0	343	443	346	493	630	681
A2	242	311	315	297	356	260
A3	107	27	37	61	60	75
B1	814	717	780	644	684	695
B2	474	461	543	548	609	611
B3	628	626	589	489	542	531
B4	650	744	873	842	924	776
B5	546	646	612	597	580	670
C1-C2	863	1,120	1,183	1,505	1,559	1,855
C3	523	633	650	565	639	668
Total	5,190	5,731	5,926	6,041	6,583	6,821

Source : Bangkok Ship owners and Agents Association

(2) Lat Krabang ICD

A characteristic of Thailand that is not seen in other ASEAN countries is their railway ICD (Latkrabang ICD). Containers can be transported by rail from Laem Chabang to Latkrabang, and the current share is approximately 40%. Twenty-four trains shuttle the route every day based on a time schedule. In other ASEAN countries, trains carry cargo together with passengers, and freight trains do not depart until they are filled with cargo, resulting in irregular transport. In this respect, the scheduled operation of special container trains in Latkrabang is noteworthy.

The Latkrabang district has Suvarnabhumi Airport and a truck yard located next to the Latkrabang ICD, allowing the transport modal shift.

Lat Krabang ICD, belonging to Lat Krabang District, Bangkok Metropolis, located 30km from Bangkok Port and 110km from Laem Chabang Port, is functioning as a dry port supplementing Laem Chabang Port. The State Railway Authority of Thailand (SRT) under the master plan of the Eastern Seaboard Development Program developed the ICD.

The ICD is a bonded area where shipping lines register as an inland CY to receive/deliver FCL cargoes. Main shippers/consignees using this ICD are the manufactures located in the industrial estates in the northern suburbs of Bangkok

rather remote from Laem Chabang Port.



Source : ESCO

Figure 3.3 Location of Lat Krabang ICD and Laem Chabang Port

The ICD has a rail siding branching from the SRT's Bangkok-Chachoensao mainline, as well as an access to the main expressways linking Laem Chabang Port with Bangkok Metropolitan Area and the northern industrial areas. Suvarnabhumi Bangkok Airport is also in close proximity.

The ICD has an area of 2.6 km², which is divided into six modules, leased out to six different private operators. As the concession contracts with the six operators have already expired, SRT intends to integrate the operations of the ICD into a single company's operation (called "Single Rail Transfer Operator", or "SRTO") to improve the operational capacity from the current 1.4 million TEUs to 2 million TEUs per annum.

The rail siding penetrates the center of the area so that each module can easily access the container wagons for lift on/off.



Source : Google Inc. modified by the Study Team

Figure 3.4 Module Layout of Lat Krabang ICD



Source : Study Team

Figure 3.5 Module Container Yard in Lat Krabang ICD

The container throughput of Lat Krabang ICD for the year 2015 is shown by module in Table 3.10 and by transport mode in Table 3.11. The ICD handled 1,425,000 TEUs in 2015, which amounted to approximately 21% of the total throughput of Laem Chabang Port. Out of 1,425,000 TEUs transported to/from Laem Chabang Port, 446,000 TEUs (31%) were carried by railway.

Table 3.10 Container Throughput of Lat Krabang ICD by Module (2015)

		('000 TEUs)		
Module/Operator		Import	Export	Total
Module A	Siam Shore Side	141	177	318
Module B	ESCO	134	137	271
Module C	Evergreen Container Terminal	134	191	325
Module D	TIFFA ICD	67	67	134
Module E	Thai Hanjin Logistics	51	57	109
Module F	NYK Distribution Service	112	158	270
Total		639	786	1,425

Source : Bangkok Ship owners and Agents Association

Table 3.11 Container Throughput of Lat Krabang ICD by Transportation Mode (2015)

('000 TEUs)				
	By Rail	By Truck	By Truck (other)	Total
Imports	184	424	31	639
Exports	262	498	26	786
Total	446	922	57	1,425
Share	31.3%	64.7%	4.0%	100.0%

Source : Bangkok Ship owners and Agents Association

Daily 24 rail trips (twelve trips each for outbound/inbound) with 30 wagons (60 TEUs) for each trip are available by the operation of SRT. The transit time by railway from ICD to Laem Chabang Port is three hours ten minutes, and two hours by truck. The prevailing transportation cost by rail is approximately Baht 2,000/20' and Baht 3,100/40', while the cost by truck is Baht 3,100/20' or 40'.

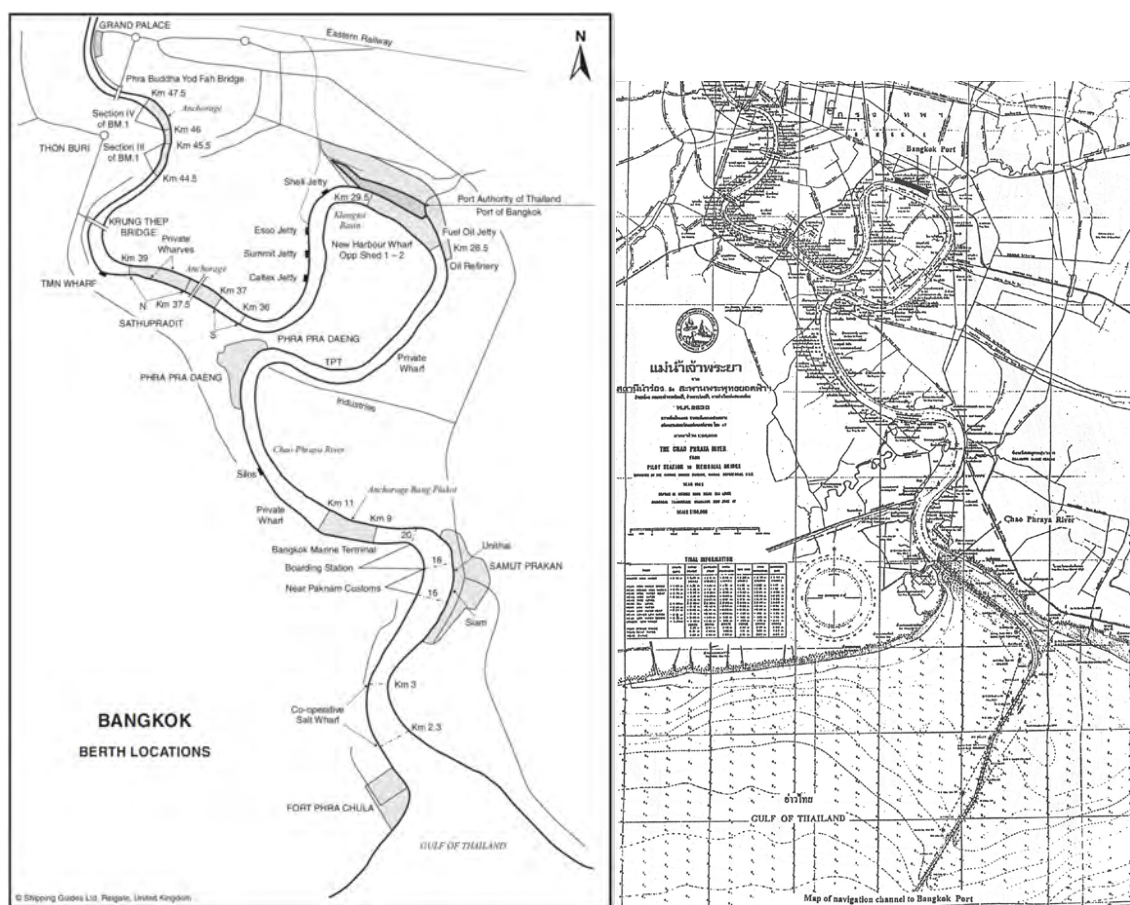
The transportation of containers between Lat Krabang ICD and Laem Chabang Port is performed by shipping lines at their own cost and responsibility, since Lat Krabang ICD is registered by shipping lines as the place of receipt/delivery. For example, the shippers in a remote place such as Ayutthaya or a northern industrial area can just bring their export containers to Lat Krabang ICD, then the shipping

lines will take care of those containers up to the loading at Laem Chabang Port.

(3) **Bangkok port**

1) **Facilities**

Bangkok Port consists of public/private wharves scattered along both sides of Chao Phraya River. As the access channel has the depth of only -8.5m from Mean Sea Level and width of 100m in the straight section and 250m in the bend section, the permissible dimension of the ships is limited to 8.2m draft, 172m LOA and 12,000 DWT. After Laem Chabang Port started operation in 1991, the Bangkok Port has been reducing its share in the cargo handling volume in Thailand, as the Thai government has been setting the limitation on the handling volume of Bangkok Port to alleviate the traffic congestion of the Bangkok Metropolitan Area. Consequently role sharing has been fixed between Laem Chabang Port for large-scale mainline ships and Bangkok port for small-scale Intra-Asia ships.



Source : Guide to Port Entry (left), PAT (right)

Figure 3.6 Layout of the Wharves (left) and Access Channel (right) of Bangkok Port

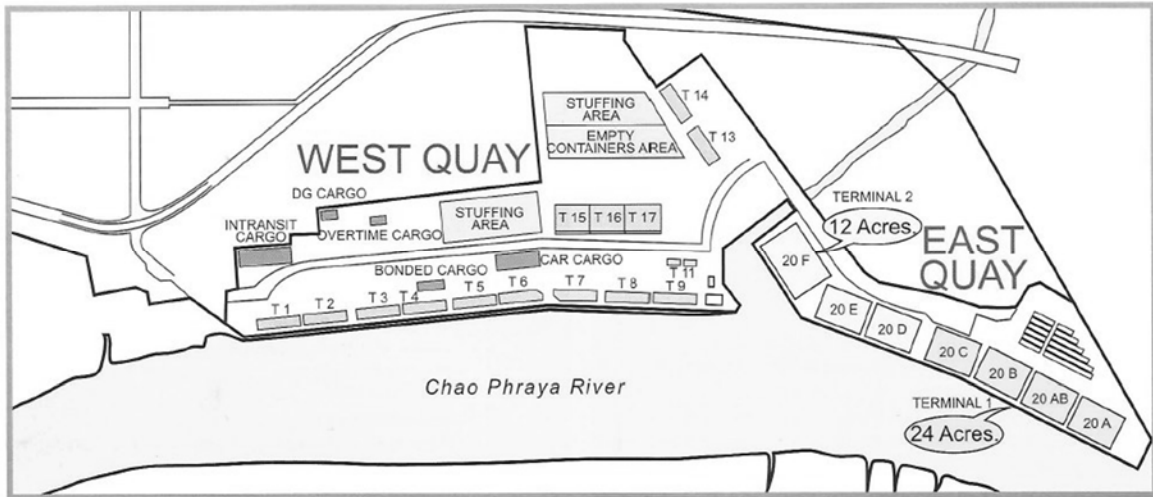
The wharves of Bangkok Port are categorized by the administrative form into PAT Terminal, Authorized Private Wharves and Private Wharves.

2) Klong Toey Port (PAT Terminas)

Klong Toey Port consists of 84 berths on the left bank of Chao Phraya River, located 28km up from the river mouth. The construction of the port started in 1938 based on Japan's development plan. After the interval during World War II, the port was further developed in increasing depth of the access channel and purchase of modern cargo handling equipment. Since opening in 1951, the port had been playing the role of the largest port in Thailand and a gateway port of the Bangkok Metropolitan Area until 1997 when Laem Chabang Port exceeded it in cargo handling volume.

Klong Toey Port is composed of the West Quay with 1,660m length and the East Quay with 1,528m length. The East Quay is a container terminal equipped with

fourteen quay gantry cranes and 36 RTGs. The West Quay is a conventional terminal without a quay gantry crane, operated by ship gears and mobile cranes. The conventional cargoes are also loaded/discharged to/from barges.



Source: Bangkok Shipowners and Agents Association.

Figure 3.7 Layout of Berths in Klong Toey Port

Table 3.12 Facilities and Cargo Handling Equipment of Klong Toey Port

Berth/Dolphin/Buoy	Length (m)	Number of Berths	Berthing Limitation		
			LOA (m)	Draft (m)	Capacity
East Quay	1,528	8	172	8.2	7
			91	4.6	1
West Quay	1,660	10	172	8.2	10
Klongtoey Dolphins	1,400	36	172	8.2	7
Bang Hua Sua Dolphins	1,600	25	172	8.2	8
Mooring Buoys at Sathupradit	1,579	5	137	7.6	4
			91	7.0	1

Storage Area	Square Metres
Inside Customs Fence	
Transit Sheds 1 - 17	61,230
Supplementary Transit Shed	15,700
Overtime Cargo Warehouse	9,820
Bonded Warehouse	2,100
Import Motor Cars Unit	13,050
Open Yard for Stuffing	106,920
General Cargo Storage Area	120,890
Container Terminal 1	98,600
Container Terminal 2	49,000
Total	477,310
Outside the Customs Fence	
In-Transit Warehouse and Open Storage Area	16,360
Other Storage Area	26,652
Total	43,012
Total Storage Area	520,322

Equipment	Capacity	Quantity (Units)
Rail Mounted Shoreside Container Cranes	32.5 - 40 tons	14
Yard Gantry Cranes	30 - 40 tons	36
Top Loaders	40 tons	33
Empty Container Stackers	7.5 tons	25
Mobile Cranes	10 tons	3
	50 tons	7
Tractor for Trailers	30 - 40 tons	154
Container Chassis	30 - 40 tons	151
Towing Tractors	12,000 lbs	14
Trailers	10 tons	14
Multi Purpose Trailers	5 - 7 tons	11
Forklift Trucks	Various Size	223
Motor Trucks	5 - 7 tons	46

Source : PAT

3) Private Wharves

Along Chao Phraya River, there are 41 private wharves on the left bank and 37 on the right bank. Those permissible drafts are in the range from 2m to 10m.

a. Authorized Private Wharf

Authorized Private Wharves are granted license by the Thai Customs for the purpose to mitigate the congestion of Klong Toey Port and its immediate hinterland. The following four container terminals, all located downstream of Klong Toey Port, are currently in operation.

- Bangkok Modern Terminal (BMT)
- Thai Prosperity Terminal (TPT)
- Unithai Terminal (UTT)
- Sahathai Terminal

Main specifications are as follows:

Table 3.13 Facilities of Authorized Private Wharves

Terminal	Berth length	Depth	Area	Cargo Handling Equipment
BMT	315m	8.5m	Ground slots 3,000 TEU	3 x 120t mobile cranes, 8 reach stackers, 4 top loaders
TPT	275m	8.5m	80,000 m ²	2 x 100t & 1 x 300t mobile cranes, 1 x 35t RMG, 8 reach stackers, 4 top loaders
UTT	202m	8.5m	60,000 m ² (Ground slots 3,600 TEU)	3 x 35t quay gantry cranes, 6 x 35t RTGs,
Sahathai	360m	8.0m (low tide)	168,000 m ²	2 x 40t quay gantry cranes, 1 x 280t & 1 x 250t mobile cranes 2 RTGs, 8 reach stackers

Source : Web sites of the terminal operators

b. Authorized Private Wharf

Those wharves are scattered along the Chao Phraya River, handling mainly domestic cargoes such as rice, maize, fertilizer, steel products, chemicals, petroleum products etc., and foreign cargoes also sometimes subject to the customs permission.

4) Cargo Handling Volumes

At Laem Chabang Port, the handling capacity of the container terminals currently in operation is reaching its limit. Consequently Bangkok Port has been increasing its handling volume. In 2015, the throughput of Bangkok Port marked 1.92 million TEUs in total of PAT Terminals and the Authorized Private Wharves.

PAT Terminals, handling 80% of the total volume of Bangkok Port, have been dealing with the recent increase of cargo volume by improving the berth layout and installing additional RTGs. Preparing for further increase of cargo volume in future, PAT has a plan to divert the West Quay from a conventional terminal to a container terminal.

Table 3.14 Historical Container Throughput of Bangkok Port

('000 TEUs)

		2012	2013	2014	2015
PAT Terminal	Inbound	825	863	855	895
	Outbound	573	642	681	643
	S. Total	1,397	1,505	1,536	1,538
Authorized Private Wharves					
BMT	Inbound	36	38	43	38
	Outbound	21	18	19	17
	S. Total	57	55	62	55
TPT	Inbound	72	53	57	49
	Outbound	78	52	55	38
	S. Total	150	105	112	87
Unithai	Inbound	57	62	68	65
	Outbound	54	49	56	58
	S. Total	110	111	124	123
Sahathai	Inbound	23	41	44	50
	Outbound	35	53	57	69
	S. Total	58	95	101	119
Authorized Private Wharves Total	Inbound	188	193	211	203
	Outbound	188	172	188	181
	S. Total	375	366	399	384
Bangkok Port Total	Inbound	1,012	1,056	1,066	1,098
	Outbound	760	815	869	824
	Total	1,773	1,871	1,935	1,922

Source: Bangkok Shipowners and Agents Association.

(4) Barge Transportation between the Private Terminals in Bangkok Port and Laem Chabang Port

In July 2015, MOL started a barge shuttle service between SahaThai Terminal, Thai Prosperity Terminal on the Chaophraya River and Laem Chabang Port. Having registered SahaThai and TPT as CYs, MOL is carrying containers from those CYs to Laem Chabang Port at their responsibility and cost. It takes eight hours by 70 TEU self-propelled barges. MOL offers the cut-off of the CYs at the same time as Laem Chabang (24 hours before ship arrival at Laem Chabang), as the barges can be docked at Laem Chabang just next to the mainline ship and quick transshipment is ensured. The demand for barge shuttles is expected to increase, as it is environmental friendly and makes it possible to avoid the traffic jams in Bangkok Metropolis and the truck bans (to prohibit 6-wheel or larger vehicles traffic on the ordinary roads and expressways at 06:00~09:00, 16:00~20:00 except Saturday, Sunday and Holidays) as well.

(5) Logistics facilities

With a boom in the Thai manufacturing sector, logistics facilities have been actively developed, while private enterprises are promoting investment in warehouse facilities and improving logistics services as a matter of course. Over twenty years have passed since Japanese automobile manufacturers began business operations in Thailand. The country is now known as “the Detroit of Southeast Asia,” and offers just-in-time delivery on a routine basis as required by the automotive industry.

As a result, standards have spread in Thailand, such as the “milk run pickup system” in which each vehicle runs a predetermined route at predetermined time to collect cargo and increase the loading efficiency, as well as GPS-based time management conducted by automobile logistics companies. Unlike China, Thailand has no special complex for the logistics industry, but logistics companies have facilities in and around the industrial complexes.

3.2.2 Logistics Facilities in Vietnam

(1) Ports

On the Indochina Peninsula, only Vietnam has a port on the Pacific. In Ho Chi Minh,

which has a close relationship with Cambodia, river ports along the Mekong used to be main ports. Currently, Cat lai Port serves as the main port and its annual handling volume has reached 200 million TEUs. However, large vessels have difficulty calling at the port because it is a river port. There is no room for expansion; it is difficult to expand the port facilities because of the urbanization of the surrounding areas. For this reason, Vietnam has developed and started to use a deep port at sea-facing Cai Mep Thi Vai. This port enabled Cambodia to have a direct route to the US and East Asia, and there are great expectations for the port. The port has a geographical advantage for US ship calls. This is in contrast to Laem Chabang Port, which has difficulty opening a North American route despite the large cargo volume.

Transport cost is higher by approximately 100 dollars because of a longer transport distance than conventional ports around Ho Chi Minh. The development of a two-lane access road, national highway 51, is also being promoted.

This resulted in expectations for better services at ports in southern Vietnam than at Sihanoukville Port.

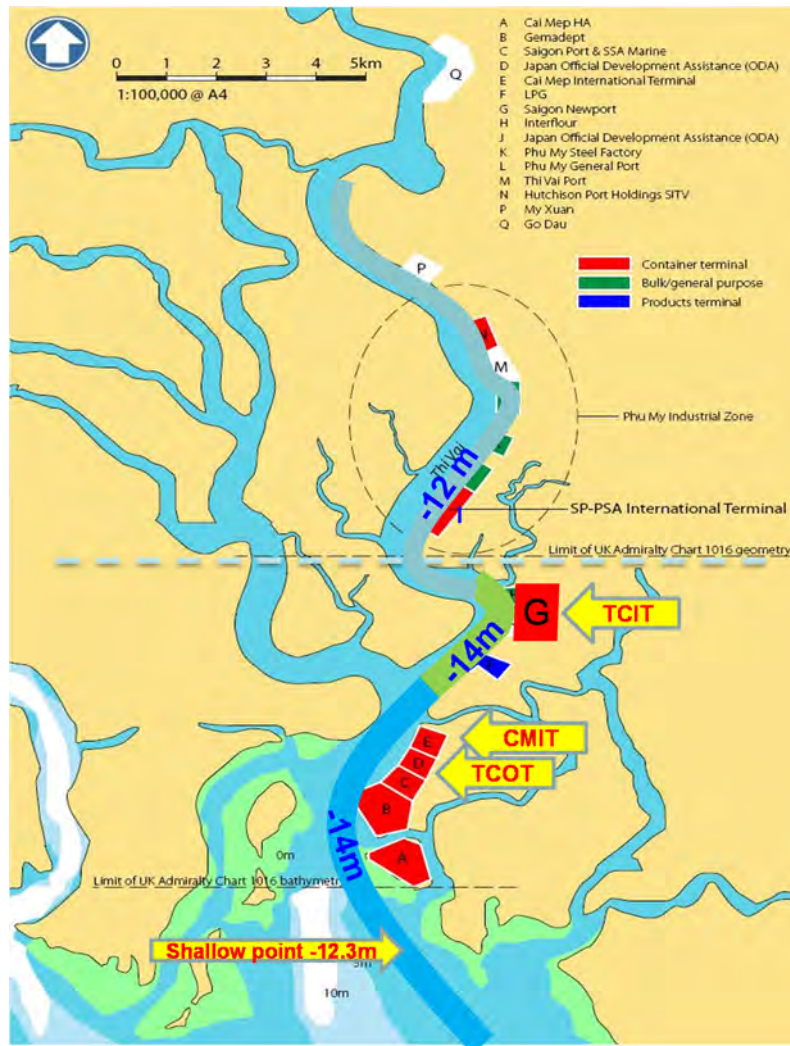
Meanwhile, however, Vietnam does not permit Cambodian vehicles to enter Cat lai Port. Therefore, cargo on Cambodian vehicles needs to be moved onto Vietnamese vehicles for export from Cat lai Port although Cambodian vehicles are allowed to drive in Vietnam. (There appears to be no problem regarding Cai Mep Port.)

1) Cai Mep Port

a. Facilities outline

Cai Mep Port is the name commonly used to refer to a group of terminals located on the left bank of Cai Mep-Thi Vai River. The terminals handling containers, break bulk and liquid bulk in the Cai Mep area and other small-scale domestic terminals scattered nearby are collectively and officially called Vung Tau Port. The container terminals currently in operation are Tan Cang-Cai Mep International Terminal (TCIT), Tan Cang-Cai Mep Container Terminal (TCCT), Cai Mep International Terminal (CMIT) and Tan Cang-Cai Mep Thi Vai Terminal (TCOT). TCIT and TCCT were operationally integrated into one terminal by TCIT in 2014. TCOT was developed by Japanese ODA. The locations of those three active container terminals

are shown in Figure 3.8 below.



Source : Tan Cang-Cai Mep International Terminal Co. Ltd.

Figure 3.8 Locations of 3 Container Terminals Currently in Operation in Cai Mep Port

Though there used to be three other container terminals i.e. SSIT, SP-PSA and SITV, those three have already been converted to conventional terminals due to the oversupply of container terminals in the Cai Mep area. The operator, joint venture partners and container throughput of each terminal are shown in Table 3.15 and 3.16 respectively.

Table 3.15 Operators and Investors of the Container Terminals in Cai Mep Port

Terminal Name	Berth Length (m)	Berth Depth (m)	Nos of Quay Cranes	Operator (I/V partners)	Status
TCCT	300	14	3	Tan Cang Cai Mep Joint Stock Co. (Saigon Newport, Vietnamese investors)	Started operation in Jun. 2009 Operated by TCIT since Apr. 2014
TCIT	590	14	6	Tan Cang-Cai Mep International Terminal Co., Ltd. (SNP, MOL, Hanjin, Wan Hai)	Started operation in Jan. 2011
CMIT	600	14	5	Cai Mep International Terminal Co., Ltd. (Vinalines, Saigon Port, APM Terminals)	Started operation in Dec. 2011
TCOT (ODA Terminal)	600	14	4	Tan Cang-Cai Mep Thi Vai Terminal Co., Ltd (co-funded by Vietnamese government and Japanese ODA)	Started operation in Jan. 2013 Operated by SNP since Jan. 2014
SSIT (SP-SSA)	600	14	4	SP-SSA International Container Service J/V Co. (Saigon Port, SSA Marine)	Started operation in 2012 Currently used as a conventional terminal
SP-PSA	600	12	4	SP-PSA International Port Co., Ltd. (Saigon Port, PSA)	Started operation in Jul. 2009 Currently used as a conventional terminal
SITV	730	12	6	Saigon International Terminals Vietnam (Saigon Investment Construction, HPH)	Started operation in Jan. 2010 Currently used as a conventional terminal

Source : Study Team

b. Throughput

Table 3.16 Container Throughput of Cai Mep Port by Terminal (2014)

Terminal	TEUs
TCIT	922,885
CMIT	402,714
TCOT	15,350
TCCT	823
SP-PSA	3,169
SITV (HPH)	-
SSIT (SSA)	-
Others (domestic)	334,581
Total	1,344,941

Source : Vietnam Seaports Association, TCIT

c. Transship Operations from Barges to Mainline Containerships

The barges coming from Phnom Penh are docked at the ordinary berth of each container terminal where mainline containerships are docked. At TCIT, a dedicated berth may be allocated for barges in addition to the ordinary berths. Containers discharged from the barge stay for one or two days until loading onto the mainline ships. Mid-stream operation is prohibited in Cai Mep by the customs.

At TCIT, the number of barges coming from Ho Chi Minh ICDs is increasing so rapidly that it is causing a substantial burden on the availability of berthing windows. Therefore, TCIT has introduced an incentive for the trucks to encourage

surface transportation from Ho Chi Minh City.



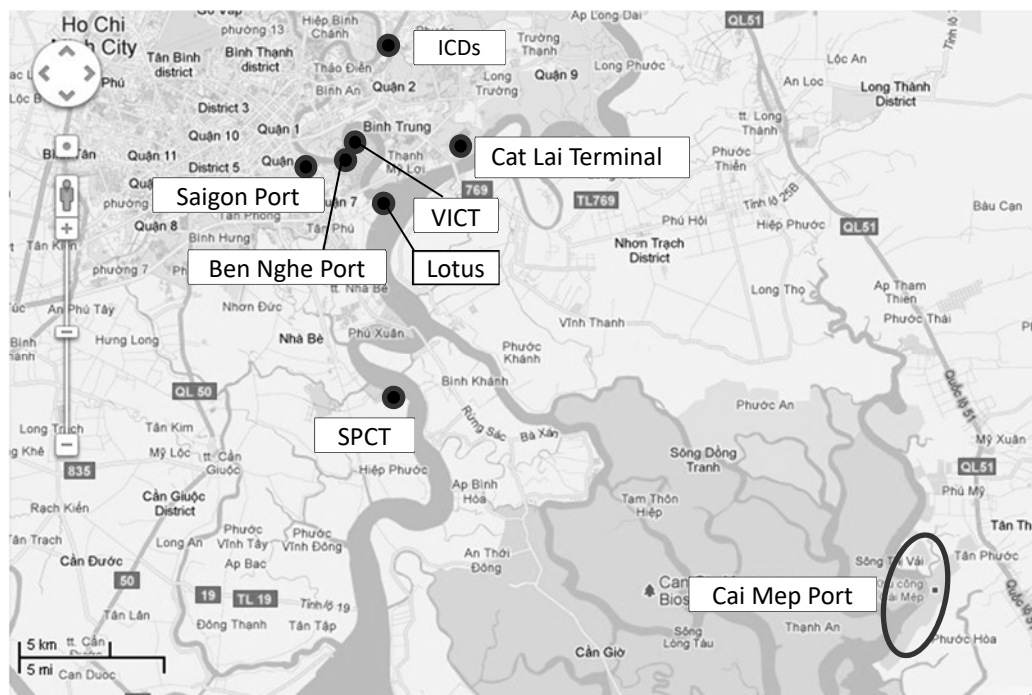
Source : Study Team

Figure 3.9 Discharging from a Barge at the Dedicated Berth of TCIT

2) Ho Chi Minh Port

a. Facilities outline

Ho Chi Minh Port is not the name of a port but the collective term of the ports and terminals scattered along the Saigon River. There are six major container terminals currently in operation. The locations, operators and throughput of the six terminals are shown in Figure 3.10, Table 3.17 and Table 3.18 respectively.



Source : Study Team

Figure 3.10 Locations of Major Container Terminals in Ho Chi Minh

Table 3.17 Operators and Foreign Investors of the Container Terminals in Ho Chi Minh Port

Terminal Name	Length (m)	Depth (m)	Nos of Quay Cranes	Operator (J/V partners)
Tan Cang-Cat Lai Terminal	1,500	12	20	Saigon Newport Company
VICT	678	11	7	First Logistics Development (JV) Co. (Mitsui & Co., NOL)
Saigon Port	1,750	10	2	Saigon Port Co., Ltd.
SPCT	500	14	5	Saigon Premier Container Terminal (DP World)
Ben Nghe Port	816	13	5	Ben Nghe Port Limited
Lotus Port	275	12	3	Lotus Joint Venture Co. (BASCO, Ukraine)

Source : Vietnam Seaports Association, TCIT

b. Throughput

Out of the total throughput of 5.3 million TEUs, Cat Lai has the largest of 3.8 million, of which the share amounts to 72%.

Table 3.18 Container Throughput of Ho Chi Minh Port by Terminal (2014)

Terminal	TEUs
Cat Lai Terminal	3,827,115
VICT	583,693
Saigon Port	345,147
SPCT	301,382
Ben Nghe Port	148,306
Lotus Port	84,900
Total	5,290,543

Source : Vietnam Seaports Association, TCIT

(2) ICDs in Ho Chi Minh

In the Ho Chi Minh district in Vietnam, ICD means a container base located along a river. As is the case with Cambodia, cargo trucks are prohibited from traveling in Ho Chi Minh during the daytime, and it is difficult to depend on road transportation for cargo carry-in/carry-out at river ports. For this reason, cargo used to be carried to an ICD along a river and carried by barge to the port from which the cargo is shipped.

Thus, many local logistics facilities are located along a river. Shipping companies used these ICDs as container yards (CY), set their cut-off time a half day to one day earlier, and offered “barge” transport and shipment services.

Shipping companies, which engage in local feeder transport, are still using these ports, and transport services to and from Cai Mep Port are also available.

1) Locations and Facilities of the ICDs

In Ho Chi Minh, ICDs are playing an important role for the transportation of seaborne containers. Clusters of ICDs operated by five companies are located in Thu Duc District, on the left bank of Saigon River approximately 20km upstream of Cat Lai Port. Also located just beside NH 1, the ICDs have good access to both the waterways and roads. The five ICD operators are Transimex, Phuc Long (PLC), Phuoc Long (PIP), Sotrans and Tanamexco. Locations and photos of the ICDs are shown in Figure 3.11 and 3.12 below.



Source : Study Team, Googles Inc.

Figure 3.11 Location and Layout of ICDs



Stacking at the Container



Loading onto Barge

Source : Study Team, Transimex

Figure 3.12 Operations at ICD Transimex

Out of the five operators above, the Study Team visited Transimex and Phuc Long. Throughput and facilities of each ICD are shown in Table 3.19 below. When assuming 0.4 million TEUs p.a. handled at each ICD, the total of the five ICDs would amount to 2 million TEUs, which is approximately 38% of Ho Chi Minh Port's annual throughput of 5.29 million TEUs.

Table 3.19 Throughput and Facilities of 2 Major ICDs

		Transimex	Phuc Long	
Container Throughput (in TEUs, 2015)	Laden	VICT	150,000	0
		Cat Lai	50,000	10,000
		Cai Mep	100,000	210,000
		Sub Total	300,000	220,000
	Empty	100,000	180,000	
	Total	400,000	400,000	
Facilities	Total Area (m2)	93,970	80,000	
	Berth Length (m)	180	84	
Equipment	Quay Cranes (units)	4	3	
	RTGs (units)	2	2	
	Reach Stackers (units)	9	8	

Source : Study Team

2) Operations of the ICDs

Major shipping lines have registered the ICDs as their inland CYs to receive/deliver FCL cargoes. Main shippers/consignees using those ICD are the manufactures located in the industrial estates around Ho Chi Minh City.

a. Cut off time and dwell time

The cut-off times for the export containers are set by the shipping lines at:

- 12 hours before the cut-off of Cat Lai or VICT
- 16 hours before the cut-off of the terminals in Cai Mep

In the case of Transimex, containers are dwelling approximately one or two days for exports and six days for imports on average.

b. Customs procedures

Though the ICDs are all granted bonded status by customs, some ICDs don't accept import containers as they may stay long due to the import customs clearance.

Containers are scanned by the customs on a spot basis by use of a scanning machine installed at Phuoc Long for sharing among the five ICDs.

c. Transportation of containers to the container terminals

After receiving at the ICD, the operator of the ICD arranges the transportation of export containers down to the terminals in Ho Chi Minh or Cai Mep by order/at the cost of the shipping line. In the case of a barge, it takes three hours to Cat Lai or VICT, and ten hours to Cai Mep. Some of the barges deployed for the ICD/Cat Lai shuttle are operated by Saigon New Port; the operator of Cat Lai terminal.

d. Tariff rates

The uniform tariff rates are applied by each ICD operator as follows, which seem quite reasonable:

- Lift-off for export container (paid by the exporter) : USD 16/20', USD 22/40'
- Barge freight for Cai Mep(paid by the shipping line, including lift-on to the barge): USD 30/20', USD 60/40'

e. Utilization of EDI by ICD operators

- With shipping lines

Each ICD exchanges container data with shipping lines by use of EDI (in CODECO format), which is supported by the TOS of each terminal.

- With the customs

The manifest data are sent to the customs by EDI through the “e-Manifest” system.

- With the container terminals and other government agencies

EDI is not used; emails with Excel attachments are used instead.

(3) Logistics facilities

In 2004, Vietnam specified a schedule for foreign investment in logistics facilities as a requirement to join the WTO in 2014. In that schedule, logistics services were defined in Decree 140/2007/ND-CP (2007, Sep),” and the opening schedule was prescribed for each service. However, foreign investment is supposed to consider the supply-demand relationship. In particular, container vaning/devanning facilities

need to have a majority of foreign investors. Container transshipment facilities for sea transport (inland CFS) are found relatively easily in Ho Chi Minh, but there appears to be a limited number of land transport facilities. This is probably one of the reasons why Japanese companies cannot promote consolidated cargo transport with Cambodia.

3.3 Logistics in Malaysia

3.3.1 Logistics and Trade Facilitation Master Plan (2015-2020) in Malaysia

The Logistics and Trade Facilitation Master Plan released in March 2015 provides the strategic framework to resolve bottlenecks in the logistics sector. This plan will ensure Malaysia's status as a key regional player in the medium term. The logistics sector is important as it supports all sectors of the economy, facilitates trade, reduces the cost of doing business and contributes to enhancing productivity and the economy.

The Master Plan sets out five strategic shifts and 21 action items. The Master Plan will be implemented in three phases. During the first phase beginning in 2015, the focus will be on addressing bottlenecks in the sector. In the second phase, initiatives will be introduced to promote the domestic growth of the sector and in the third phase, the emphasis will be on creating a regional footprint. It is an ambitious plan but is doable with the commitment of all stakeholders. To ensure the plan is effectively implemented, initiatives proposed in the Master Plan will be part of the Eleventh Malaysia Plan, 2016-2020.

The successful implementation of this Master Plan will increase the contribution of the transport and storage sub-sector to the gross domestic product from 3.6% in 2013 to 4.3% in 2020, an estimated increase of RM22.2 billion. The cargo volume is projected to grow 8% annually to reach 880 million tons in 2020. It will also generate 146,000 new jobs by 2020, mostly in the high skilled category.

To ensure that the Master Plan is implemented expeditiously and in a cost effective manner, the National Logistics Taskforce will be established and headed by the Minister of Transport. The Taskforce will report regularly to the Special Committee on Services Sector chaired by the Prime Minister.

Five strategic shifts and 21 action items will be implemented to improve overall productivity and to better connect industries with their markets, both locally and internationally. The strategic shifts are as follows:

(1) Strategic Shift 1: Strengthening the institutional and regulatory framework

Strengthen the institutional structure and simplify or streamline the regulations to reduce inefficiency and duplication.

(2) Strategic Shift 2: Enhancing trade facilitation mechanisms

Increase the efficiency of trade facilitation mechanisms particularly through improvements in the cargo clearance system, paperless trading and security of trade documents. This will boost trading activities and reduce the cost of doing business.

(3) Strategic Shift 3: Developing infrastructure and freight demand

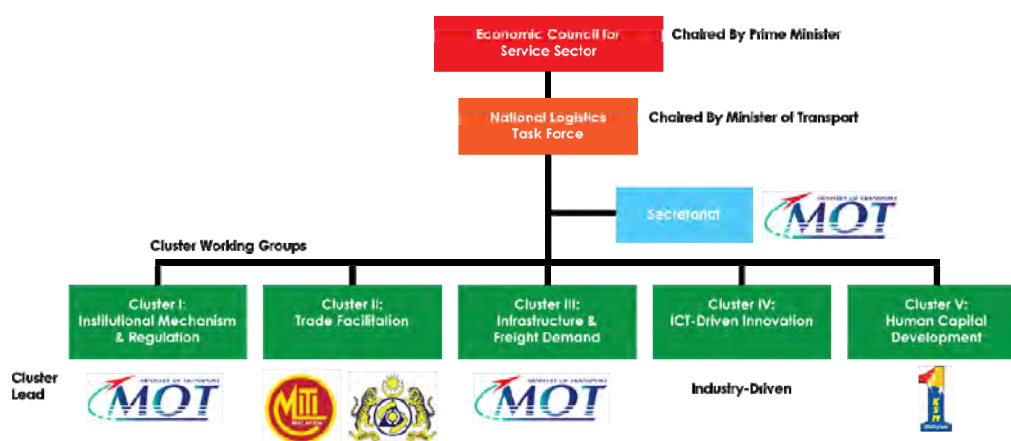
Consolidate cargo volume through a well-defined 'hub and spoke' system, provide better connectivity to entry points, optimizing usage of existing infrastructure and promote modal shift from road to rail.

(4) Strategic Shift 4: Strengthening technology & human capital

Enhance the adoption of technology to reduce exchange of manual documentation and optimize transport movements. This strategic shift also emphasizes the enhancement of human resource capabilities by attracting, nurturing, and retaining skilled talent within the logistics industry.

(5) Strategic Shift 5: Internationalizing logistics services

Enhance capabilities of logistics service providers by strengthening internal capabilities and external readiness to enable them to compete at a global level.



Source: MOT in Malaysia

Figure 3.13 Organization for Logistics and Trade Facilitation Master Plan

3.3.2 Ports in Malaysia

Port Klang is the main gateway by sea into Malaysia. Known during colonial times as Port Swettenham but renamed Port Klang in July 1972, it is the largest port in the country. It is located about six kilometers southwest of the town of Klang, and 38 kilometers southwest of Kuala Lumpur. Port Klang has since grown and now establishes trade connections with over 120 countries and dealings with more than 500 ports around the world.

Westport is managed by Westports Malaysia Sdn Bhd (formerly known as Kelang Multi Terminal Sdn Bhd). A passenger port, Port Klang Cruise Centre, opened in December 1995 at Pulau Indah which is located next to the cargo terminals of Westport. Cruise line and naval ships drop anchor in any of the three berths at Port Klang Cruise Centre, which was under the management of Star Cruises before being taken over by the Glenn Marine Group.

Table 3.20 Container Cargo Throughput in 2014

	Million TEUs	Remarks
Kelang Westport	8.4	
Kelang Northport	2.5	transshipment=70%
Tanjung Pelepas	9.0	transshipment=100%

Source: MOT Malaysia

Northport is owned and operated by Northport (Malaysia) Bhd and comprises dedicated multipurpose port facilities and services. The Northport entity was a merger of two companies; Kelang Container Terminal (KCT) and Kelang Port Management (KPM). Its operations also cover South Port, which was renamed South point for conventional cargo handling, and acquired Northport District park Sdn Bhd (NDSB) as part of its logistics division.



Source: Klang Port.

Figure 3.14 Port Klang

The Port of Tanjung Pelepas is a container port located in Johor Bahru District, Johor, Malaysia, and is part of the APM Terminals Global Terminal Network, which holds a minority share in the joint venture.

There are sixteen container berths (15 - 17.5 m depth); the total length of berths is 4,600 meters while terminal capacity is 11 million TEU per year. The container yard of 163.6 ha consists of CT 1 - 16.2 ha, CT 2 - 24.3 ha, CT 3 - 24.3 ha, CT 4 - 24.3 ha, CT 5 - 24.3 ha, CT 6 - 24.3 ha and CT 7 - 25.9 ha.

On 17 March 1986, the container terminal facilities that were operated by Port Klang Authority were privatized as part of the privatization policy of the government.

In January 1988, construction work began on a new 800 feet (240 m) berth, as an alternative to the immediate development of West Port. A government directive in 1993 selected Port Klang to be developed as the National Load Centre.



Source: JICA Study Team.

Figure 3.15 Container Yard of Westport (Study Team)

West ports are a truly Malaysian Port with 4,500 workforces in the company all being Malaysian, and many are from the island where West ports Malaysia is situated, Pulau Indah. The hardcore poor and poverty in the island have been reduced drastically.

Table 3.21 LOLO Charge of Westport (Klang Port)

	Ft	LOLO (RM)	Remark
Import/Export	20	260	\$70
	40	400	\$120
Transship	20	160	
	40	200	

Source: Klang Port.

Northport is one of the largest multi-purpose ports of its kind in the national ports system offering dedicated facilities and services to handle a wide variety of cargoes ranging from containers to cars, break bulk cargoes as well as the capacity to handle

liquid and dry bulk cargoes of all types and shipment sizes. Its facilities are located at two locations - in South point for conventional cargo handling and in Northport where the state-of-the-art container handling facilities are located. Northport logistics further adds value to the business entity. Relations between two ports is corporative rival.

3.3.3 International Rail Transit between Malaysia and Thailand

As ASEAN continues to grow as a huge market, various economic activities towards the realization of the Economic Community have been carried out. In Thailand, the automotive industry with its supply chain is being developed and the cargo volume is expected to be increased in the region.

On the other hand, a lack of truck drivers, vehicle shortages, and traffic congestion has become serious issues. The enhancement of transport capacity together with environmental considerations is urgently required. Under such a background, Nippon Express commenced an international railway transit service in December 2013 between Bangkok (Thailand) and Kuala Lumpur (Malaysia), which transports the largest cargo volume in the ASEAN region. Known as "SS7000," this is the first such service provided by a Japanese company in the region.

This service is provided between Bang Sue Station in Bangkok and Sungai Way station in Kuala Lumpur. Padanbesaru station is used for border crossings. Double track construction has been carried out on the Malaysia side up to Ipoh. A container train is composed of a locomotive and wagons; the locomotive is changed at Padanbesaru station situated on the border. In other words, each country employs its own locomotive while Malaysian wagons are used in all sections. Currently, 27 40ft container boxes can be loaded in one train. In addition, a container box can be leased from Nippon Express at the request of a shipper.

Import and export customs clearance is carried out on the Malaysian side of the border at Padanbesaru station rather than in Bangkok and Kuala Lumpur. In Padanbesaru, a truck transport service is available at the request of shippers or in the event of a natural disaster etc. A state-owned container National Corporation (KONTENA NASIONAL) on the Malaysian side in the Sungai Way Station is in charge of the loading and unloading work. The transport lead-time is reduced, and

the transport quality is ensured by this train service. One round trip per week has been provided since February 2014.

It takes 60 hours to transport containers between the two stations including the import and exports customs clearance at the border, and takes 72 hours (three days) to reach a delivery destination. Truck transport has the same lead-time but is more expensive. In addition, railway transport is faster than maritime transport, which takes twelve days.

Regarding transport quality, the vibration of rail transport is smaller than that of truck transport. In trucking, the maximum vertical vibration has been measured as 10G, but it is below 5G in the case of railway transport. In addition, packaging costs are lower than in the case of truck and maritime transport and no major damage to the external packages have been reported.



Source: MOT.

Figure 3.16 Railway network in Malaysia



Source: Nippon Express.

Figure 3.17 Container train between Malaysia and Thailand

3.3.4 The Port Klang Community System (PKCS)

The Port Klang Community System (PKCS) is an e-Commerce messaging system that was first launched in 1993. The key participants in this system are the port authority, customs, port operators, shipping agents, forwarding agents, freight forwarders, banks and technology providers. The primary objective of the system was to streamline the documentation procedures, eliminate duplication and redundancies and, where possible, to capture information at the source and propagate it across the supply chain to all parties concerned. PKCS started out supporting only the port's shipping and forwarding agent communities. PKCS is today part of the Dagang Net network and serves an extensive chain of trading parties that overlap into the logistics/transportation, importers and exporters, customs and government agencies in Port Klang, KLIA and Johor, numbering about 2,500 in total.

Today the PKCS facilitates the exchange of a wide range of electronic cargo documents covering all stages of the supply-chain by connecting members of the supply chain using EDI and Internet technologies. The level of electronic messaging is 100% for many commonly used documents and the list of paper-based processes being converted to electronic form continues to expand.



Source: Port Klang Authority.

Figure 3.18 Conceptual Image of Port Klang Community System

Chapter 4 International Containerized Cargo Flow, Service and Facility for Handling International Cargo

4.1 Logistics Entities

4.1.1 Truck operators

The Cambodian truck industry consists of the following three segments. Class 1 members mainly international handle transport from/to Sihanoukville and cross border transport. There are fifteen members in all and they represent only 2% of the truck industry. Only 17 % of trucks are engaged in this group. They are formulating the CAMBodian Truck Association (CAMTA). This group of companies is providing not only transport service but also customs clearance and related logistics service in order to keep profitable. Even for the lower transport revenue and unavoidable empty return, the remaining service menus can compensate the profit. Some are operating at dry ports. CAMTA members are shown in the table below.

Table 4.1 List of CAMTA Members

No.	Description	Background	Services	Equipment/ Facilities
1	Cambodia Cwt Dry Port	Unknown	Unknown	Unknown
2	Cool Transport & Logistics Co., Ltd.	Unknown	Unknown	Unknown
3	Bok Seng PPSEZ Dry Port Co., Ltd.	Another yard in Sihanoukville, located 3km from PAS	One-stop container Depot, container & conventional Trucking services, project cargo handling, custom clearance services	Lorry crane with capacity ranging 5t to 7t, trucks from 30t to 60t, 50t-crane with suitable lifting gears stacker and 3 warehouses
4	Hong Leng Huor (Transport Imp.Exp & Dry Port) Co., Ltd. (HLH)	Established in 1999 as logistics and transportation company, on 15ha of land, about 3km from	Logistics & freight forwarding, road transportation, warehousing and distribution, customs	Warehouses: 50,000 sqm, customs office, CAMControl office, CY, cargo-handling equipment, warehouses,

No.	Description	Background	Services	Equipment/ Facilities
		PP Airport, branches in Bavet, PP	clearance, dry port services	CFS & repair workshop
5	MSE KPM Dry Port	Established in 1996 on 10ha of land,	Bonded warehouse, CY, customs clearance & documentation, warehousing, container trucking, ICD inland port	Warehouse: 10,000 sqm, CY: 27,000 sqm
6	MS Overseas Transport Co., Ltd.	Established in 1996	Transport, customs formalities & warehouse operation	Unknown
7	Olair Dry Port Worldwide Logistics Co., Ltd.	Unknown	Unknown	Unknown
8	RL Co., Ltd.	Established in 2002	transport, Customs Formalities and Warehouse operation	Unknown
9	R.N.Y TRANSPORT CO.,LTD	Unknown	Unknown	Unknown
10	SBLL ICD & Transport Co., Ltd.	Unknown	Unknown	Unknown
11	Sokan Transport Co., Ltd.	Established in 2000, H/Q in PP, branches in SHV, Bavet, Smach and Poipet, regional offices in BKK and HCM and other countries	Customs clearance & documentation, trucking, sea-freight & forwarding, dry port, warehousing and distribution	Dry port: 29,855 sqm, warehouse: 4,000 sqm, 182 trailers, 6 lorries, 3 forklifts & 4 cranes, 114 truck drivers, 5 standby drivers, 6 lorry drivers and 6 co-drivers, 2 forklift drivers, 4 crane drivers & 4 co-drivers, 5 technicians, 10 technical clerks, 5 staff and 2 team leader and 27 admin staff
12	So Nguon Dry Port	Established in 1999, H/Q in PP, branches in SHV, Poipet, Bavet of Svay Rieng and Trapeang Plong of Kampong Cham	Import-export LCL & FCL cargo clearances, inland transports, warehousing & CY	Dry port in PP: 10ha, Customs office, CAMControl, CTN-handling equipment for 20' & 40' (6 cranes), CTN depot up to 7,000 CTN, warehouse: 25,000 sqm, 11 elevators, repair workshop
13	Tec Srun Import Export Transport & Dry Port Co., Ltd.	Established in 1996, 15 years of trucking experience, 4 branches in SHV, PP, Bavet and Poipet	Customs clearance, depot container storage, sea-freight, transportation, cargo consolidation	5 warehouses: 15,000m ² , 1 dry port: 52,000m ² , 12 cranes & stacker: 25t to 50t, 12 forklifts: 02t to 3.5t, 160 modern trucks: 30t to 40t, 280 trailers, 180 staffs and 170 drivers
14	Teng Lay Deport & Dry Port	Established in 1996	Customs clearance, documentation, ocean & air freight, land freight, open storage yard, dedicated container freight station, warehouse management & stock inventory control	Unknown

No.	Description	Background	Services	Equipment/ Facilities
15	Try Pheap Group Co., Ltd.	Established in 2014 on 30ha of lands in Kampong Speu	Stock location, warehouse for rent, local and international shipping services, trucking	Unknown
16	Union Imp Exp & Transport	Established in 2012 on 05ha of land	CY, customs clearance and documentation, trucking, warehousing, shipping, transportation & logistics and bonded warehouse	Warehouses: 7,500 sqm (including bonded warehouse), CFS warehouse & general cargo warehouse, CY: 27,000 sqm (2,500TEUs),
17	Vann Sophy Transport Co., Ltd. (VST) - VSDP Vann Sophy Dry Port	Located in Thmei, Malai, Banteay Meanchey	Land transportation, air freight, sea freight, customs brokerage, exhibition logistics, warehousing and distribution, project cargo, dangerous cargo, valuable cargo and packing and removals & dry port	Unknown

Remark: as of 25 March 2015

Source: JICA Study Team.

The Class 2 group represents 7% of the operators and 24 % of trucks; the majority of them are officially registered but are mainly small and medium sized enterprises (SMEs). Their main field seems to be unofficial export and agricultural products, thus their profit margin remains low. The bank loan rate is so high (over 10%) that it is difficult for Class 2 operators to make the decision to invest in new trucks; thus, this leads to procuring second-hand trucks at lower prices.

The Class 3 group category consists of unofficial micro business operators. Trucks are ordinal aged and are likely to skip regular inspections. Their operations are on a day-to-day basis and their trucks are aged and already finished the depreciation period. In this group, an operator is likely to neglect the service standard like periodical service; only their low cost is their competitiveness.

In terms of international cargo, the Class 1 operators are the main players, facing the risk of competition from operators with aged trucks and unqualified drivers, and empty return cargo; those three factors are serious constraints for their business activities. Even with the deregulation for regional border crossing transport promotion, Cambodia is not necessarily active in this new movement.

Table 4.2 Market Segmentation of Truckers

	Class 1	Class2	Class3
% of operators	2	7	92
% of trucks	17	24	49
Status	Officially organized and registered	Not officially organized, SME (small and medium sized enterprise)	No registration No representation Micro business
Customers	Container trucking import/export, Long-term customer relations	Construction "grey export" Spot cargo	Everything Anybody
Depreciation	Considered	Usually not consideration	"live for just today's food"
Variable cost management	Lumps sum for drivers	Probably also working for lump- sum	Fuel is purchased on black market
Load management	Including empty haul in price/compensate with services	Include in price/wait for backload	"Wait here for next load"

Source: ADB, "Green Freight in Cambodia: Opportunities for Market- Based Interventions" 2014.

4.1.2 Dry Ports

There are more than ten dry ports in the vicinity of Phnom Penh. Some companies have a dry port in Bavet or Poipet (in 2010, a JICA study indicated only nine dry ports existed in Phnom Penh).

Many dry ports offer not only simple warehousing services but also customs clearance and transport services. Some dry ports, as international cargo handling facilities, offer services such as customs clearance for FTC/LCL cargo, storage at their own warehouses, delivery, cargo consolidation, and transport using their own vehicles. They are developing a structure to offer one-stop import/export service. In many cases, warehouses are used not only for their own storage but also as shipping companies' CFS.

Some dry ports obtain bonded transport permission and offer bilateral transport services for consolidated cargo. It appears that Japanese companies have not established services using their own forces. They appear to be using the services and the facilities of these dry ports.

4.1.3 Forwarders

There are approximately 59 members in the Cambodia Freight Forwarder Association. However, there might be approximately 200 forwarders if non-members

are included.

Table 4.3 List of CAMFA Members

No.	Description	Joined Y	Remarks
1	ADDICON LOGISTICS (CAMBODIA) CO., LTD	2010	Regular member
2	AGILITY LOGISTICS LIMITED	2013	Regular member
3	AIR TIGER EXPRESS (CAMBODIA) CO., LTD	2014	Regular member
4	ALPHA FREIGHT LINKS CO., LTD	2014	Regular member
5	APL LOGISTICS (CAMBODIA) PTE.LTD	2012	Regular member
6	APPG GLOBAL CARGO CO., LTD	2016	Regular member
7	A.S.I LOGISTIC (CAMBODIA) LIMITED	2013	Regular member
8	BRANCH OF BEN LINE AGENCIES (CAMBODIA)	2016	Regular member
9	BOK SENG PPSEZ DRY PORT CO., LTD	2011	Regular member
10	BRANCH OF BEE LOGISTICS CORPORATION (CAMBODIA)	2013	Regular member
11	BRANCH OF MP CONSOLE (S) PTE LTD	2015	Regular member
12	CAM FREIGHT SERVICES CO., LTD	2012	Regular member
13	CARGOTEAM S.L CAMBODIA LTD.	2012	Regular member
14	CBG LOGISTICS (CAMBODIA) CO., LTD	2016	Regular member
15	CHAY DA LOGISTICS CO. LTD.	2006	Regular member
16	C.H ROYAL INTERNATIONAL CO., LTD	2014	Regular member
17	COOL TRANSPORT & LOGISTICS CO., LTD	2014	Regular member
18	CRYSTAL WORLDWIDE LOGISTCS LTD	2015	Regular member
19	DAMCO (CAMBODIA) LTD.	2009	Regular member
20	DHL LOGISTICS (CAMBODIA).LTD.	2008	Regular member
21	DYNAMIC NETWORK LOGISTICS CO. LTD.	2011	Regular member
22	E FREIGHT SOLUTION INC	2015	Regular member
23	FEX LOGISTICS LIMITED	2012	Regular member
24	FWF FULL WELL FREIGHT PTE LTD.	2012	Regular member
25	G CARGO EXPRESS CO., LTD	2014	Regular member
26	GLOBAL LINK SERVICE PTE., LTD	2013	Regular member
27	HECNY TRANSPORTATION (CAMBODIA) LIMITED	2014	Regular member
28	HOYER TRANSPORT (CAMBODIA) CO., LTD	2013	Regular member
29	INTRA CO. LTD	2004	Regular member
30	KTSL GLOBAL TEAM CO., LTD	2015	Regular member
31	KAMPUCHEA SHIPPING AGENCY & BROKERS "KAMSAB"	2006	Regular member
32	KUEHNE + NAGEL LTD.	2013	Regular member

33	LINEHAUL EXPRESS (CAMBODIA) CO., LTD.	2004	Regular member
34	LIONS INTEGRATED LOGISTCS	2004	Regular member
35	LNL (CAMBODIA) CO., LTD.	2011	Regular member
36	NARITA LOGISTICS & SERVICES CO., LTD.	2004	Regular member
37	NIPPON EXPRESS (CAMBODIA) CO., LTD.	2016	Regular member
38	PANTOS LOGISTICS (CAMBODIA) CO., LTD.	2011	Regular member
39	PTM ASIA CO., LTD	2004	Regular member
40	RAF INTERNATIONAL FORWARDING (CAMBODIA) INC.	2004	Regular member
41	RCS LOGISTICS (CAM) LTD	2015	Regular member
42	RDL LOGISTICS CO., LTD	2016	Regular member
43	R.N.Y TRANSPORT CO., LTD	2016	Regular member
44	ROYAL CARGO COMBINED LOGISTICS (CAMBODIA) CO., LTD	2013	Regular member
45	RSL GLOBAL LOGISTICS CO., LTD	2009	Regular member
46	SDV CAMBODGE LTD.	2004	Regular member
47	SEATOP LOGISTICS (CAMBODIA) CO., LTD.	2016	Regular member
48	SHA TRANSPORT EXPRESS CO., LTD	2010	Regular member
49	SJ SHIPPING CO., LTD	2015	Regular member
50	STRAITS INTERNATIONAL PTE., LTD.	2008	Regular member
51	SWIFT FREIGHT LOGISTICS LIMITED.	2013	Regular member
52	THOMAS INTERNATIONAL SERVICES CO., LTD.	2004	Regular member
53	TRANSPEED CARGO (CAMBODIA) CO., LTD.	2004	Regular member
54	TRANS STAR FREIGHT PTE LTD.	2008	Regular member
55	TRIUMPH LINK LOGISTICS (CAMBODIA) CO., LTD.	2012	Regular member
56	TWIN LOGISTICS (CAMBODIA) CO., LTD	2014	Regular member
57	WORLDBRIDGE INTERNATIONAL (CAMBODIA) LTD	2012	Regular member
58	WORLDWIDE FORWARDING (CAMBODIA) CO., LTD	2013	Regular member
59	YUSEN LOGISTICS (CAMBODIA) CO., LTD	2016	Regular member

Remark: as of 25 March 2015.

Source: CAMFA

The service content includes 1) customs clearance, 2) international shipment freight handling (marine, air transportation arrangements), 3) land transportation, and 4) common inland transportation in common. 5) service provision of storage, 6) supply chain management, 7) heavy-load transportation, 8) project cargo, and 9) goods to be moved, etc., are forwarder business performed as strength domain.

About the above-mentioned "customs clearance", the forwarder employs the

registered customs specialist at his company, and it is forwarder's domain business.

In an interview survey, the customs clearance business association (it usually exists in many other countries) does not exist in Cambodia. Therefore, the business field of both forwarder and a customs broker is the same in Cambodia.

A forwarder can provide comprehensive service. However, the forwarder does not hold all institutions for the service.

For example, the forwarder entrusts transport business to other shipping agents, performs customs clearance and forwarding business, and provides total service. That is a service provider of a "non asset" type.

The only CAMFFA member dry port management company is the BokSeng Company.

Two Japanese companies which belong to CAMTA are similarly non-asset type forwarders. And two Japanese companies are good at the cross-border transportation, which uses the network with the ASEAN country.

4.1.4 Major Shipper (Japanese affiliated companies)

(1) Japanese Importer and Exporter

Recently, Japanese companies are accelerating their advance into Cambodia. According to the Phnom Penh Special Economic Zone (PPSEZ), the advancement of small- and medium-size enterprises (SMEs) is increasing. Cambodia intends to offer cross-border consolidated cargo transport as a support function of industrial complexes because the procurement and delivery volume of Japanese SMEs is small. Currently, only four Japanese transport companies offer consolidated cargo services, reflecting the low need. However, it appears that they cannot actually offer weekly transport service constantly. On the other hand, large enterprises use simple border-crossing procedures offered by SEZs to companies with preferential status. They have fewer problems in cross-border transport.

In addition, Japanese companies are periodically requesting the logistics improvement in the government-and-private joint conference, and the requests relevant to logistics are summarized as shown in Table 4-4.

Table 4.4 Request from the Japan Side

No.	Time	Category	Contents
9	2013 November	Continuation topics	<ul style="list-style-type: none"> The request about trade prohibition items, permission of restricted item, and approval procedure. Clear statement of the public service charge structure and issue of the receipt in public procedure
		New topics	<ul style="list-style-type: none"> Improvement of the ASYUCDA utilization Unification of the duplication structure (GDCE, cam control, Economic Police, etc.) in trade procedure Introduction of AEO system as Cambodia version
10	2014 June	Continuation topics	<ul style="list-style-type: none"> Trade prohibition items, permission of the control item, the approval procedure. Unification of the duplication structure (GDCE, cam control, Economic Police, etc.) in trade procedure Introduction of AEO system as Cambodia version
		New topics	<ul style="list-style-type: none"> Institutionalization of the temporary business open of the customs
11	2014 November	Continuation topics	<ul style="list-style-type: none"> Export-and-import prohibition items, permission of the control limit item, the approval procedure Facilitation of trade procedure
		New topics	<ul style="list-style-type: none"> The faster promotion policy in Mekong River transport such as the demonstration experiment service in nighttime.
12	2015 July	Short-term subject	<ul style="list-style-type: none"> Clear statement of public service charge structure and receipt issue Target list of Cam Control
		Long-term subject	<ul style="list-style-type: none"> Speed up of export-and-import procedure
13	2016 March	Continuation topics	<ul style="list-style-type: none"> Commission of Cam Control The setup of operating charge during the off-hours of customs operating (proposal of a PPSEZ model)

Source: JBAC.

As for customs clearance, a "quick procedure" is mentioned to the subject due to the implementation of ASYCUDA in the 12th joint conference

Some proposals have been improved and realized, including the ASYUCDA system, best traders scheme as the Cambodian AEO, and trial survey for nighttime navigating of the Mekong River. ASYCUDA development accelerates further demand to speed up the process for customs procedures at the 12th conference.

Unfortunately the Cam control issue remains and is not necessarily resolved. Cam control implies that all items do not necessarily need permission, but it is unclear what items need permits

(2) SEZ

In China, wages went up with economic growth from the beginning of the 1990s. Then, the European and American textile industry decided to have a part of the Chinese labor-intensive industry transferred to Cambodia where wages were cheaper. The industry that transferred from China to Cambodia had many textile industries (fast fashion, a sport maker, etc.) and light industries (shoes, bags, etc.).

Then, the Cambodian government promulgated government act No.147 (2005) regarding the organization and function of CDC. By that government ordinance, the government established "the Cambodia special economic zone committee (CSEZB)" which is an organization for the SEZ management system. "Government act No.148 regarding installation and management of a special economic zone" was also promulgated by the same year.

In Cambodia the first SEZ to be approved by the government was the Poipet Special Economic Zone that was approved in June 2006.

1) Incentive of SEZ

Some SEZ provide the one stop service for customs including Cam control provided by MOC and MLVT staff. It usually takes one week to get duty exempted permission, a master list and a certificate of origin for preparations in advance outside of SEZ but it can be done within two days inside the SEZ. It takes around 1.5 hour for the procedure at the border including waiting time and 30 minutes for customs clearance because the procedure for import needs transportation ones and customs clearance at SEZ. The customs and Cam control at SEZ and dry ports are in the same places. These places can provide one stop service. FCL is using both of the SEZ, consolidation is using both of a dry port, and these places can provide the one-stop service.

Another reason for a Japanese company to move into an SEZ is to get Qualified Investment Projects (QIP) as investment preferential treatment. CDC is examining the QIP. The CDC has the authority to grant a QIP. For example, a company with QIP has the right to have import duties exempted. There are two types of QIP, e.g., an export market type and a domestic market type. Most Japanese companies located in Phnom Penh SEZ have each type of QIP. Based on an investigative survey, the companies, which moved into an SEZ, tended to acquire

QIP easily.

Many Japanese companies have moved to SEZ. The reason is for avoiding risks in Cambodia. The procuring of land in Cambodia is difficult. In Cambodia, many land titles were lost at the time of the civil war. Therefore, Cambodia has a land acquisition risk regarding factory development for foreign investors. Until now, in Cambodia, there have been many troublesome occurrences regarding land for foreign investors. Especially Japanese companies have the tendency to move to an SEZ in which it is easy to procure land.

2) Current Situation of SEZ

The first SEZ which was put in operation in Cambodia is Phnom Penh SEZ, that started its operation in August 2008. To date, the CDC has approved 22 SEZ (see the table and figure below).

After SEZ with the function of export processing started, there was a change in the situation in Thailand, e.g., natural disaster, political turmoil, and wage rises, etc. The Japanese companies in Thailand have increasingly relocated to Phnom Penh SEZ for diversification of risks (Thailand plus one) as mentioned above.

There is a Poipet SEZ and Koh Kong SEZ near the border area between Thailand and Vietnam. The two special economic zones were developed for the companies located in Thailand. The management operator of Phnom Penh SEZ has a plan for a new SEZ development in Poipet. The new SEZ is performing attraction activities to the Japanese companies located in Thailand. On the other hand, the area near the Vietnam border with Cambodia has Manhattan SEZ and Tai Seng SEZ. Another two SEZ are working in addition to those. There are many Chinese companies and South Korean companies in the SEZ near the Vietnam border. The SEZ near the Vietnam border area has an advantage regarding the distance to Ho Chi Minh City. The convenience of the overland route transportation to Ho Chi Minh City became high last year. That is why the TSUBASA Bridge was developed. Therefore, the cooperation with the manufacturing industry in Ho Chi Minh City and SEZ near the Vietnam border is strong. However, electric power for the SEZ located near the Vietnam border is supplied from Vietnam. Therefore, the SEZ has an unstable electric power supply. Moreover, a large-scale labor dispute occurred in 2013. The

large-scale labor dispute was the decline to advance the willingness of Japanese companies.



Remark: as of March, 2015.
Source: JETRO HP.

Figure 4.1 Location of SEZ

Table 4.5 List of SEZ

1. Koh Kong SEZ	Date of establishment	2006
	Access	From Bangkok 470km, from Phnom Penh 297km, from Laem Chabang Port 370km, from Sihanoukville 233km.
	Development area	336ha
	Facilities	-
	Tenant	4 companies.
	Tenant (Japanese)	2 companies.
	Major tenant	Yazaki (Japanese), Mikasa (Japanese), Camko Motor (Korean), KKN Apparel (Thailand), Microelectronics Public (Thailand).
	Customs procedure	Customs procedures are possible within SEZ.
	Tax	Based on various regulations.
2. Manhattan SEZ	Others	SEZ located along the Thailand boundary.
	Date of establishment	2005
	Access	From Bavet to 6km, from Ho Chi Minh to 86km, from Phnom Penh to 160km.
	Development area	500ha
	Tenant	33 companies.

	Tenant (Japanese)	1 company.
	Major tenant	Morofuji (Japanese), BESTWAY (Taiwan), KINGMAKER (Hong Kong), FOREST (Chinese), SHEICO (Taiwan), AMPACT (USA), ANGKOR SPRING (Vietnam), EASTERN (Chinese), VISCA (Vietnam), TOP SPORTS (Taiwan /Malaysia), KAOWAY (Taiwan), WALLY (Chinese), ELITE (Singapore), FRONT (Chinese), SAN FENG (Taiwan), LONG BRIGHT (Taiwan), GRANDY (Taiwan), JF (Taiwan), FELICITY (Taiwan), SYG (Taiwan), Power Jet (Taiwan), AMM (Taiwan), Yiqing (Chinese), Camelia (Hong Kong), BWE (Taiwan), TAN Mnh (Vietnam), Sunny Shang (Taiwan), Star Display (Taiwan), Southern Chean An (Chinese), Jifa Group (Chinese), Towa (Taiwan), Xie Feng (Taiwan) and etc.
	Customs procedure	Customs procedures are possible within SEZ.
	Tax	Based on various regulations.
	Others	This SEZ is along the Vietnam border. Import of components and parts and export of finished goods utilize the port in Ho Chi Minh City.
3. Phnom Penh SEZ	Date of establishment	27/10/2006
	Access	From the Phnom Penh international airport, 8 km and 15 minutes by car, From the Phnom Penh City 18 km and 15 minutes by car.
	Development area	Area: 358ha, First Phase: 141ha(completed), Second Phase: 162ha(under construction), Third Phase: 57ha(planned)
	Facilities	Bank, Dry Port, Restaurant, Mini Mart, Clinic.
	Tenant	77 companies.
	Tenant (Japanese)	42 companies.
	Major tenant	Art nature, Ajinomoto, O&M, Kyowa Seikan, Clean Cycle, Combi, Sumitomo Denso, Taika, Tiger Wing, Denso, Marusan Plastics, Marunix, Minebea, Japan Rocks, Rohto, etc.
	Customs procedure	Customs procedures are possible within SEZ.
	Tax	Based on various regulations.
Others	PPSEZ is only in Phnom Penh and Japanese permanent residence.	
4. Tai Seng Bavet SEZ	Date of establishment	2007
	Access	From Bavet 6km, from Ho Chi Min city 86 km, from Phnom Penh 160km, it is located adjacent to Manhattan SEZ.
	Development area	125 ha (Expansion plan is 200ha), Main phase: 77 ha, Sub phase : 48 ha.
	Facility	Dry Port
	Tenant	24 companies.
	Tenant (Japanese)	11 companies.
	Major tenant	Doko, Swany, Yorks, Nakayama, Lonchester, Towa, Vangogh Artits, A&J, Smart Tech, Gingko, Tokyo Parts.
	Customs procedure	Customs procedures are possible within SEZ.
	Tax	Based on various regulations.
Others	This SEZ is near the Vietnam border. Import of components and parts and export of finished goods utilize the port in Ho Chi Minh City.	
5. Sihanoukeville SEZ	Date of establishment	2008
	Access	From Sihanoukville port 12 km, from Sihanoukville airport 3 km, from Phnom Penh 212 km.
	Development area	1,113ha
	Facilities	Bank, restaurant, hotel, market, dormitory, training center, vocational school, etc.
	Tenant	79 companies.
	Tenant (Japanese)	
	Major tenant	Asre, ,Caffco, GGC, REBECCA, etc.
	Customs procedure	Customs procedures are possible within SEZ.
	Tax	Based on various regulations.
Others	Chinese SEZ, 300 companies invitation is a target. Hospital, and elementary school, etc. are planned.	
6. Sihanoukeville Port SEZ	Date of establishment	2012
	Access	Sihanoukville port is nearby. From Sihanoukville port 15 km, from Phnom Penh 230 km. Cargo transport by rail between Phnom Penh and Sihanoukville (264 km) started from 2013. .
	Development area	63ha
	Facility	SEZ center (department of SEZ, One stop service station, rental office, training center, logistics company), CFS (2,100m2), maintenance office, residence, dormitory, security, 24 hour security.
	Tenant	3 companies.
	Tenant (Japanese)	3 companies.
Major tenant	Ojitex Harta Packaging Sihanoukville(2013), Taiki Cambodia (2013),	

		IS-TEC Cambodia (2014).
	Customs procedure	Sihanoukville port is nearby. Customs clearance is available in this SEZ.
	Tax	Based on various regulations.
	Others	Support by the loan assistance of the Japanese government. It is directly linked with the Sihanoukville port and convenient for export and import
7. DRAGON KING SEZ	Date of establishment	1/12/2012
	Access	From Vietnam 12 km, from Ho Chi Min 92 km, from Phnom Penh 154 km/
	Development area	200ha, Stage 1: 100ha
	Facilities	Bank, restaurant, mini mart.
	Tenant	3 companies.
	Tenant (Japanese)	2 companies.
	Major tenant	Nissei, Toko Kosen.
	Customs procedure	Customs procedures are possible within SEZ.
	Tax	Based on various regulations.
Others	The location is near the Vietnam border. Import of components and parts and export of finished goods utilize the port in Ho Chi Minh City.	
8. SANCO POIPET SEZ	Date of establishment	11/9/2013
	Access	From Thai border 7 km, Laem Chabang Port 250km.
	Development area	67ha
	Facilities	Dry Port, bank, restaurant, hotel, market, dormitory, training center (planned).
	Tenant	5 companies.
	Tenant (Japanese)	5 companies.
	Major tenant	Automobile Electronic parts assembly.
	Customs procedure	Customs procedures are possible within SEZ.
	Tax	Based on various regulations.
Others	Developer is Japanese company. The location is along Thai border. Transshipment is unnecessary.	

Remark: as of March 2015.

Source: JETRO HP

3) Future Plan

The government of Thailand has a plan to develop a new SEZ near the border with Thailand as an activation policy of a local city. The Thailand government has an SEZ development plan in the Aranyaprathet area. In the future, there will be competition in attracting enterprises between the future Poipet SEZ development and SEZ in the Aranyaprathet area where the Thai government is planning to establish one.

A new special economic zone in Kandal's Takhmat district aiming to make Cambodia into a regional logistics hub held an official groundbreaking ceremony on July 1st 2015. The SEZ includes building the Kingdom's first customs-free warehouse. It is expected that the SEZ might provide jobs to nearly 25,000 employees and potentially attracting forging investment of more than 300 million.

4) Future Trend

Until now, the European and American textile industries (capital from China, South Korea, Taiwan, and Malaysia, etc.) progressed centering on Phnom Penh based on its high population accumulation. Then, the Japanese companies have advanced to SEZ.

The SEZ became a production base of the Japanese companies. The pattern of advance of a Japanese company is to move the partial processes (labor-intensive wire harness manufacture, car parts, etc.) of the mother factory located in Thailand and Vietnam to an SEZ in Cambodia. Many Japanese companies, which moved into an SEZ, acquired various extraterritorialities on tax laws and the convenience of export-and-import procedures and so on.

It is thought that a SEZ plays an important role as a source of foreign investment attraction. A SEZ has various preferential treatments and easy land acquisition.

Soon a large-scale beverage manufacturer with US capital and Vietnam capital are going to move to Phnom Penh SEZ. The manufacturing industries other than Japanese companies are increasing in number.

From now on, in ASEAN, it will seem that economic integration (ASEAN Economic Community) and local economic partnerships (Comprehensive Economic Partnership) will progress. Moreover, development of a southern economic corridor is being advanced in Cambodia. By the development of a southern economy corridor, it is thought that the cooperation between Thailand and Vietnam companies would be promoted. Therefore, the incentive of direct investment into Cambodia from Thailand and Vietnam also would increase.

However, if the movement of foreign companies into Cambodia increases, an increase in labor wages is forecast. There is a human resources bonus in Cambodia for a while. Currently, workers can be supplied to a SEZ from a farm village. However, a rise in wages due to a shortage of workers is assumed in the long run. The Cambodian government decided upon IDP and is promoting the transformation from labor-intensive to the high added value industry.

4.2 Current Condition of Export and Import by Customs Data

The current condition of export and import could be understood based on the customs clearance data provided from GDCE. In the export and import volume in Cambodia, it is seen to be dependent on specific countries (see the table below), e.g., China, Hong Kong, Singapore, Thailand, Vietnam, etc. The ranking between net weight and custom value does not get into line.

Table 4.6 Export and Import Ranking by Countries

Country	Export				Import			
	Net Weight		Customs Value		Net Weight		Customs Value	
	2013	2014	2013	2014	2013	2014	2013	2014
CN	3	1	8	7	3	2	1	1
HK	28	22	2	1	9	7	5	3
SG	1	10	3	3	5	5	8	6
TH	2	3	9	19	1	1	3	2
US	4	2	1	2	11	11	2	10
VN	8	4	16	17	2	3	4	4

Source: GDCE

The Table 4.7 shows major trading countries in Cambodian trade in regard to net weight. The section in the table means the category of trading goods.

Table 4.7 Export and Import Volume of Top Three Sections of Top Three Countries

im/ex	Country	2013			im/ex	Country	2014		
		section	Net Weight (t)	Ratio			section	Net Weight (t)	Ratio
export	CN	2	81,251	9.3%	export	CN	2	144,254	17.3%
		7	42,840	4.9%			7	37,406	4.5%
		9	45,164	5.2%			9	96,100	11.5%
	SG	2	4,243	0.5%		TH	4	33,085	4.0%
		4	4,131	0.5%			5	76,600	9.2%
		5	206,800	23.6%			17	38,443	4.6%
	TH	2	88,000	10.0%		US	11	157,203	18.8%
		4	71,943	8.2%			12	8,050	1.0%
		5	16,901	1.9%			15	3,013	0.4%
			Subtotal	777,486		88.7%			Subtotal
		Total	876,310	100.0%			Total	835,295	100.0%
import	CN	11	254,822	5.7%	import	CN	11	829,568	7.5%
		13	228,038	5.1%			13	881,354	7.9%
		16	83,449	1.9%			15	292,208	2.6%
	TH	4	138,262	3.1%		TH	4	342,392	3.1%
		5	1,513,160	33.9%			5	3,156,241	28.4%
		6	134,982	3.0%			6	327,084	2.9%
	VN	4	91,838	2.1%		VN	5	883,430	7.9%
		5	496,584	11.1%			6	693,168	6.2%
		6	268,797	6.0%			15	348,629	3.1%
			Subtotal	3,547,974		79.6%			Subtotal
		Total	4,458,380	100.0%			Total	11,116,156	100.0%

Source: GDCE

Table 4.8 shows high ranking section (goods category) in Cambodian trade via major border points: Poipet, Bavet, Phnom Penh Port and Shihanoukville Port.

Table 4.8 Export Volume of Section of Border (2015)

section	Net Weight (t)					Customs Value (million USD)				
	Bavet	PP Port	Poipet	SHV	Ratio	Bavet	PP Port	Poipet	SHV	Ratio
1	41	73	59	29	0%	104	722	157	352	0%
2	0	152,156	524	432,686	83%	24	340,204	475	1,003,419	53%
3		302		12,472	2%		247		26,264	1%
4	1,998	3,694	25	8,058	2%	12,284	5,526	128	86,424	4%
5			2	300	0%			9	122	0%
6	2	27	93	3,625	1%	134	337	1,033	8,297	0%
7	400	10,413	1	8,304	3%	1,062	28,549	14	12,276	2%
8	50	1,470	32	336	0%	128	1,001	1,539	7,561	0%
9	8	7,334	2	893	1%	37	4,451	20	1,160	0%
10	7	1	1	31	0%	152	218	21	328	0%
11	867	11,495	354	19,133	5%	59,836	9,278	22,455	209,717	12%
12				2,250	0%				41,190	2%
13	88			630	0%	11			262	0%
14			0		0%			4		0%
15	3,930	682	1,400	8,932	2%	20,843	3,311	3,797	37,473	3%
16	152	36	3,538	1,549	1%	2,718	3,286	98,731	104,193	8%
17	311	45	3,739	378	1%	35,891	327	259,381	37,626	13%
18			22	281	0%			10,753	10,613	1%
19					0%					0%
20	2	85	60	436	0%	111	1,343	258	3,910	0%
21				1	0%				32	0%
22		216	1	379	0%		10,090	5	3,158	1%
Total	7,856	188,029	9,851	500,702	100%	133,335	408,890	398,780	1,594,376	100%
Ratio	1.1%	26.6%	1.4%	70.9%	100%	5.3%	16.1%	15.7%	62.9%	100%

Source: GDCE

Table 4.9 Import Volume of Section of Border (2015)

section	Net Weight (t)					Customs Value (million USD)				
	Bavet	PP Port	Poipet	SHV	Ratio	Bavet	PP Port	Poipet	SHV	Ratio
1	104	628	8,644	4,401	0%	799	1,029	64,338	27,313	0%
2	5,263	35,335	12,463	83,321	3%	13,046	64,145	11,528	176,404	1%
3	473	934	424	5,731	0%	1,112	2,123	2,735	22,068	0%
4	24,685	70,816	170,377	239,372	13%	62,139	185,308	473,296	1,598,275	9%
5	13,757	18,028	992,783	120,045	29%	7,759	32,532	363,471	125,789	2%
6	15,747	46,685	120,564	84,422	7%	102,656	232,719	219,155	575,971	4%
7	9,344	13,438	12,503	63,668	3%	86,063	93,200	81,931	662,541	4%
8	917	1,962	572	5,337	0%	24,566	63,792	30,853	758,620	3%
9	7,650	5,671	1,056	2,541	0%	19,621	14,916	2,711	10,992	0%
10	6,764	15,236	43,241	70,772	3%	42,757	60,492	112,811	416,820	2%
11	66,685	26,541	10,114	319,590	11%	1,937,243	601,290	214,594	7,906,785	41%
12	3,088	3,312	691	11,487	0%	33,748	61,250	7,481	138,367	1%
13	32,585	397,083	159,307	27,888	16%	44,794	312,489	112,601	55,926	2%
14	2	17	0	5	0%	121	1,122	64	495	0%
15	25,556	40,611	6,740	100,754	4%	147,367	172,121	57,256	763,142	4%
16	15,714	24,484	22,395	98,758	4%	211,101	361,018	230,342	2,238,290	12%
17	2,673	3,656	63,804	107,364	5%	44,583	101,818	1,489,641	1,191,561	11%
18	632	398	29	3,214	0%	16,281	18,072	12,399	164,223	1%
19				1,174	0%				159,583	1%
20	10,624	5,360	1,236	10,231	1%	119,451	58,626	21,532	343,656	2%
21			3	1	0%			657	26	0%
22		292	2	730	0%		5,492	13	5,426	0%
Total	242,261	710,488	1,626,948	1,360,806	100%	2,915,208	2,443,556	3,509,410	17,342,274	100%
Ratio	6.1%	18.0%	41.3%	34.5%	100%	11.1%	9.3%	13.4%	66.2%	100%

Source: GDCE

The Definition of Section is as listed in the table below.

Table 4.10 List of Definition of Section

No	Section	Description
1	SECTION 1	Live animals; animal products
2	SECTION 2	Vegetable products
3	SECTION 3	Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes
4	SECTION 4	Prepared foodstuffs; beverages, spirits and vinegar; tobacco and manufactured tobacco substitutes
5	SECTION 5	Mineral products
6	SECTION 6	Products of the chemical or allied industries
7	SECTION 7	Plastics and articles thereof; rubber and articles thereof
8	SECTION 8	Raw hides and skins, leather, fur skins and articles thereof; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)
9	SECTION 9	Wood and articles of wood; wood charcoal; cork and articles of cork; manufactures of straw, of esparto or of other plaiting materials; basket ware and wickerwork
10	SECTION 10	Pulp of wood or of other fibrous cellulosic material; waste and scrap of paper or paperboard; paper and paperboard and articles thereof
11	SECTION 11	Textiles and textiles articles
12	SECTION 12	Footwear, headgear, umbrellas, sun umbrellas, walking sticks, seat sticks, whips, riding-crops and parts thereof; prepared feathers and articles made therewith; artificial flowers; articles of human hair
13	SECTION 13	Articles of stone, plaster, cement, asbestos, mica or similar materials; ceramic products; glass and glassware
14	SECTION 14	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal and articles thereof; imitation jewellery; coin
15	SECTION 15	Base metals and articles of base metal
16	SECTION 16	Machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts and accessories of such articles
17	SECTION 17	Vehicles, aircraft, vessels and associated transport equipment
18	SECTION 18	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; clocks and watches; musical instruments; parts and accessories thereof
19	SECTION 19	Arms and ammunition; parts and accessories thereof
20	SECTION 20	Miscellaneous manufactured articles
21	SECTION 21	Works of art, collectors pieces and antiques
22	SECTION 22	Special Transactions not classified according to kind

Source: WTO.

4.3 The condition of the export industry in Cambodia

The government is promoting to export 1 million tons of milled rice per year as a national goal. This study is the international logistics survey focusing on international container traffic. In order to arrange typical freight flow for international trade in Cambodia, the current condition of the export industry is investigated in this section.

At first, the current condition of rice (milled rice), textiles, and shoe products as typical export goods in Cambodia are investigated. The actual logistics conditions and issues in Cambodia are analyzed and stated.

4.3.1 Rice (Milled Rice)

(1) Production

The rice of Cambodia is roughly classified into three types. There are 1) Fragrant Rice that is grown centering on the north-east area in the rainy season, 2) traditional Non-Fragrant Rice that is grown in the south-west area and the Vietnam border in the rainy season, and 3) IRRI, which is the improvement-of-a-species rice, that was developed by the international rice research institute in Manila, which grows in the same areas as traditional Non-Fragrant rice in the dry season.

The major rice production area is a damp area around Lake Tonle Sap, Mekong River, and Bassac River, which includes the land from the northeast area to the southwest area of Cambodia. Fragrant-rice is grown in the northeast area near the Thailand boundary. Additionally, IRRI rice is grown in the southwest area and the Vietnam border area.

According to a WB survey, about 50% of the total production of rice is traditional Non-fragrant Rice. The plantation area of Non-fragrant Rice is around Phkar Khney, Meang Minh, and Neang Khon. The production volume of IRRI rice occupies 25 to 30% of total rice production in Cambodia. The volume of the remaining 20% is Fragrant Rice. These days, Fragrant-rice production in the Batdambang area is increasing.

The number of large-scale rice-milling companies in Batdambang and in Phnom Penh who mill rice has been increasing in recent years. However, the middlemen from Thailand and Vietnam mostly purchase paddy in Cambodia. And the purchased paddy is milled in Thailand and Vietnam, and is exported after that.

In recent years, the rice export from Cambodia has been soaring rapidly. In 2008, the export volume of Cambodia was about 10,000 tons. In 2010, the export volume increased to 51,000 tons. In 2011, the export volume increased rapidly to 175,000 tons. Furthermore, the export volume increased to 538,000 tons in 2015. However,

the export volume could not reach to the governmental policy target (1 million tons).

Major Cambodian milled rice is exported to EU. The EU has given preferential duty treatment to Cambodia, and it is thought that there is a great deal of export to EU. The Table 4.11 shows the export share of EU was 63.1%, China is 21.7%, and ASEAN countries is 11.8%

Table 4.11 Major Exported Countries of Milled Rice from Cambodia

Destination (2015)	Ton	Share
EU	339,978	63.1%
ASEAN member State	63,601	11.8%
Other	134,817	25.0%
(China)	(116,638)	(21.7%)
Total	538,396	100.0%

Source: SOWE-REF Report (2015)

Most of the volume of rice exported to EU from Cambodia is fragrant-rice. Most of the volume of milled rice from Cambodia to others is non-fragrant-rice.

Many of the rice-milling companies (middle and large-scale) of Cambodia are located along the southern economic corridors, such as Phnom Penh, Battambang, and Kampong Cham. In recent years, the government has provided supporting policies to the rice-milling companies, e.g., tax breaks for milling machine investment, etc.). As a result, the rice-milling companies have increased their investments, and rice-milling capability is going up. Many small-scale rice-milling business are being located near the rice production area. Small-scale rice-milling businesses remain at a low level in regard to drying equipment, rice-milling technology, and storage facilities. The major issue for small-scale rice-milling businesses is thought to be its rice-milling quality.

(2) The Present Condition and the Challenges in Transport and Logistics

The transportation modes for the rice from the farmers to the rice-milling companies and businesses are mostly light trucks and 10-ton trucks. Paddy is conveyed to middle and large-scale rice-milling companies from the cooperative of each rice production y area. Many farmer's cooperatives in the rice production areas co-own or own their own 10-ton truck. The rice-milling companies located along the southern economic corridor have conveyed rice to the Phnom Penh and Sihanoukville Ports by

40-ton trucks according to local logistics companies. As for the transportation to Thailand and Vietnam from a production area, 40-ton trucks are mainly used.

The milled-rice, which has been transported to Phnom Penh, is transshipped to containers in Phnom Penh. After that, many of the containers are transported to Sihanoukville Port by trucks. Then, the containerized cargo at Sihanoukville Port is mostly conveyed by ship to EU or Russia via Singapore or Hong Kong.

On the other hand, much of the paddy carried out of Phnom Penh port by 40-ton trucks are moved from the truck to a barge in the Phnom Penh Port. Then, the bulk cargo (paddy) is conveyed by river transport to rice-milling companies in Ho Chi Minh².

According to a report from MAFF, about 70% of the milled-rice exported through Sihanoukville Port and about 30% are conveyed via the Phnom Penh Port. If a railroad could be developed from the Battambang and Kampong Cham area to Phnom Penh, milled rice transportation by rail traffic will be realized. It is thought that the transport cost of rice would be reduced. As a result, the export of the rice from Cambodia was expanded.

Moreover, if barge transportation of the rice from Battambang or Kampong Chhnang can be performed, it is possible that the logistics cost might be reduced. As a result, it is thought that the milled rice export from Cambodia would contribute to further expansion.

The major challenge in the effort to attain the policy objective of milled-rice export, is the trucking from the plantation area to the rice-milling businesses and companies. The local road that is the paddy collection route in the rainy season has not been paved. Therefore, the trucking from the plantation area to the rice-milling businesses and companies is difficult. Moreover, if the harvest time of rice becomes more concentrated, the transportation cost will rise due to the lack of the number of trucks. In order to solve the challenge in regard to milled-rice export from Cambodia, it is necessary to improve the drying capability and the storage facilities in the plantation area. As a result, the amount of transport volume of rice might equalize

²The Cambodian government is planning to encourage rice-cleaning export as a state policy, and to lose paddy export. However, development of laws concerning a paddy export ban is not performed yet.

(the seasonal variation would become small). And the transportation cost can be reduced.

4.3.2 Textiles

(1) Current Conditions of Production

The textile industry in Cambodia started in the middle of the 1990s because a part of the textile industry in China transferred to Cambodia (China-plus-one) due to increasing wages by economic development in China. SEZ had not been initiated yet in Cambodia at the time. Therefore, the Chinese textile industry advanced to the Phnom Penh area in Cambodia. Then, the textile industries of Taiwan, South Korea, Hong Kong, and Malaysia continued the move.

In 2008, in response to the influence of a global monetary crisis, the direct investment in the textile industry of Cambodia decreased. The production level of the textile industry of Cambodia is leveling off after the crisis. The world market prices for textiles fell after the crisis. The textile industry is moving to newly emerging countries, e.g., Bangladesh, Myanmar, etc. as new production bases for EU. The textile industry of Cambodia has been forced to change the present production system and quality level.

The textile industry of Cambodia has employed many cheap laborers. In 2008, there were 300,000 employers that the textile industry of Cambodia created. The foreign-affiliated fabric company generally employs 1,000 or more workers per company. The large-scale factory employs 5,000 or more persons per company. On the other hand, a local capital employs about 500 persons per company. Moreover, a local capital employs young women. Many workers were discharged at the time of the crisis in 2008. The employment condition of the textile industry in Cambodia can be said to be very unstable.

After an SEZ near the Vietnam border was developed, China, Taiwan, and the South Korean capital developed factories in the SEZ. However, a labor dispute broke out within the SEZ near the Vietnam border in 2013. Under the influence of the labor dispute, the Cambodian government raised the minimum wage in 2015.

The SEZ near the Vietnam border depends on Vietnam for its electric power supply.

The SEZ has an unstable electric power supply due to the conditions by the Vietnam economy. Therefore, the textile industry in the SEZ near the Vietnam border has a risk of an unstable electric power supply.

A part of the textile industry of Cambodia was transferred in the suburbs along NR.2 in recent years. According to the investigations of the JICA Study Team, the main reason for this is that the labor rates around Phnom Penh have gone up recently.

(2) The Present Condition and the Challenges in Transport and Logistics

Now, in Cambodia, the raw materials for many textiles are imported from China and Taiwan. Moreover, the volume of imports from Vietnam is also increasing according to the to local logistics companies, makers and SEZ management companies. On the other hand, many of the finished textile goods are exported to the U.S. and EU. Many of the export routes go via Sihanoukville Port (EU). Now, the U.S. and EU have given the privilege of a preferential duty to the textiles of Cambodia. The basis of the privilege from the U.S. is the Bilateral Untied States-Cambodia Textile and Apparel Agreement. The privilege of EU is for everything but arms (EBA) initiative. Therefore, as for the textiles of Cambodia, the import duty is exempted in the U.S. and EU. In Japan and Cambodia, goods trade liberalization went into effect by the framework of ASEAN comprehensive economy cooperation on December 1, 2008.

The raw material of many textiles is imported via Sihanoukville Port, Phnom Penh Port and a land route from Ho Chi Minh. Textile goods have generally low added value. Therefore, the textile industry does not keep much stock. Textile fibers are stockpiled around Phnom Penh so that the industry can take advantage of buyers' consolidation as a transportation method. The buyers' consolidation method is to aggregate the finished product at the factory and the dry port. Many of the finished products, via the Sihanoukville Port, have been transported to the retail warehouses located in the United States and the EU.

The finished textile goods have low added value. Therefore, the transportation cost ratio in finished-goods is high in general. And if the ratio of the logistics cost of textiles increases, the profit ratio of the retail (client) in the West will be compressed. Since the textile industry of Cambodia has weak bargaining ability, a logistics cost

rise has big influence on the continuous business operation of the textile industry in Cambodia.

4.3.3 Shoe Products

(1) Present Condition on the Production Side

The production volume of the shoe products in Cambodia has increased quickly from 2005. The reason on the supply side is that the manufacturing cost in Vietnam and Thailand became high. On the other hand, as for the demand side, the tariff preferential treatment called EBA initiative in EU has greatly influenced this.

The number of shoe manufacturers in Cambodia is about 40. Shoe manufacturers in Cambodia are affiliated with many foreign firms in China, Taiwan, Hong Kong, and Japan. Many are carrying out OEM production for other companies. Moreover, foreign shoes sales companies may have given the shoe companies of Cambodia orders directly. Many of the shoe manufacturers of Cambodia are located in the Phnom Penh and Kandar Provinces.

A shoemaker's number of employees in Cambodia is about 1,500 people on average. The maximum number of employees of a shoemaker in Cambodia is about 7,000 people. Skillful technology is required for shoe manufacture with many processes. Therefore, the wage level of shoe manufacturers is relatively higher than the other manufacturing sectors.

(2) The Current Condition and the Challenge of Transportation and Logistics

Raw materials (leather, textiles, etc.) are mainly imported from Asia. The raw material is imported from vendors in China, Thailand, Taiwan, South Korea, and Vietnam. The import route for the raw material is from Sihanoukville Port and Phnom Penh Port. Moreover, it is conveyed by land transportation from Ho Chi Minh City.

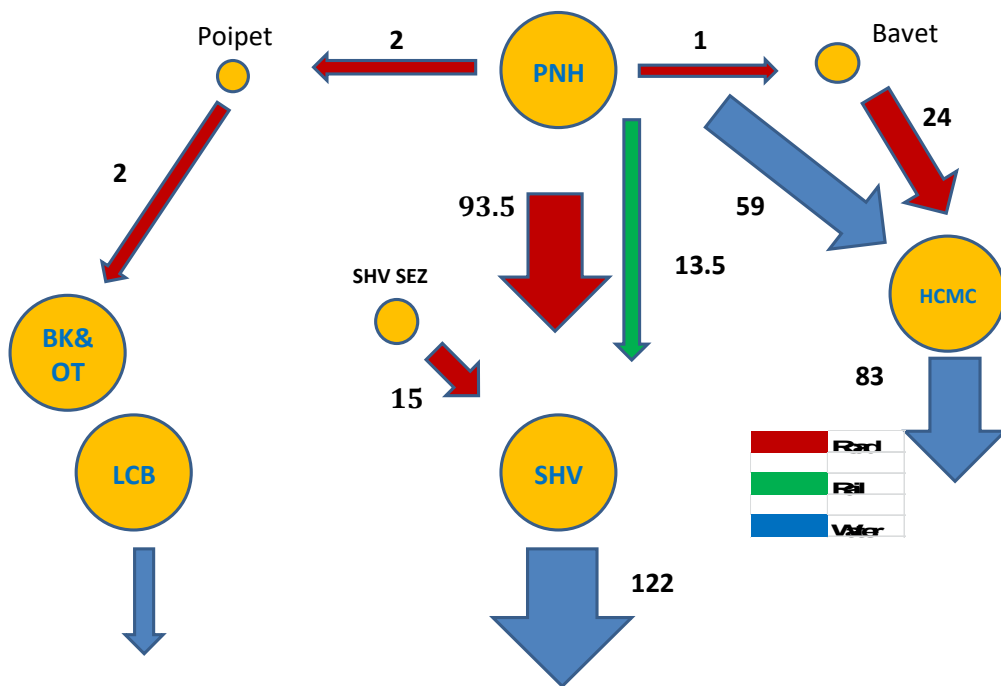
About 60% of the shoe products (finished goods) of Cambodia are exported to the EU. Many shoe products (finished goods) of Cambodia are exported to U.K. and Germany. Export destinations other than the EU are Japan, the U.S., etc. The transportation route to EU mainly goes via Sihanoukville Port. The export route to Japan is carried to Ho Chi Minh City over the road. Then, it uses marine transportation to Japan.

The production process of the shoe products in Cambodia includes the last process of the international supply chain. An important feature of shoe products is that they have higher added value than textile products. Moreover, seasonal variations are few compared with textiles.

4.4 International Containerized Cargo Flow

4.4.1 International Container Cargo Flow

The figure 4.2 and 4.3 show the outline of international container flow.

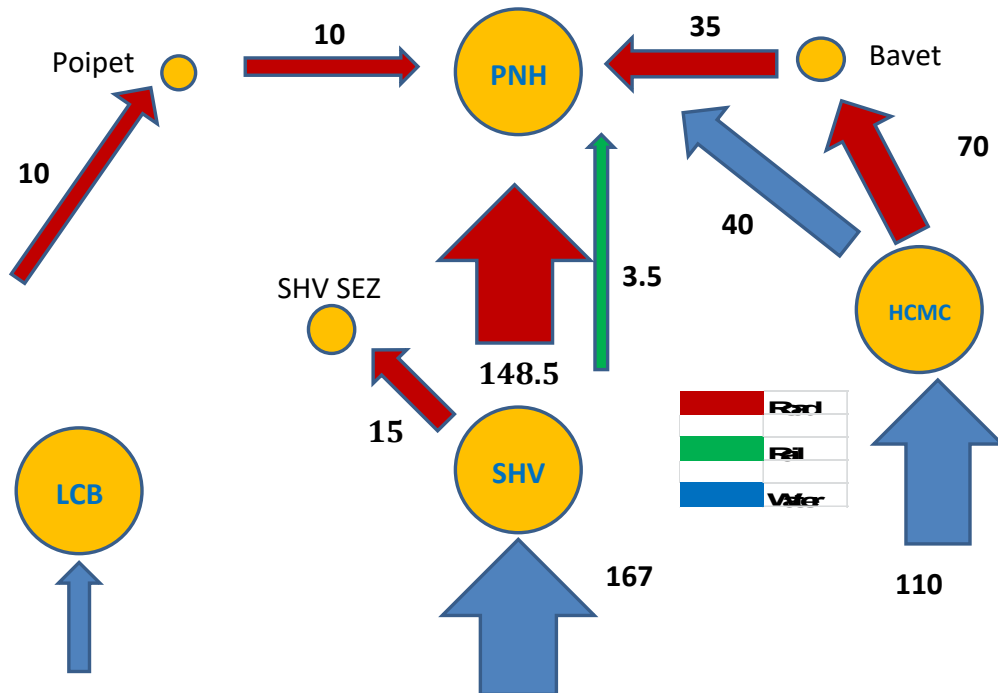


Unit : 1,000 TEUs

PNH: Phnom Penh (Cambodia), SHV: Shihanoukville, LCB: Laem Chabang (Thailand), HCMC: Hochiminh City (Vietnam)

Source; JICA Study Team

Figure 4.2 Container Flow (export)



Unit : 1,000 TEUs
 PNH: Phnom Penh (Cambodia), SHV: Shihanoukville, LCB: Laem Chabang (Thailand),
 HCMC: Hochiminh City (Vietnam)
 Source; JICA Study Team

Figure 4.3 Container Flow (export)

The following figures show the summary of international container flow by the target route.

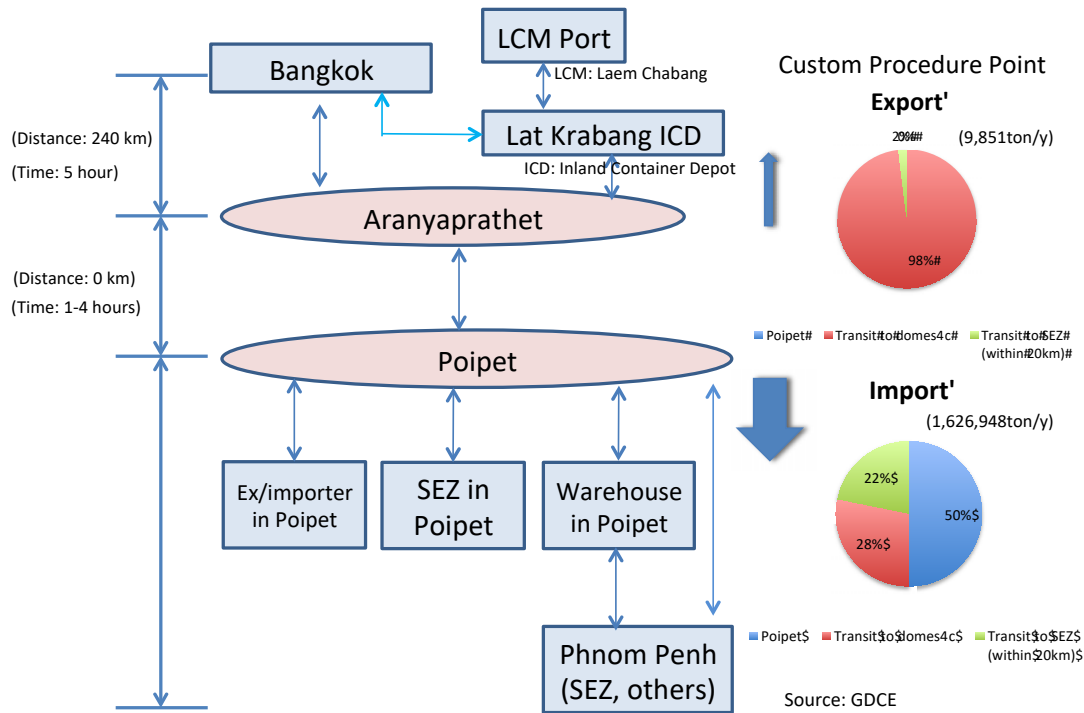


Figure 4.4 Bangkok-Phnom Penh Route (Land)

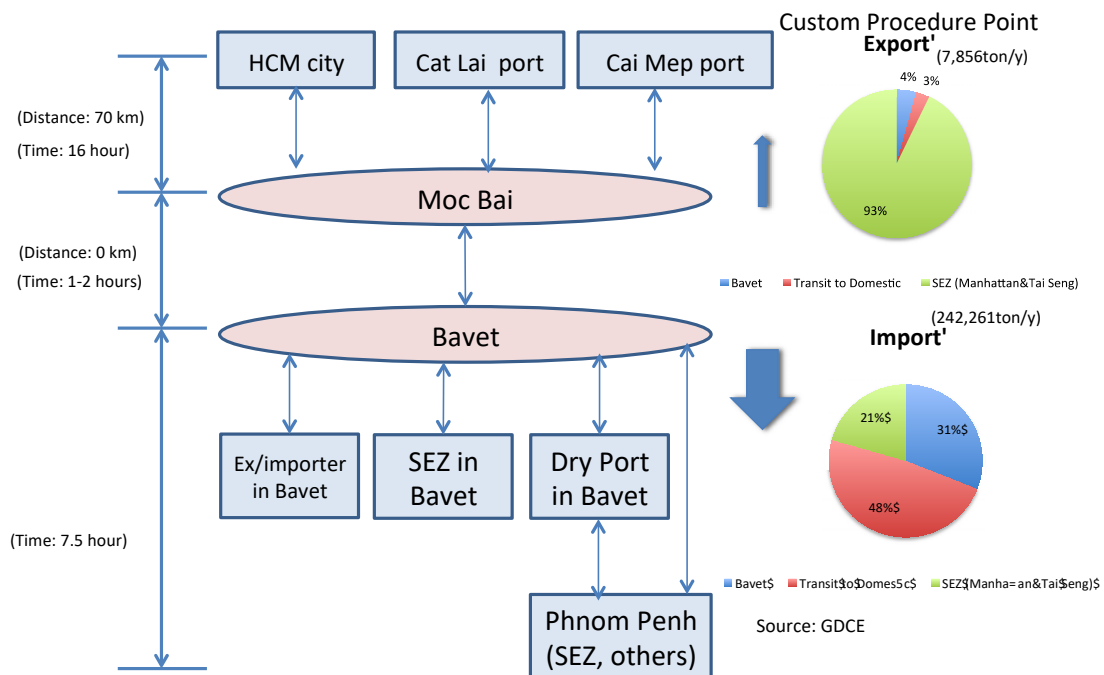


Figure 4.5 Ho Chi Minh-Phnom Penh Route (Land)

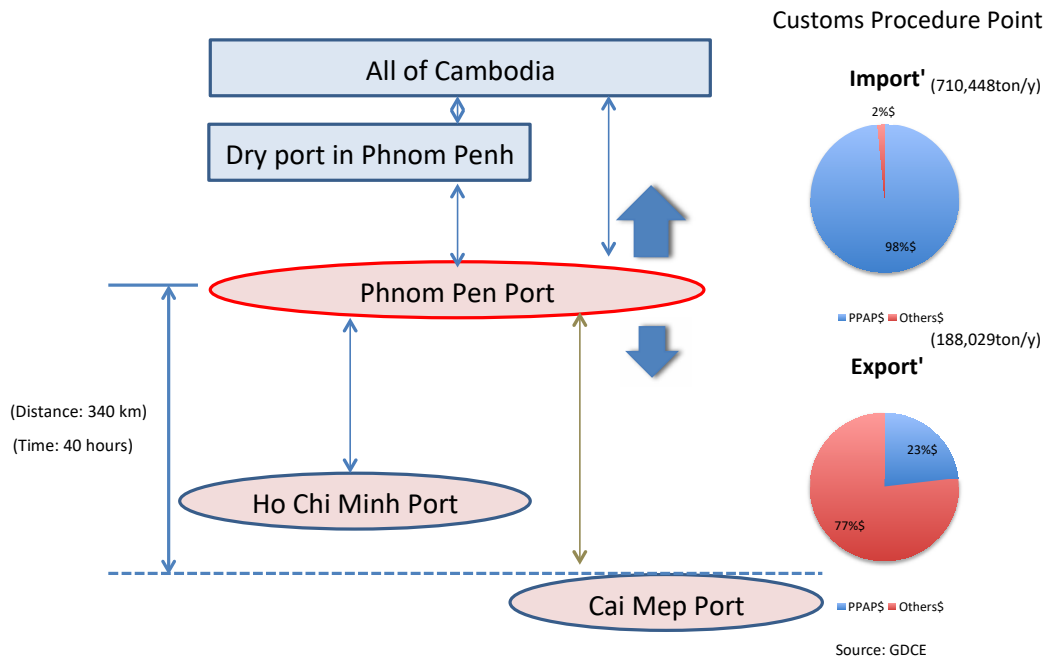


Figure 4.6 Vietnam-Phnom Penh Route (Inland Waterway)

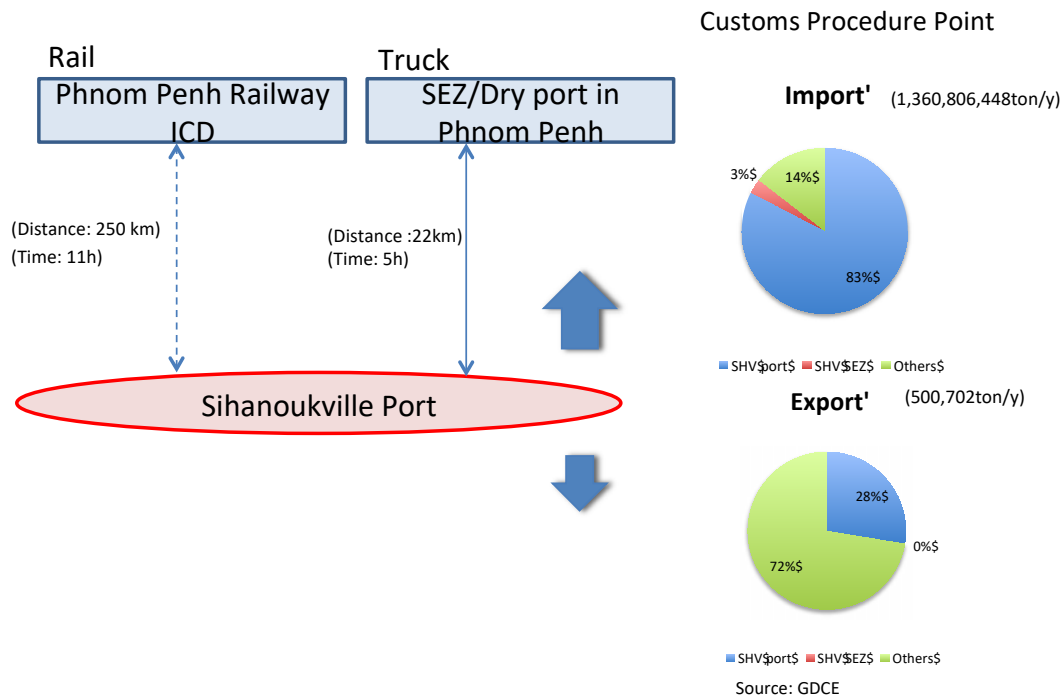


Figure 4.7 Phnom Penh-Shihanoukville (Road and Rail)

4.4.2 Logistics Cost

Logistics cost vary greatly depending on the shipper's status, loads, market, time, the quality of truck and service level. This survey shows the costs of taxable importing

goods of Thai route from Bangkok to Phnom Penh and Vietnam route from Ho Chi Minh to Phnom Penh.

International Land Logistics cost divides two parts, 1) the forwarding charge in Thai, Vietnam and Cambodia, 2) transportation costs in each. The charge of Cambodian forwarder accounts for a large share of overall logistics cost among both Thai and Vietnam routes. Forwarder companies impose each work on charge. Taxable goods need valuation assessment at GDCE as first step and ASYCUDA declaration as second step at border point. Compared to Thai and Vietnam, the customers feel that logistics cost in Cambodia is more expensive.

The forwarder charge in Thai and Vietnam can be lower because Thai adopts E-CUSTOMS as custom clearance and Vietnam does V-NACCS. These systems can reduce the work of custom clearance because these share custom clearance information at exit point with entry point. The main reason of increasing cost of custom clearance is that the customers have to show each document at the border. The cost of forwarding in Vietnam can reduce 50 USD as import declaration, 150 USD as border declaration and 50 USD as service charge.

However, companies of QIP and SEZ can reduce these costs because the volume of work at first step is little (or none). It is possible for them to reduce 250 USD as forwarding cost compared to normal taxable goods. Furthermore, the cargo of best trader from Thailand or double license from Vietnam, which are not required transshipment at the border, can reduce the cost of transshipment.

If the cargo status is not required, the cheapest logistic costs are 1,800 USD from Thailand and 1,000 USD from Vietnam.

Table 4.12 Bangkok-Phnom Penh (as 40 foot Container)

	Item	US\$
Thailand side	Forwarding charge (incl. customs process handling operation)	200
	Transport charge	700
Cambodian side	Forwarding charge for import permit process	230
	Forwarding charge for declaration process	200
	Customs processing fee (official rate)	15
	Cam control (official)	63
	Scanning (official)	32
	Container transshipment	100-150

	Item	US\$
	Transport to PP	600
Total		2,140

Source: JICA Study Team

Footnote: The prices in the above table were based on the field survey to several local logistics companies handling import taxation cargos in March 2016.

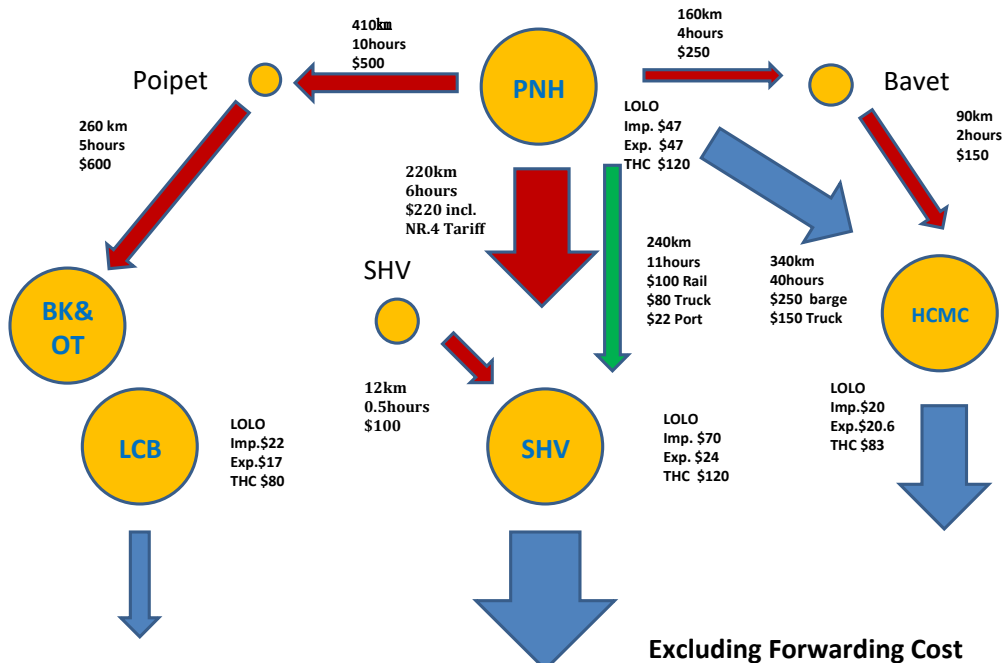
Table 4.13 Vietnam-Phnom Penh (as 40 foot container)

	Item	US\$
Vietnam side	Forwarding charge (incl. customs process handling operation)	250
	Transport charge	200
Cambodian side	Forwarding charge for import permit process	230
	Forwarding charge for declaration process	200
	Customs processing fee (official rate)	15
	Cam control (official)	63
	Scanning (official)	32
	Container transshipment	100-150
	Transport to PP	300
Total		1,390

Source: JICA Study Team.

Footnote: The prices in the above table were based on the field survey to several local logistics companies handling import taxation cargos in March 2016.

The following figure shows the international logistics cost (excluding forwarding cost) in Cambodia.



PNH: Phnom Penh (Cambodia), SHV: Shihanoukville, LCB: Laem Chabang (Thailand), HCMC: Hochiminh City (Vietnam)

Source: JICA Study Team

Figure 4.8 Container Transport Cost

Table 4.14 Laden Container Flow in Cambodia (2015)

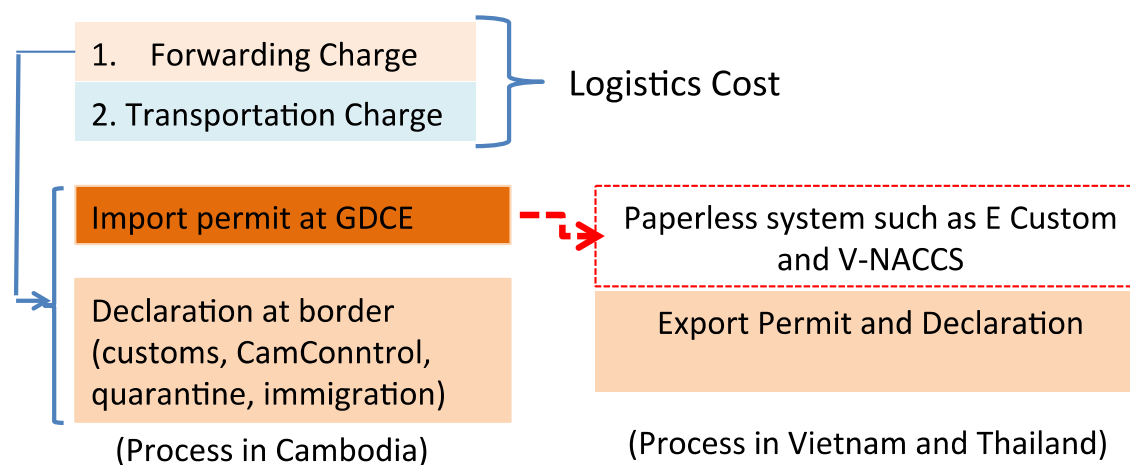
Cambodia Laden Container 2015							
PNH-Poi Pet-BK	Km	Hours	Km/h	\$(20f)	Imp (K TEUs)	Exp (K TEUs)	TTL (K TEUs)
Road	650	16	40	900	2.5	2.5	5
Road(SEZ- BK)	240	4	60	300	2.5	2.5	5
Rail (no operation)	385	30	12		nul	nul	nul
PNH-SHV	Km	Hours	Km/h	\$(20f)	Imp (K TEUs)	Exp (K TEUs)	TTL (K TEUs)
Road(NR.4)	226	6	40	220	113.5	80	293.5
Road(SEZ-Port)	12	0.5	25	100	30	30	60
Rail (ICD-Port)	240	11	20	100	3.5	11.5	25
PNH-Bavet-HCMC	Km	Hours	Km/h	\$(20f)	Imp (K TEUs)	Exp (K TEUs)	TTL (K TEUs)
Road (NR.1+NR.22)	240	6	40	1000	15	ng	15
Road (SEZ-HCMC)	80	2	40	400	12	12	24
River (Mekong)	340	36	9	400	46	59	105

Import TEUs =1.5x Box, Export TEUs =1.2x Box

Distance and time don't include custom clearance time and fee.

Source: PAS, PPA, RRC, GDEC, transportation cost by JICA Study Team in 2014.

The logistics cost consists basically of forwarding charge part and transportation charge. The forwarding cost in Cambodia is more expensive in comparison to the neighboring countries, Thailand and Vietnam.



Source: JICA Study Team.

Figure 4.9 Structure of Logistics Cost

Table 4.15 Comparison of Forwarding Charge

	Forwarding Charge
	USD
Thai side	200
Vetnam side	250
Combdodia	540

Source: JICA Study Team.

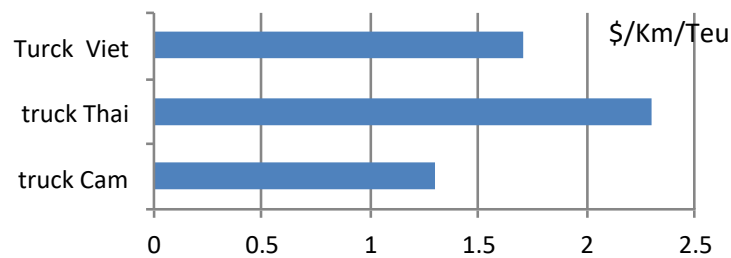


Figure 4.10 Comparison of Unit Cost of Transportation

Source: JICA Study Team.

4.4.3 Maritime Transportation Routes

(1) Maritime Network in the world

1) Trade Volume

The world container movements are shown in origin/destination region matrix in Table 4.15 below. The exports from East Asia (a total of Far East and Southeast Asia) amount to 93.8 million TEUs, which represents a 60.0% share of total world exports. The major destinations are East Asia, Europe, and North America etc. The imports into East Asia amount to 68.2 million TEUs with 43.7% share in the world total imports. 48.1 million TEUs are moving inside East Asia on so-called “Intra-Asia trade” which is the world largest intra-regional trade.

Table 4.16 Region-to-Region Container Trades in 2014 (in '000TEUs Carried Onboard)

(unit: '000TEUs carried onboard)

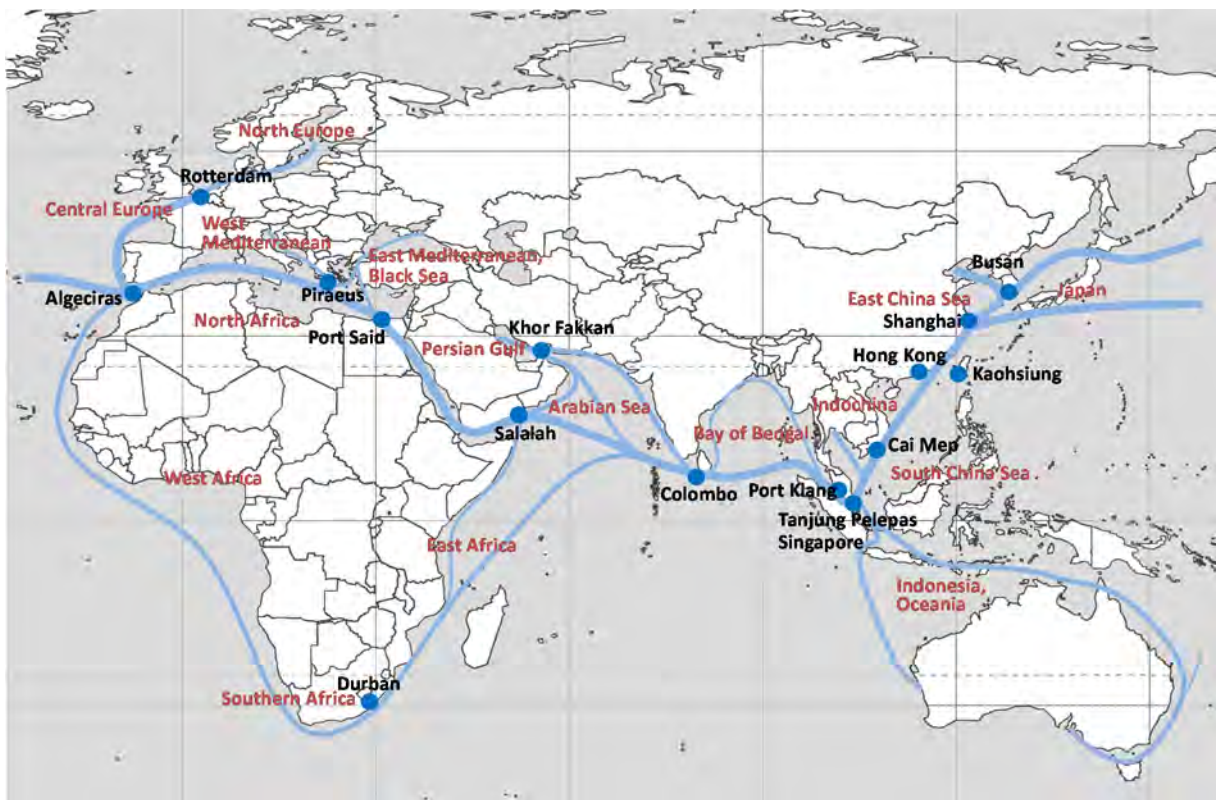
↓ from to→	East Asia	Oceania	South Asia	Western Asia	Europe	Africa	North America	South America	Total	Share in the world exports
East Asia	48,100	2,154	2,537	3,390	15,400	2,705	15,165	4,323	93,775	60.0%
Oceania	1,700	281	172	140	189	54	172	32	2,739	1.8%
South Asia	1,223	86	708	596	1,467	274	804	155	5,312	3.4%
Western Asia	1,203	122	418	1,764	1,047	336	378	40	5,308	3.4%
Europe	6,961	399	810	2,571	4,262	1,686	3,829	1,694	22,212	14.2%
Africa	597	28	182	64	962	597	191	60	2,682	1.7%
North America	7,087	243	546	849	2,567	340	96	2,522	14,250	9.1%
South America	1,325	82	93	277	2,271	278	2,699	2,871	9,896	6.3%
Total	68,195	3,397	5,467	9,651	28,165	6,271	23,333	11,696	156,174	100.0%
Share in the world imports	43.7%	2.2%	3.5%	6.2%	18.0%	4.0%	14.9%	7.5%	100.0%	

Source : MOL Research Office, calculations based on Drewry, IHS Global Insight, Seabury, CTS, Piers, conference statistics etc.

2) Hub and Spoke System

As a result of shipping lines' attempts to reduce their network costs with the economic scale, many large container ships are now deployed in the East-West trade lane including Asia/North America mainline, Asia/Europe mainline etc. where huge volumes of containers are moving. To optimize the economic effect of that deployment, a "Hub and Spoke System" has been developed by the shipping lines.

Major hub ports ranked at the top group in the world are located on the East-West trade lane, and the North-South trade lanes are branching from some hub ports as illustrated in Figure 4.9. When looking at the containers transshipped at those hub ports, some of them may be moving between different mainlines, while others may be moving from mainlines to feeders. Mainline-to-mainline transshipments are significant at the hub port which is located at a junction point connecting the East-West trade lane and the North-South trade lane; Singapore (or Tanjung Pelepas, Port Klang), Salalah, Algeciras etc., while mainline-to-feeder transshipments are dominant at a junction of the regional waters; Cai Mep, Colombo, Port Said, Piraeus, Rotterdam etc.

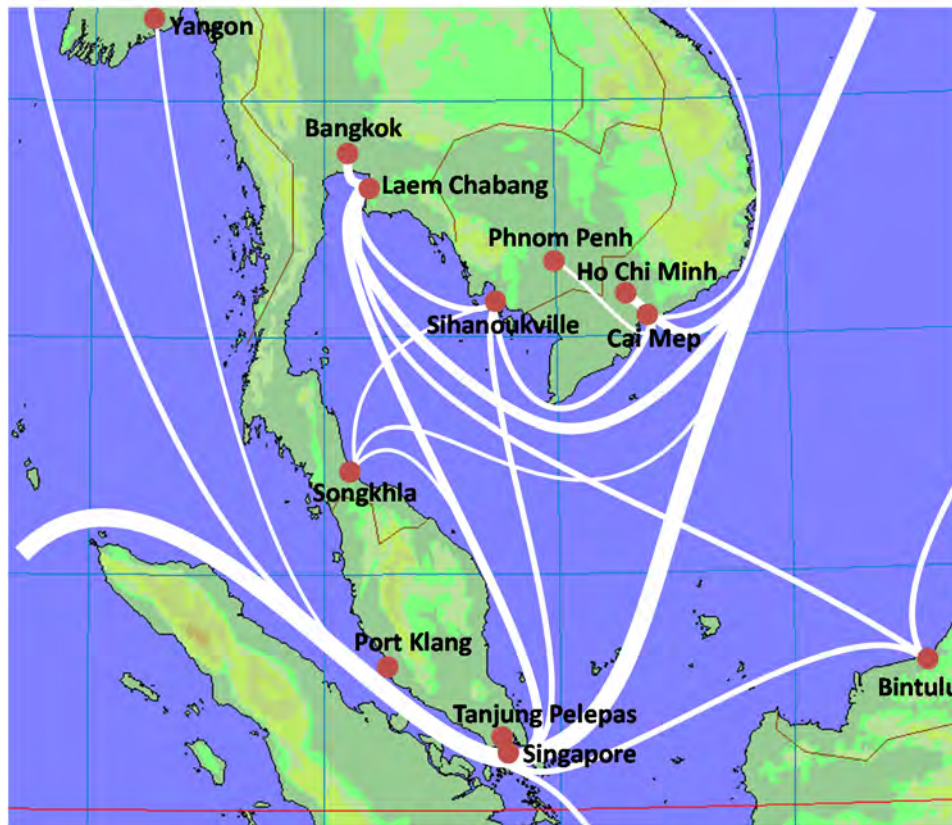


Source : Study Team

Figure 4.11 East-West Trade Lanes and Major Hub Ports

(2) Maritime Network around Cambodia

The maritime network around Cambodia is depicted in Figure 4.10 below. The thicker lines represent the mainline with more container movements. The busiest mainline from East Asia to Europe is drawn with the thickest line (so called “the trunk line”). Cai Mep Port and Ho Chi Minh Port are both located close to the trunk line, while Laem Chabang and Bangkok are rather remote. Sihanoukville has a better position than Laem Chabang but still has a substantial distance to the trunk line.



Source : Study Team

Figure 4.12 Maritime Network around Cambodia

1) Hub Ports around Cambodia

The important hub ports closely related to Cambodia are Singapore, Tanjung Pelepas, Port Klang and Cai Mep. Located at the border between the Pacific Ocean and the Indian Ocean, Singapore is the hub port where containers are transshipped between different mainlines, for example, from Intra-Asia mainline to Asia/Europe mainline, Middle East/Asia mainline to Asia/US West Coast mainline, or Intra-Asia mainline to Asia-Oceania mainline. While Tanjung Pelepas and Port Klang have the same functions as Singapore's, the users of those two hubs are rather limited; Tanjung Pelepas is mostly used by Maersk Line and Port Klang is the hub of CMA CGM.

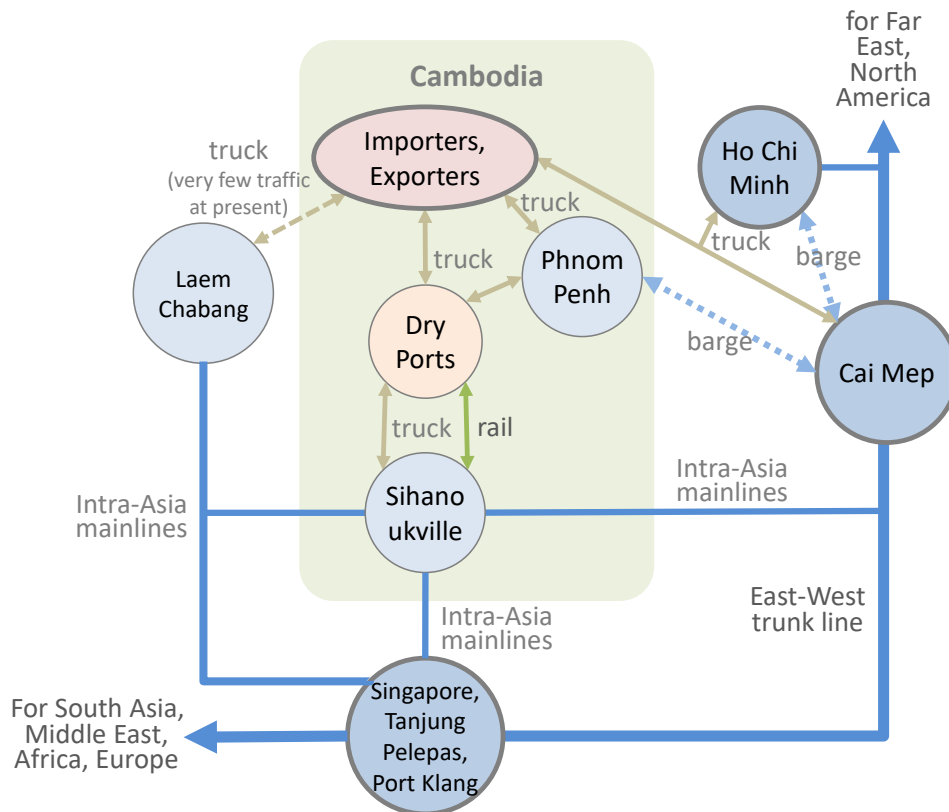
Cai Mep is another important hub port in the Indochina region, as it is functioning to gather feeder flows from Indochinese countries in a bundle and channel them onto the mainlines bound for the Far East, North America, etc.

Ho Chi Minh Port may also be a hub port as it has much freer choice for Intra-Asia

services than Sihanoukville Port does. It should be noted that a shipping line doesn't fulfill its ocean carriage service by itself but also can use the alliance partners' services through the "slot charter" arrangements.

2) Inland-Port Connections around Cambodia

Figure 4.11 below simply illustrates the transportation modes for seaborne containers connecting the inland cargo sources/ICDs with the major sea ports around Cambodia. From the viewpoints of importers and exporters in Cambodia, Sihanoukville Port and Phnom Penh Port may be the immediate gateway ports. However, the hub ports such as Singapore, Tanjung Pelepas, Port Klang, Cai Mep and Ho Chi Minh are playing an indispensable role to transfer the containers to the mainlines bound for particular destinations.



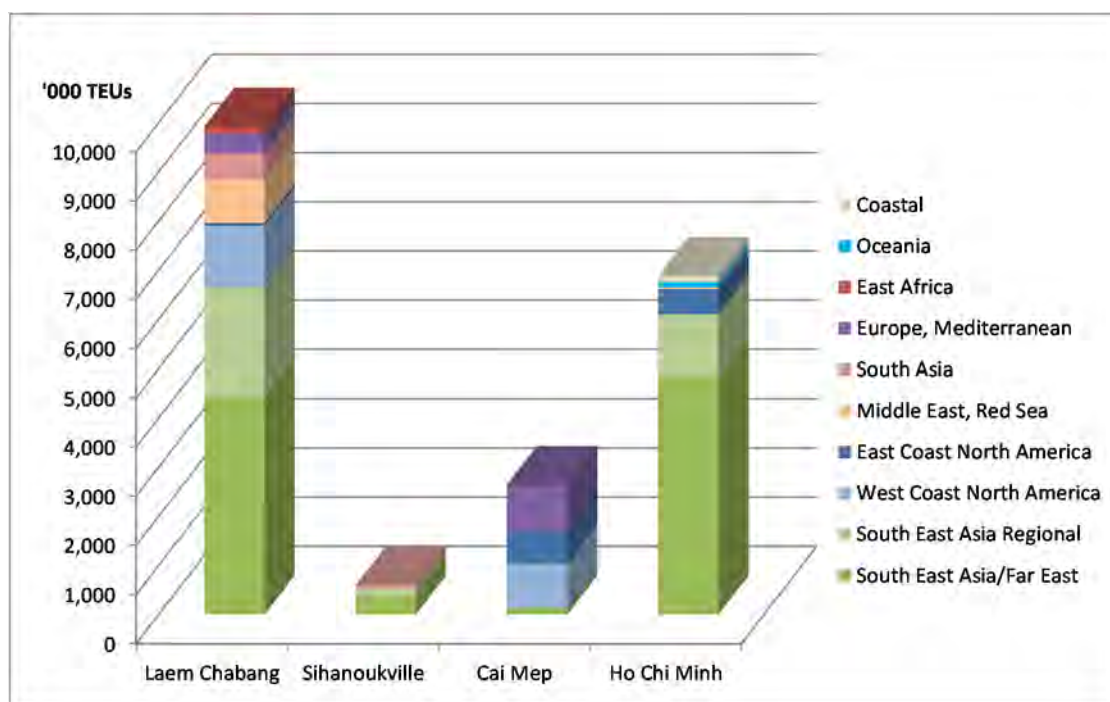
Source : Study Team

Figure 4.13 Connections between Inland and Maritime Networks

3) Deployment of Container Ships to the Major Seaports around Cambodia

The bar graph in Figure 4.12 indicates the yearly TEU capacities of container ships

deployed to call at the four major seaports closely related to Cambodia. The port with the taller bar represents that it is attracting the larger container ships and more frequent callings. The bar is broken down by color according to the mainline that the container ships are deployed to.



Source : MDS Transmodal "MDS Containership Database" as of August 2015

Figure 4.14 Yearly Container Capacities of Ships Deployed (by Trade Lane /Calling Port)

The prominent characteristics of each port are observed as follows:

- As for the Europe/Mediterranean mainline and North America mainline, the largest TEU capacities are available at Cai Mep Port, while there is little capacity for Intra-Asia.
- Laem Chabang Port has the largest TEU capacity in total, but it doesn't have much capacity for Europe/Mediterranean or for East Coast North America as Cai Mep.
- Ho Chi Min Port has the second largest TEU capacity in total, but the majority is for Intra-Asia.
- The smallest TEU capacity is available at Sihanoukville Port and the majority is for Intra-Asia.

It is presumed in the above that because Laem Chabang Port is set back and remote from the Asia/Europe trunk line, most of the containers bound for Europe/Mediterranean are primarily carried by Intra-Asia mainlines or feeders to Singapore (or Tanjung Pelapas, Port Klang), then transshipped to Asia/Europe mainlines. As for the above, Intra-Asia mainlines are dominant at Ho Chi Minh Port due to its relatively shallow depth. The smallest capacity at Sihanoukville Port in above is due to the small scale of industry in its hinterland.

(3) Shipping Lines' Services in Cambodia

1) Sihanoukville Port

The shipping lines' services currently calling at Sihanoukville Port are shown in Table 4.16 below. Currently 10 weekly liner services are available at Sihanoukville Port. All those services are on the Intra-Asia trade lanes except for CMA CGM's Bangladesh Feeder stretching to Chittagong Port.

Table 4.17 Shipping Lines' Services Calling at Sihanoukville Port

Trade Lane		Service Name	Ship Operator	Slot Charterer	Yearly Calls	Ships Deployed	Average Ship Size (TEU)	Maximum Ship Size (TEU)	Yearly Capacity (TEU)
South Asia	SE Asia /South Asia	Bang Feeder	CMA CGM		52	3	1,118	1,118	58,136
Intra-Asia	SE Asia /F East/Russia	IA5	MCC Transport	Gold Star	52	8	1,115	1,147	57,961
		IA9	MCC Transport		52	4	1,678	1,740	87,256
	SE Asia /Far East	VTX1	SITC	Cosco/Hasco	52	5	1,724	1,800	89,648
		CPX3	SITC		52	3	1,059	1,118	55,085
		RBC2	COSCO/RCL	CNC Line	52	3	1,169	1,338	60,771
		RSK	RCL	HeungA/NYK	52	3	628	628	32,656
	SE Asia Regional	TR1	MCC Transport		52	3	1,112	1,118	57,824
		RSZ	RCL	OOCL	52	1	880	880	45,760
		CSX	Advance Cont	Evergreen	52	1	910	910	47,320
Total		10 services			520	34	1,215	1,800	592,417

Source: MDS Transmodal "MDS Container Ship Database" as of August 2015

2) Phnom Penh Port

The container ships calling at Phnom Penh Port are all self-propelled container

barges with 128 TEU or less capacity. Three barge operators; Vietnamese companies Newport Cypress and Gemadep, and the Cambodian Sovereign Base Logistics currently deploy sixteen barges. Their services are almost the same; each barge has a 7-day turnaround with the same route through Mekong River waterways and port rotation as Phnom Penh-Cai Mep-Ho Chi Minh-Phnom Penh. Their services have been used since 2009 by the major ocean container lines as a feeder from Phnom Penh Port to Cai Mep and Ho Chi Minh Port.

The majority of the barges are sailing Phnom Penh Port on Friday, Saturday or Sunday early morning to meet the cargo readiness of the garment factories who usually load the products into containers from Thursday to Saturday, based on the weekly-orders from the overseas buyers.

Table 4.18 Shipping Lines' Services Calling at Phnom Penh Port

Trade Lane		Barge Operator	Slot Charterer	Yearly Calls	Barges Deployed	Average Ship Size (TEU)	Maximum Ship Size (TEU)	Yearly Capacity (TEU)	Name of Barge
Mekong River Waterway	Phnom Penh /Cai Mep /Ho Chi Minh Feeder	Newport Cypress	15-17 shipping lines	364	7	113	128	41,132	Newport Cypress01, Newport Cypress02, Newport Cypress04,Cai Mep16, Tay Nam10, Tay Nam15, Song Xanh18
		Gemadep	15-17 shipping lines	312	6	79	112	24,648	Gemadep09, Phuoc Long18, Puoc Long20, Puoc Long24, Puoc Long28, Puoc Long32
		Sovereign Base Logistics	15-17 shipping lines	156	3	104	120	16,224	Golden Fortune1, GoldenFortune2, Golden Fortune8
Total				832	16	128	128	82,004	

Source : Study Team



Source : OCDI

Figure 4.15 A Container Barge Navigating on the Mekong River Waterway

(4) Selection of Gateway Ports by the Shipping Lines and Cargo Owners

1) CY as the Place of Receipt/Delivery

The service scope of a shipping line can be defined as starting from the “place of receipt” and accomplished at the “place of delivery”. The shipping line bears the responsibility to carry the cargo from the place of receipt to the place of delivery at its own cost. The shipping line’s liability is bound by the bill of lading (B/L) on which both of the places of receipt/delivery are to be described. The ocean freight paid by the cargo owner shall cover all the transportation costs borne by the shipping line.

Generally, the place of receipt/delivery is not necessarily a loading/discharging port, but can be an inland point once it is assigned by the shipping line as an “Inland CY”, provided a reliable/economical operation is ensured there. There are many examples of Inland CYs located inland of Europe, North America and India. In Thailand also, Lat Krabang ICD is functioning as the Inland CY of Laem Chabang Port and is well supported by the remote manufacturers in the northern suburbs of Bangkok.

In Cambodia however, only Sihanoukville Port and Phnom Penh Port are currently registered as the CYs, while the private-run dry ports around Phnom Penh (such as So Nguon, Teng Lay, Bok Seng etc.) are not qualified as CYs, nor are the dry ports near the borders (i.e. Poi Pet, Bavet) either.

Major reasons for the above are presumed as follows:

- Difficulty for shipping lines to manage the road transportation between those dry ports and Sihanoukville/Phnom Penh Port due to the truck ban within Phnom Penh metropolitan area in the daytime
- Difficulty of transporting the large volume of containers with certainty due to the uncertainty of truck availability in the peak times
- Expensive truck charges which cannot be compensated with the market ocean freight rates

In order to remove the constraints above, the efficiency/reliability of the road transportation needs to be improved, otherwise a more efficient/reliable transportation mode such as railways needs to be developed.

2) Criteria for the Selection of Gateway Ports

The major criteria for the port selection by a shipping line may include the following factors:

- Access to the mainlines or the trunk line
- Calling ports on the services (by its own or by the alliance partners) available at the gateway port and the hub ports enroute
- Total transportation cost from the place of receipt to the place of delivery
- Total transit time from the place of receipt to the place of delivery

As for and above, the geographical situations of Sihanoukville and Phnom Penh Ports need to be taken into account. Since both of them are feeder ports set back remotely from the trunk line, a shipping line tends to choose the most convenient access route to the trunk line depending on the final destination of the cargo; Sihanoukville Port has better access to the mainlines bound for South Asia, Middle East, Africa, Mediterranean, Europe and Oceania through Singapore (or Tanjung Pelepas, Port Klang), while PhnomPenh Port is convenient to reach the Far East and North America trade lanes through Cai Mep and Ho Chi Minh Port.

As a part of the above, it seems apparent for the shipping lines to be choosing the gateway ports. However, it should be noted that the cargo owners (i.e. the importers and exporters) have the ultimate decision power on the selection of gateway ports, since the costs for transportation once paid by the shipping line are eventually reimbursed to the cargo owner who is the final bearer of the transportation costs to the gateway port. The cargo owners have immediate interest in the prices of their export products; they usually set the export prices so that they can compensate the transportation costs.

As a part of ④, the transit time to the gateway port is another concern for the cargo owners especially of the garment industry, since their products have a short market life, which drives them to bring their products into the market as quickly as possible.

The extent/range of cargo owner's interest in the transportation cost and time is subject to the trade term, which is applied to the export/import goods. If the exporter in the origin country chooses a FOB term with the importer in the destination

country, the exporter's interest in the transportation cost will be just from his factory to the port of loading only, while in case of a CIF term, he will care about the total transportation cost including ocean freight up to the port of discharge. The situation will be the same on the transit time, too.

3) Origin/Destination Shares at Sihanoukville and Phnom Penh Ports

The day-to-day behaviors of shipping lines and cargo owners in Cambodia to select the gateway ports may be reflected in the actual handling volume shares between those ports; the origin/destination-wise are shared between Sihanoukville Port and Phnom Penh Port. Actually it is not an easy task to identify the origins/destinations of seaborne containers imported/exported to/from Sihanoukville Port and Phnom penh Port. JICA's previous study "The Project for the Study on Strengthening Competitiveness and Development of Sihanoukville Port" gives the component shares of the origins/destinations of the seaborne containers handled at two gateway ports in Cambodia; Sihanoukville Port and Phnom Penh Port respectively. The percentages given by that study are shown in the Table 4.18 below.

Table 4.19 Region-Wise Volume Shares of the Seaborne Containers in Sihanoukville Port and Phnom Penh Port

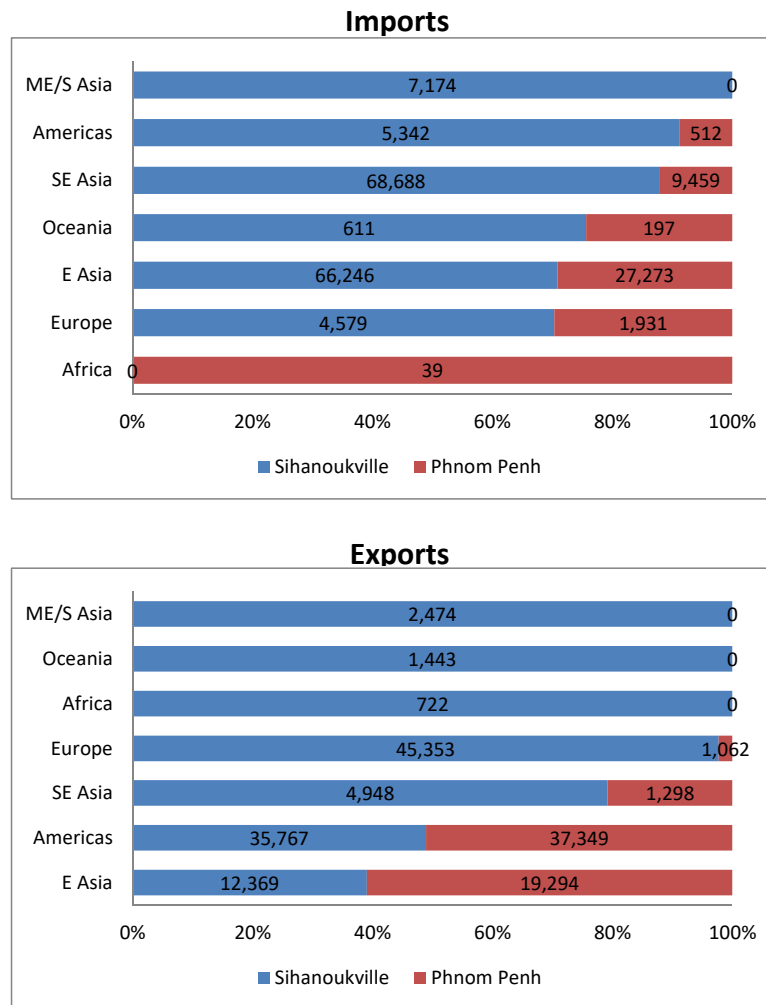
Sihanoukville Port		Sihanoukville Port	
Imports		Exports	
Origin Region	Share	Destination Region	Share
Southeast Asia	45.0%	Europe	44.0%
East Asia	43.4%	Americas	34.7%
Middle East/South Asia	4.7%	East Asia	12.0%
Americas	3.5%	Southeast Asia	4.8%
Europe	3.0%	Middle East/South Asia	2.4%
Oceania	0.4%	Oceania	1.4%
Africa	0.0%	Africa	0.7%
Total	100.0%	Total	100.0%

Phnom Penh Port		Phnom Penh Port	
Imports		Exports	
Origin Region	Share	Destination Region	Share
East Asia	69.2%	Americas	63.3%
Southeast Asia	24.0%	East Asia	32.7%
Europe	4.9%	Southeast Asia	2.2%
Americas	1.3%	Europe	1.8%
Oceania	0.5%	Middle East/South Asia	0.0%
Africa	0.1%	Oceania	0.0%
Middle East/South Asia	0.0%	Africa	0.0%
Total	100.0%	Total	100.0%

Source : “The Project for the Study on Strengthening Competitiveness and Development of Sihanoukville Port”, July 2012

As for the exports, the difference between the two gateway ports is revealed in the Table above; Europe has the largest share of the destinations from Sihanoukville Port, while the Americas (virtually all North America) are the major destinations from Phnom Penh Port.

“The Project for the Study on Strengthening Competitiveness and Development of Sihanoukville Port” also made an attempt to calculate origin/destination region-wise shares between Sihanoukville Port and Phnom Penh Port by applying the actual handling volume of each port. Figure 4.14 indicates the region-wise shares between the two ports based on the actual handling volume for the year 2014 given in the previous chapter.



Source : Study Team (based on the percentage data provided by “The Project for the Study on Strengthening Competitiveness and Development of Sihanoukville Port”, July 2012)

Figure 4.16 Region-Wise Volume Shares between Sihanoukville and Phnom penh Port (2014)

(5) Selection of Hub Ports

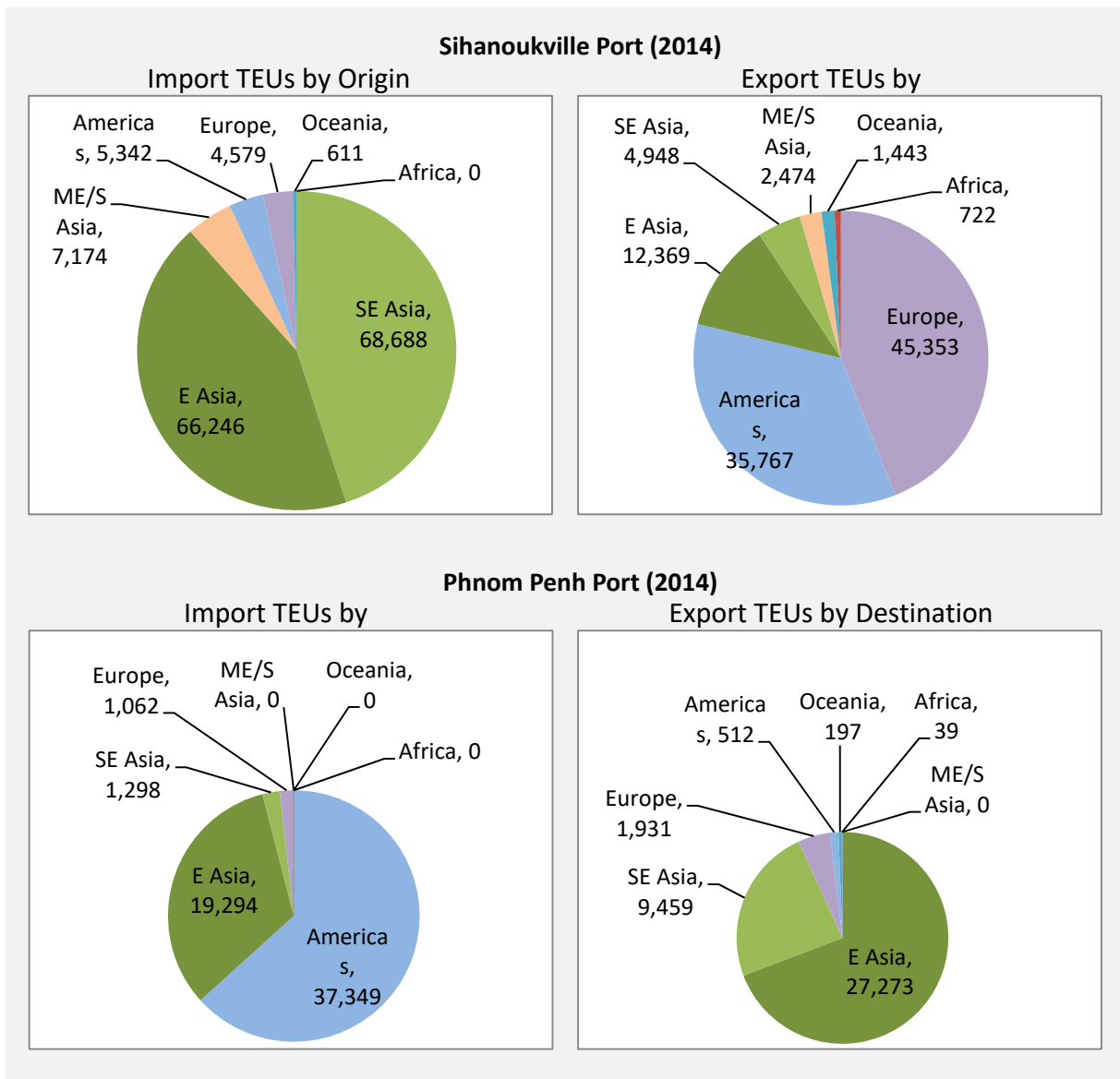
A hub port is selected by the shipping line in consideration of the availability of mainlines, the total transportation cost for the feeder and mainline operations (the shipping lines call it “network cost”) and total transit time; virtually the same criteria as stated in (4)-2). This means that when an immediate gateway port is determined for the container bound for any particular destination, the hub ports enroute should be determined at the same time. A hub port may sometimes be determined even when the cargo owner selects a shipping line, as every shipping line

usually offers an optimum route within its own maritime network to minimize the cost and transit time.

(6) Volume of Seaborne Containers

In this section, the Study Team estimates the volume of import/export containers by origin/destination region by applying the component percentages indicated in JICA's previous study "The Project for the Study on Strengthening Competitiveness and Development of Sihanoukville Port".

Figure 4.15 indicates the estimated volumes of containers by origin/destination region for Sihanoukville Port and Phnom Penh Port respectively. The calculation is made multiplying the total laden throughput each port by the percentages given in Table 4.18.



Source : “The Project for the Study on Strengthening Competitiveness and Development of Sihanoukville Port”, July 2012

Figure 4.17 Estimated Seaborne Container Volume (in TEUs) to/from Cambodian Ports

(7) Transit Time

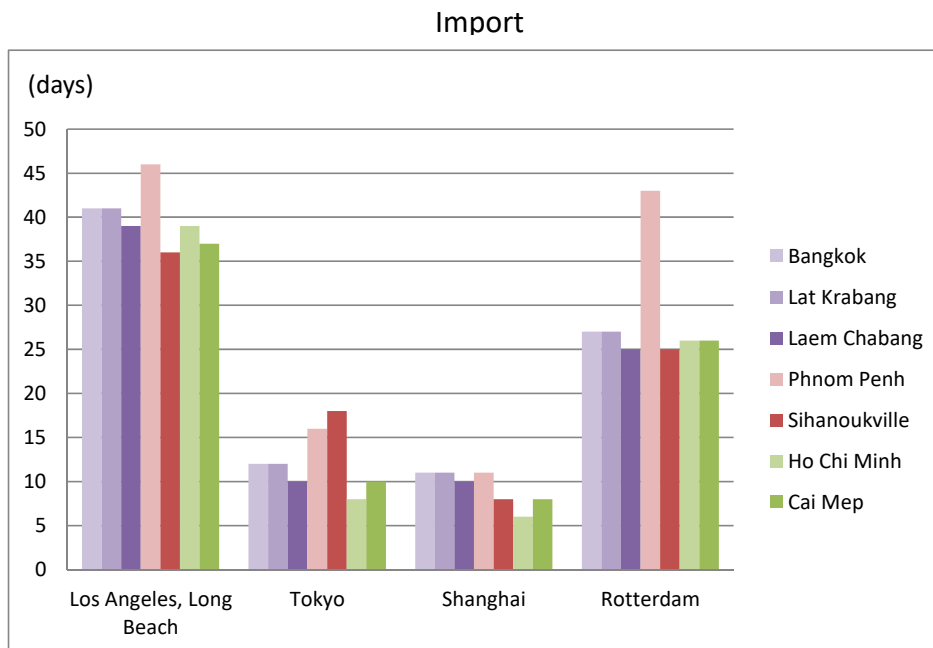
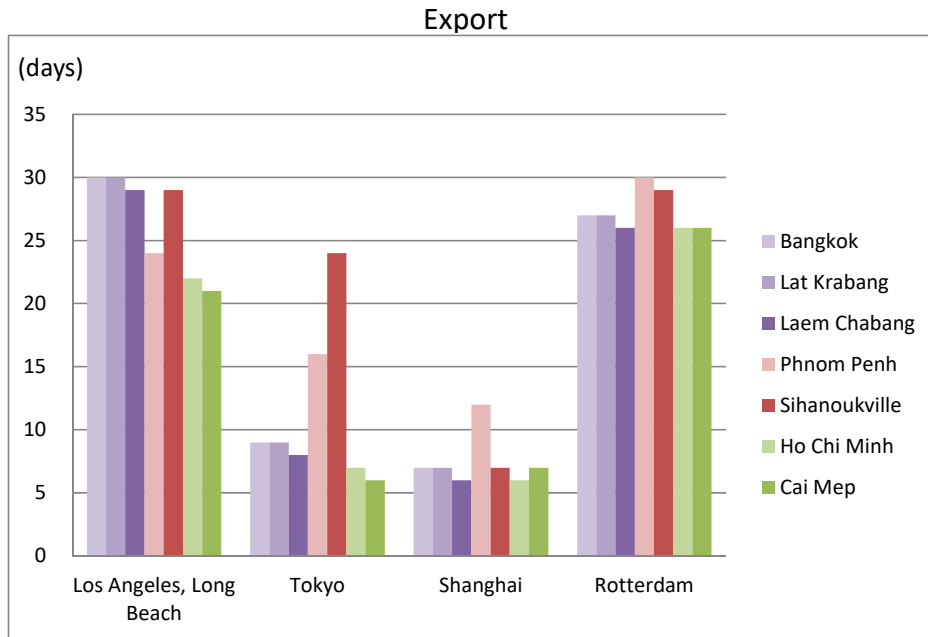
Table 4.19 shows the transit times between Indochinese ports (including inland CYs) and the major world ports (Los Angeles, Tokyo, Shanghai and Rotterdam) taking examples from Maersk Line and MCC Transport.

Table 4.20 Transit Times to/from Major Indochinese Ports and Inland CYs

Export		(days)						
To ↓	From →	Bangkok	Lat Krabang	Laem Chabang	Phnom Penh	Sihanoukville	Ho Chi Minh	Cai Mep
Los Angeles, Long Beach	via Laem Chabang, Singapore	via Laem Chabang, Singapore	via Laem Chabang, Singapore	via Singapore	via barge to Cai Mep, Chiwan	via Tanjung Pelepas	via barge to Cai Mep, Chiwan	via Chiwan
		30	30	29	24	29	22	21
Tokyo	receiving at Lat Krabang CY, via Laem Chabang	via Laem Chabang	direct	via barge to Ho Chi Minh	via Tanjung Pelepas, Hong Kong	via Cai Mep	direct	direct
		9	9	8	16	24	7	6
Shanghai	receiving at Lat Krabang CY, via Laem Chabang	via Laem Chabang	direct	via barge to Ho Chi Minh	direct	direct	via Ho Chi Minh	direct
		7	7	6	12	7	6	7
Rotterdam	receiving at Lat Krabang CY, via Laem Chabang, Tanjung Pelepas	via Laem Chabang, Tanjung Pelepas	via Tanjung Pelepas	via barge to Ho Chi Minh, Tanjung Pelepas	via Tanjung Pelepas	via Tanjung Pelepas	via Tanjung Pelepas	receiving at Ho Chi Minh CY, Tanjung Pelepas
		27	27	26	30	29	26	26
Import		(days)						
From ↓	To →	Bangkok	Lat Krabang	Laem Chabang	Phnom Penh	Sihanoukville	Ho Chi Minh	Cai Mep
Los Angeles, Long Beach	via Tanjung Pelepas, Laem Chabang, delivery at Lat Krabang CY	via Tanjung Pelepas, Laem Chabang	via Tanjung Pelepas, Laem Chabang	via Tanjung Pelepas	via Singapore, Ho Chi Minh, barge	via Singapore	via Singapore	via Tanjung Pelepas
		41	41	39	46	36	39	37
Tokyo	direct	via Laem Chabang	direct	via Ho Chi Minh, barge	via Hong Kong	direct	via Ho Chi Minh	via Ho Chi Minh
		12	12	10	16	18	8	10
Shanghai	via Laem Chabang, delivery at Lat Krabang CY	via Laem Chabang	direct	via Ho Chi Minh, barge	via Hong Kong	direct	via Ho Chi Minh	via Ho Chi Minh
		11	11	10	11	8	6	8
Rotterdam	via Singapore, Laem Chabang, delivery at Lat Krabang CY	via Singapore, Laem Chabang	via Singapore	via Singapore	via Tanjung Pelepas, Ho Chi Minh, barge	via Singapore	via Singapore	via Tanjung Pelepas
		27	27	25	43	25	26	26

Source : Maersk Line, MCC Transport

Figure 4.16 shows a comparison of transit times by origin/destination based on the Table above. As for the export, an advantage is observed with Ho Chi Minh and Cai Mep, which are both located close to the trunk line. Phnom Penh and Sihanoukville have longer transit times with Tokyo, Shanghai and Rotterdam than the Thai/Vietnamese ports. As for the import, Phnom Penh has longer transit times with all origins.



Source: Maersk Line, MCC Transport.

Figure 4.18 Comparison of Transit Times by Origin/Destination

(8) Transportation Cost

Table 4.20 shows the prevailing ocean freight rates between Indochinese ports (including inland CYs) and the world major ports (Los Angeles, Tokyo, Shanghai and Rotterdam) as of February 2016.

Table 4.21 Prevailing Ocean Freight Rates to/from Major Indochinese Ports

Export		(Base rate + BAF/CAF)							(USD)
To ↓	From→	Bangkok	Lat Krabang	Laem Chabang	Phnom Penh	Sihanouk ville	Ho Chi Minh	Cai Mep	
Los Angeles	20'	1,260	1,260	1,170	1,200	1,200	1,575	1,485	
	40'	1,400	1,400	1,300	1,500	1,500	1,750	1,650	
Tokyo	20'	300	350	300	300	400	100	100	
	40'	600	700	600	600	800	200	200	
Shanghai	20'	200	250	200	180	250	400	400	
	40'	300	400	300	500	500	600	600	
Rotterdam	20'	600	600	600	600	600	600	600	
	40'	1,200	1,200	1,200	1,200	1,200	1,200	1,200	

Import		(Base rate + BAF/CAF)							(USD)
From ↓	To→	Bangkok	Lat Krabang	Laem Chabang	Phnom Penh	Sihanouk ville	Ho Chi Minh	Cai Mep	
Los Angeles	20'	720	720	720	600	600	720	720	
	40'	800	800	800	1,000	1,000	800	800	
Tokyo	20'	150	150	150	300	300	200	200	
	40'	300	300	300	450	450	400	400	
Shanghai	20'	250	300	250	350	350	200	200	
	40'	400	500	400	700	700	400	400	
Rotterdam	20'	500	500	500	500	500	500	500	
	40'	700	700	700	700	700	700	700	

Source : Study Team

Table 4.21 shows the rates of Terminal Handling Charges (“THC” in short) by port/CY. The THC rates are offered by the shipping lines to recover the stevedore charges (for ship loading/unloading and yard lifting for empty containers) payable to the terminal operator. The rates may vary by shipping line.

Table 4.22 Prevailing Terminal Handling Charges at Major Indochinese Ports

		(USD)						
		Bangkok	Lat Krabang	Laem Chabang	Phnom Penh	Sihanouk ville	Ho Chi Minh	Cai Mep
THC	20'	80	80	80	120	120	83	83
	40'	120	120	120	160	160	135	135

Source : Study Team

Table 4.23 Base Freight of Maritime Transportation (Jan.2016)

Table 1	PNH to USW	PNH to USE	PNH to EU
20F	1576	2376	850
40F	1970	2970	1700
45F	2495	3762	2125
Travel Days	24	28-32	23-26
Suez or Panama		Panama	Suez

Table 2	SHV to USW	SHV to USE	PNH to EU
20F	1576	2376	750
40F	1970	2970	1500
45F	2495	3762	1875
Travel Days	28	28-32	23-26
Suez or Panama		Panama	Suez

Table 3	Cai Mep to USW	Cai Mep to USE	Cai Mep to EU
20F	1120	1920	600
40F	1400	2400	1200
45F	1773	3040	1500
Travel Days	22	26-30	21-24
Suez or Panama		Panama	Suez

Source; JICA Study Team

4.4.4 Container Transport through the Mekong River

(1) Trial Voyage in the Mekong

The following passage is a citation from the report of the Ministry of Land, Infrastructure, Transport and Tourism in Japan. (MLIT)

1) Outline of Trial Voyage

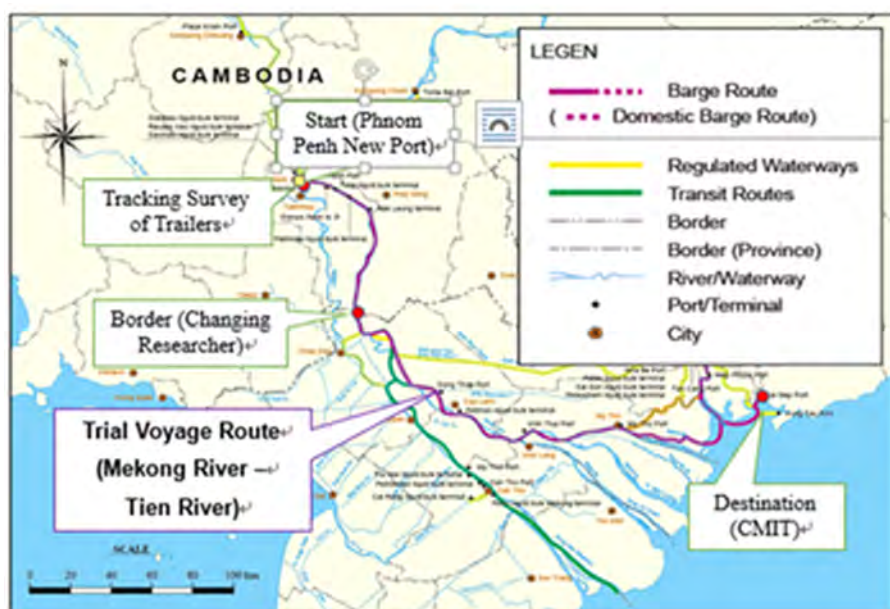
This trial voyage was planned to identify obstacles and issues to realize smooth barge navigation on the Mekong River. The survey team focused on the issues of infrastructure, operation and documentation regarding the river transportation and

proposes countermeasures to facilitate the river transportation between the two countries. The survey including interviews was implemented from 13th to 21st January 2015 in Cambodia and Vietnam; as part of the survey, an onboard trial voyage was also carried out from 18th to 20th January. This trial voyage was carried out at the initiative of the Ministry of Public Works and Transport in Cambodia (MPWT) and the Ministry of Transport in Vietnam (MOT) with the support of the Ministry of Land, Infrastructure, Transport and Tourism in Japan (MLIT) and Japan International Cooperation Agency (JICA).

Table 4.24 Trail Cases of Voyage

	PNH	Border	Cai Mep	Route
Case-1 Sovereign 96 TEUs	0:50 on 18th	5:20 -7:35 on 18th	14:25 on 19th	37h35m, 355km Sea
Case-2 Gemadep 112 TEUS	12:30 on 18th	19:00- 20:30 on 18th	5:20 on 20th	40h50m, 374km Canal CMIT
Case-2 Cypress 128 TES	0:200 on 18th	8:00 -10:00 on 18th	18:15 on 19th	38h15m ,371km Canal through SG New Port TCIT

Source: MLIT



Source: MLIT

Figure 4.19 Trial voyage Route

2) Case -1; Border Pass in the Morning, South China Sea Route

The Golden Fortune 1 of Sovereign cannot pass the Cho Gao Canal and must pass the river mouth of the Mekong instead. However, the river mouth is very shallow (around 2.0 m at low tide) and has many obstacles such as fishing nets. Therefore, they have to wait for eleven hours for the high tide and reduce navigation speed because of the many fishing nets there.



Source: MLIT

Figure 4.20 Trial voyage Route of Sovereign Barge

The barge waited for two hours at the border for the cross border procedures and for eleven hours at My Tho for the high tide in the mouth of the Mekong. Total distance and time of voyage were 344 km and 37.35 hours. The average vessel speed was 14km/h excluding waiting times (13hr).

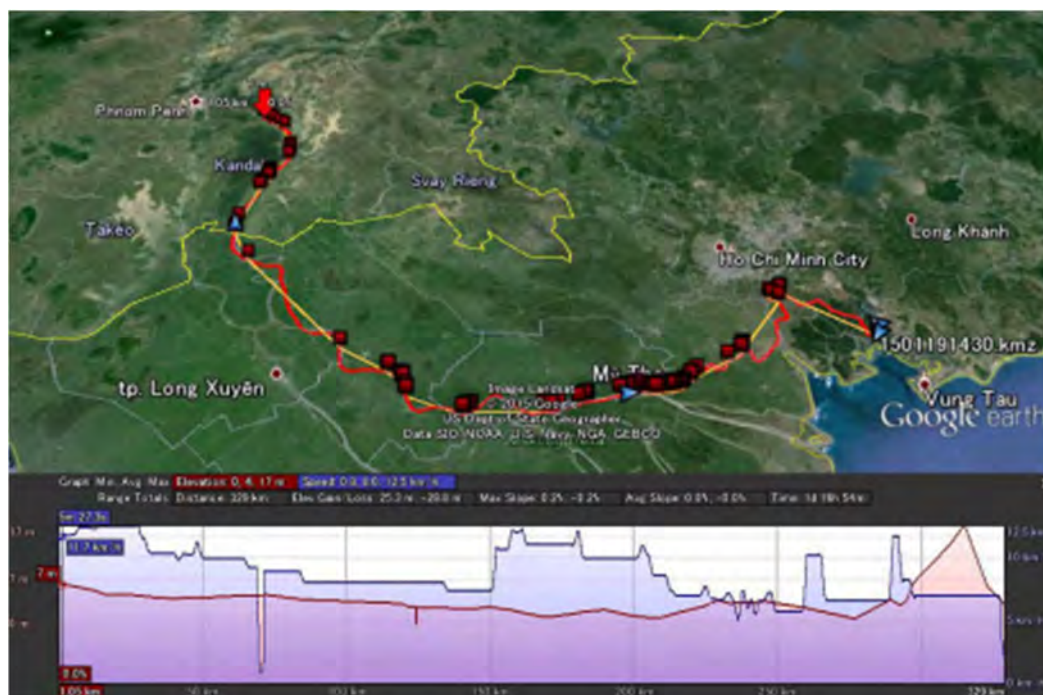
Table 4.25 Time table of Sevigne Barge

Check Point	Distance	Time	Hours
Departure from Phnom Penh Port	0 km	At 0:50 AM 18 Jan. Sunday	0:00
Arrival at border	72 km	At 5:30 AM 18 Jan. Sunday	4:40
Departure from the border		At 7:35 AM 18 Jan Sunday	6:45
Arrival at My Tho	216 km	At 19:15 PM 18 Jan Sunday	18:25
Departure from My Tho		At 6:30 AM 19 Jan Sunday	29:40
Arrival at Cai Mep Port (TCIT)	344 km	At 14:25 PM 19 Jan. Monday	37:35

Source; MLIT

3) Case -2 Border Pass in the Night, Cho Gao Route

The barge of Gemadept Co. Ltd passes the Cho Gao Canal. It is necessary to wait for the low tide and adjust its ballast water to keep its draft low.



Source: MLIT

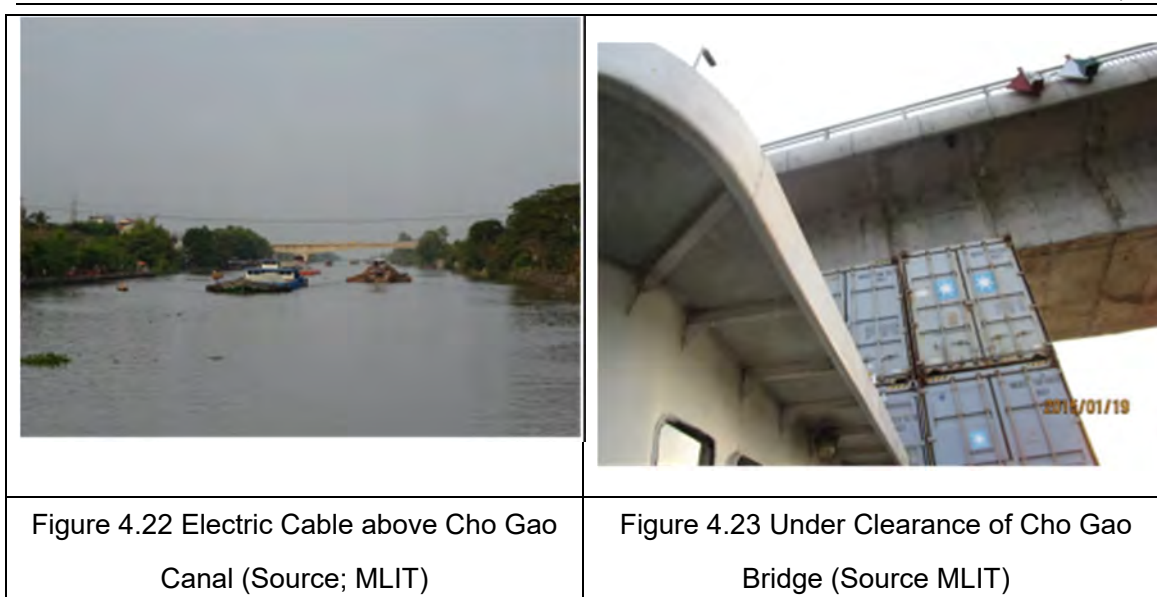
Figure 4.21 Trial voyage Route of Sovereign Barge

The barge waited for 1.5 hours at the border for the border procedures. Total distance and time of voyage were 374 km and 40:50 hours. The average vessel speed was 9.6 km/h excluding waiting times at the border.

Table 4.26 Time Table of Gemadept Barge

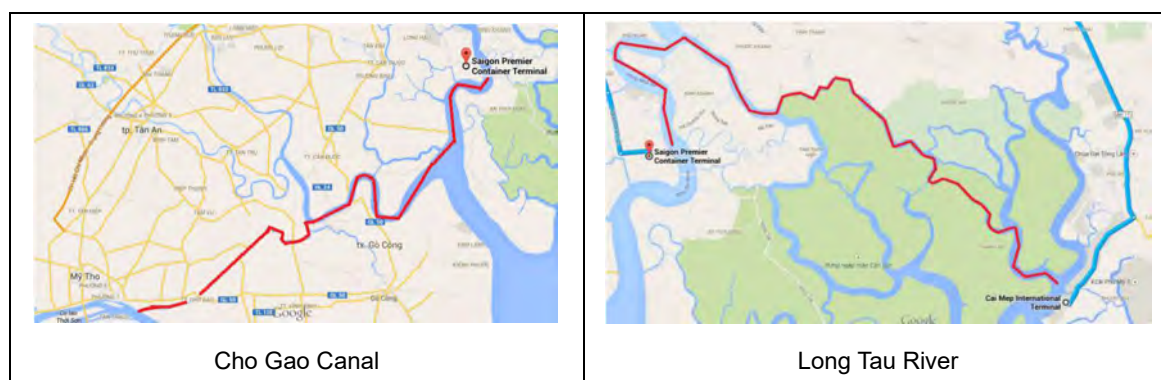
Check Point	Distance	Time	Hours
Departure from Phnom Penh Port	0 km	At 12:30 PM 18 Jan. Sunday	0
Arrival at border	72 km	At 19:00 PM 18 Jan Sunday	6:30
Departure from the border	72 km	At 20:30 PM 18 Jan. Sunday	8:00
Arrival at Cho Gao Canal	255 km	At 15:40 PM 19 Jan Sunday	27:10
Arrive at Soi Rap River	306 km	At 22:05 PM 19 Jan Sunday	31:40
Arrival at Cai Mep Port (CMIT)	374 km	At 5:20 PM 20 Jan. Monday	40:50

Source: MLIT



4) Case-3; Border Pass in the Morning, Cho Gao Route

The barge of New Port Cypress Co. Ltd passes the Cho Gao Canal. The actual draft of the barge should be around 2.2 m and care must be taken regarding the restrictions of the height of bridges in the canal. This is the trial case of night border clearance. The vessel left from Phnom Penh New Port at 12:30 on the 18th of January and arrived at the Cambodian border at 19:00 on the same day.



Source; MLIT

Figure 4.24 Navigation Route of Cypress Barge

Table 4.27 Time Table of Cypress Barge

Check Point	Distance	Time	Hours
Departure from Phnom Penh Port	0 km	At 2:00 AM 18 Jan. Sunday	0
Arrival at border	72 km	At 8:00 AM 18 Jan. Sunday	6:00

Check Point	Distance	Time	Hours
Departure from the border		At 10:00 AM 18 Jan Sunday	8:00
Arrival at SPCT	325 km	At 11:10 AM 19 Jan Sunday	33:10
Departure from SPCT		At 13:10 PM 19 Jan Sunday	35:10
Arrival at Cai Mep Port (CMIT)	371 km	At 18:15 PM 19 Jan. Monday	40:15

This barge waited for two hours at the border for the border procedures and for two hours at the SPCT for the container discharge. Total distance and time of voyage were 371 km and 40:15 hours. The average vessel speed was 10.3 km/h except for waiting times.

5) Protocols for Exportation through River Transportation

A: Each officer from MOC and GDCE comes to the factory and they inspect the cargo inside the container. After their inspection, the container doors are closed and sealed. There are two seals, one is for GDCE and other is for the shipping company.

B: Original document is transferred to the headquarters of GDCE and confirms valuation.

C: Container is transported inside Phnom Penh New Port and an officer from GDCE confirms the seal and takes it to confirm the transportation of the container.

D: After a valuation is finished, the original document was transferred to the port. The ship clearance committee is held before the barge departure joined by all relevant officers.

F: Barge arrived at the border, all officers check the documents again and a barge can pass through the Cambodia-Vietnam border.

Five officer checks are required for container transship to a Vietnamese port.

At the border, there is an integrated cross border office in Vietnam but in Cambodia, the service company should go around to each of the authorities offices. One stop service is not provided on the Cambodia side. The documents required to cross the border in Cambodia is much more than that of Vietnam.

Table 4.28 Document Required to Cross Mekong Border

	Cambodia Side	Vietnam Side
Customs	Invoice. Packing List Joint Inspection Report. ASYCUDA Customs Declaration Passenger List Bill of Lading Cargo Manifest Crew's Personal Effects Provision Store List Bonded Store List Ship's Store List Deck Store, Engine Store List Declaration of Departure	General Declaration Crew's effects Declaration Ship's Store Declaration Cargo Declaration Dangerous Good Manifest Passenger List Crew List
Quarantine	Declaration of ship Arrival Quarantine certificate for Arr -Dep Declaration of Health for Out Bound Report of Water Taken on Board Crew List Maritime Declaration of Health	Health Questions Model of Maritime Declaration of Health
Port Service	Port Clearance (Viet Nam) Port Clearance (Cambodia) Declaration of ship Arrival Declaration of Departure Crew List Discharging List Loading List Certificate of ship(Port Due &Charge)	Port Clearance (Viet Nam) Port Clearance (Cambodia) Declaration of ship Arrival Declaration of Departure Crew List Discharging List Loading List Certificate of ship (Port Due & Charge)
Police Immigration	Declaration of ship Arrival Discharging List Container Loading List Declaration of Departure Crew List	Declaration of ship Arrival Discharging List Container Loading List Declaration of Departure Crew List



Figure 4.25 Documents Required to Pass Cambodia Border

(2) Water Transportation Fee

The barge transportation fee includes the maritime transportation fee. The result of

the evaluation of river transportation is shown in the table below. Maritime freight is determined by volume of cargo demand, not by transport distance.

Table 4.29 River transportation Cost

	20F	40F
PNH-Cai Mep	USD 200 -350	USD 300-450

4.4.5 National Road

(1) Cross border transport

Scheduled service is unpractical as it is in ocean transport. Spot basis service based on FCL is commonly chosen by custom demands. Unlike LCL service, it can not provide delivery on the specified day of the week. Promoting a double license system has been enlarged, however the Thailand route is still inactive so that the Study Team cannot find the practical Case I this study. The number of double license is so little that the Study Team cannot find the operation of a double license truck being practical. Regarding the Vietnamese route, a World Bank survey (2014) showed the details of double truck license holders in table4.29: 57 trucks were registered and 43 were owned by two CAMTA members.

Table 4.30 Cambodia companies with international cargo transportation permits to Vietnam

Cambodia companies with international cargo transportation permits to Vietnam			
N°	Company	Number of Trucks	Member of CAM-TA
1	Bus Express & Travel (Cambodia) Co., Ltd	2	No
2	Khai Nam Transportation (Cambodia), Ltd	2	No
3	Phal Sareth Import Export & Tourism Co., Ltd	2	No
4	Raksmey Samaki Co., Ltd	0	No
5	Rubytran Import Export & Transport Co., Ltd	3	No
6	So Nguon Transportation & Service Import Export Co., Ltd	34	Yes
7	Sokan Transport Pte.Ltd.	8	Yes
8	Tai Seng Import Export & Construction Co., Ltd	5	No
9	Van Rec Co., Ltd	1	No
Total		57	-

Source: WB, "Cambodian trade corridor performance assessment", 2014.

In this context, transshipment operation is the standard method for cordial transpiration. In Poipet, some transship operators have facilities for

transshipment operations before the current dry ports started to operate. The major companies are Diamond Transport, Pacific Transport and TranHo. Other big importers have their own transshipment facilities for their operation. Users are free to choose what operator is suitable for demand and cost.

In Babvtet, officially So Nguon dry port plays the dominant status for transshipment, and a majority of users are likely to use it.

Cambodian forwarders can provide border transportation with using such transship operators and trucks as well as customs agents under the forwarder.

(2) Cargo Volume of Dry Port

Cambodia exported 20,435 containers and imported 32,324 in 2015. Ordinal export goods are little and most of them are QIP or some individual cargo. The number of imported containers is shown the table below.

Table 4.31 Number of Import Containers of Dry Port (2015)

Number of Container	Total	Taxation	Exemption (QIP)
1. So Nguon Dry Port	1,089	640	449
2. Tech Srun Dry Port	7,163	969	6,194
3. Teng Lay Dry Port.	10,275	5,336	4,939
4. Olair World Wide Dry Port	3,085	571	2,514
5. Bok Seng Dry Port	3	3	0
6. Union Dry Port	3,129	1,857	1,272
7. Sokan Transport Dry Port	1,579	999	580
8. Hong Leng Huor Dry Port	5,606	3,938	1,668
9. TOLL Dry Port	395	249	146
10. Try Pheap Dry Port	0	0	0
Total	32,324	14,562	17,762

Source: GDCE.

These import containers were from Bavet (58.4%), Sihanoukville (41.5%) and Poipet (0.1%). 71.3% of those containers were handled by the top three companies, Teng Lay Dry Port, Tech Srun Dry Port and Hong Leng Huor Dry Port.

The top three companies, Teng Lay Dry Port, Hong Leng Huor Dry Port and Union Dry Port, handled 76.4% of the taxation containers. The top three companies, Tech

Srun Dry Port, Teng Lay Dry Port and Olair World Wide Dry Port, covered 76.8% of the tax exemption containers including QIP.

Moreover, the amount of taxes in 2015 were paid by the top three companies, Teng Lay Dry Port, Union Dry Port and Hong Leng Huor Dry Port. The amount of taxes of Teng Lay Dry Port is mostly for import cars.

According to the interview results available so far, most of the trucks run empty when bound to or from Thailand, while some trucks bound for Vietnam pick up cargo near the border on their return journey in order to avoid running empty all the way. 20-foot and 40-foot container's charges are almost the same in land transport. This reason is because of running empty on the return journey and undeveloped cargo consolidation.

(Grasp of domestic cargo flow by simple OD Survey)

The OD survey of container trailers entering/leaving the five major dry ports (Bok Seng Dry Port, Sokan Okan Dry Port, Tec Srun Dry Port, Union Dry Port, and So Nguon Dry Port) was conducted by using the truck B/Ls which indicate the trailers' point of departure, destination, type of cargo, weight, etc. Truck B/Ls were used because all truck drivers entering dry ports have a truck B/L. The survey covered a total of 501 trailers by dry port.

According to the interviews, weekly cargo movement increases as the weekend approaches. This is probably because cargo leaves neighboring countries on Monday, Tuesday, etc., and arrives in Phnom Penh on or close to the weekend.

Table 4.32 Number of Interviews at Dry Ports

Unit: number of trailers

	12-Jan-16 (Tue)	13-Jan-16 (Wed)	14-Jan-16 (Thu)	Total
1.BOK SENG DRYPORT				
Inbound	15	15	15	45
Outbound	16	15	15	46
2.SOKAN DRYPORT	11-Jan-16 (Mon)	13-Jan-16 (Wed)	15-Jan-16 (Fri)	
Inbound	12	26	15	53
Outbound	15	20	23	58
3.TEC SRUN DRYPORT	11-Jan-16 (Mon)	12-Jan-16 (Tue)	13-Jan-16 (Wed)	
Inbound	14	13	23	50
Outbound	18	20	17	55
4.UNION DRYPORT	11-Jan-16 (Mon)	12-Jan-16 (Tue)		
Inbound	31	26		57

Outbound	23	20		43
5.SO NGUON DRYPORT	19-Jan-16			
Inbound	63			63
Outbound	31			31
Total	238	155	108	501
Subtotal (Inbound)	135	80	53	268
Subtotal (Outbound)	103	75	55	233

Source: JICA Study Team.

The result of OD survey is as the table below.

Table 4.33 The Result of OD survey

Origin	Destination												Total	component rate
	Phnom Penh	Sihaknouv ville	Kandal	Kompong Speu	Poipet	Kampong Chhnang	Svay Reing	Bavet	Siem Reap	Ta Keo	Battambang	Koh Kong		
Phnom Penh	3,089	5,284	184	272	306	173						27	9,335	56.7%
Sihaknouv ville	3,136	797	244	104		84			94	60	70		4,589	27.9%
Svay Reing	1,018						205	27					1,250	7.6%
Bavet	516						33	169					718	4.4%
Kompong Speu		223											223	1.4%
Ta Keo	15	95											110	0.7%
Kandal	25	51								23			99	0.6%
Kampong Chhnang	24	47											71	0.4%
Kompot		48											48	0.3%
Poi Pet						28							28	0.2%
Total	7,823	6,545	428	376	306	285	238	196	94	83	70	27	16,471	100.0%
component rate	47.5%	39.7%	2.6%	2.3%	1.9%	1.7%	1.4%	1.2%	0.6%	0.5%	0.4%	0.2%	100.0%	

Source: JICA Study Team.

The result of this survey shows that Phnom Penh and Sihanoukville are the higher ranks and account for 74.7% of the origins and destinations. The same point of origin and destination means movement within this area. The detailed OD of moving the same area is as in the table below.

Table 4.34 The Result of Detailed OD (Unit: ton)

Origin		Destination							
		Phnom Penh			Sihaknouk ville			Total	Component rate
		PP Factory	PP Dryport	Sub Total	SHV Port	SHV Dryport	Sub Total		
Phnom Penh	PP Dryport	475	909	1,384	4,372	320	4,692	6,076	49.4%
	PP Factory	23	181	204	592		592	796	6.5%
	PP Port	855	647	1,502		0	0	1,502	12.2%
	Sub Total	1,353	1,737	3,090	4,964	320	5,284	8,373	68.0%
Sihaknouk ville	SHV Dryport	718		718	762		762	1,480	12.0%
	SHV Port	314	2,104	2,418		35	35	2,453	19.9%
	Sub Total	1,032	2,104	3,136	762	35	797	3,933	32.0%
Total		2,385	3,841	6,226	5,726	355	6,081	12,306	100.0%
Component rate		19.4%	31.2%	50.6%	46.5%	2.9%	49.4%	100.0%	

Source: JICA Study Team.

In the detailed OD, there is much cargo volume transported from Phnom Penh to the Sihanoukville Port and from the Sihanoukville Port to Phnom Penh dry ports. Moreover, at OD in Phnom Penh, there is much cargo volume from dry port to dry port and from Phnom Penh Port to dry ports. At OD in Sihanoukville, there is a large amount of cargo volume from the dry port in Sihanouk ville to Sihanouk ville Port.

Regarding the cargo types in the OD survey, garments covered about 70% (see the table below). In addition, the volume of cargo weight of above table and Table 4.34 differ. This is because there were some two OD by same truck. The same truck transported the same cargo, and the duplication was removed in Table 4.34.

Table 4.35 The Result of Detailed OD (Unit: ton)

Description of Goods	Gross Weight (ton)	Ratio
Garment	8,953	70.1%
Rice	405	3.2%
Metal	361	2.8%
Electric Material	338	2.6%
Beer	313	2.4%
Sugar	247	1.9%

Description of Goods	Gross Weight (ton)	Ratio
Shoes	202	1.6%
Confectionary	177	1.4%
Wheat	155	1.2%
Shoes Material	152	1.2%
Machinery	130	1.0%
Rubber	127	1.0%
Furniture	124	1.0%
Others	1,090	8.5%
Total	12,772	100%

Source: JICA Study Team.

(3) Truck Flow Volume at Main Border Points and Ports

The feature of overland route transportation is shown by using the passing freight container trucks at four border points, Poipet, Bavet, the Sihanoukville and new Phnom Penh Ports, in the target route.

Table 4.35 shows the passage number of the freight container trucks at four border points. The number of imported containers is annually 185,000, and the number of export containers is annually 123,000, and there is a greater number of imported racks than the number of export trucks.

As for the percentage according to the border point, in export and import, the truck number of Sihanoukville Port has more than the half in both export and import. Sihanoukville Port occupies 61.5 percent of the export trucks and 55.6% of the import trucks.

In Cambodia, about 75% of the import trucks and 90% of the export trucks pass through both ports.

Compared with the number of trucks, which passes through these ports, there is a small number of trucks which pass the border point of the southern economy corridor in comparison. Moreover, the export-and-import cargo of the border point of the southern economy corridor has a large imbalance. It can be considered that most of the international land transport trucks are single charge transport.

Table 4.36 Number of container trucks in the border points

		2013	2014	2015
Poipet	Import	2,886	5,616	5,271
	Export	0	912	998
Bavet	Import	32,618	37,309	40,115
	Export	9,800	11,947	12,800
PP Port	Import	22,803	31,625	36,820
	Export	27,921	32,578	33,618
SHV Port	Import	79,730	94,420	103,025
	Export	57,170	65,679	75,844
Total	Import	138,037	168,970	185,231
	Export	94,891	111,116	123,260

Source: GDCE

Table 4.37 Imported truck percentage in the border points

	2013	2014	2015
Poipet	2.1%	3.3%	2.8%
Bavet	23.6%	22.1%	21.7%
PP Port	16.5%	18.7%	19.9%
SHV Port	57.8%	55.9%	55.6%
Total	100.0%	100.0%	100.0%

Source: GDCE

Table 4.38 Exported truck percentage in the border points

	2013	2014	2015
Poipet	0.0%	0.8%	0.8%
Bavet	10.3%	10.8%	10.4%
PP Port	29.4%	29.3%	27.3%
SHV Port	60.2%	59.1%	61.5%
Total	100.0%	100.0%	100.0%

Source: GDCE

Hereinafter, it is stated for each feature by every border point.

1) Poipet

The number of trucks in Poipet on the Thai border is overwhelmingly a large bulk

compared to the container. About 90 percent of imported trucks are bulked cargo. Container trucks have a large imbalance between export and import. This indicates that many one-way cargo trucks exist.

Table 4.39 Number of trucks in Poipet border

		2013	2014	2015
Container	Import	2,886	5,616	5,271
	Export	n.a.	912	998
Bulk	Import	n.a.	51,505	66,236
	Export	n.a.	n.a.	n.a.
Total	Import	2,886	57,121	71,507
	Export	n.a.	912	998

Source: GDCE

2) Bavet

The import trucks (2015), which passes Bavet, consists of 40,000 containerized cargo trucks and 21,000 of bulk freight trucks. There are many containerized cargo trucks as compared with the Poipet case.

On the other hand, the number of export trucks (2015) consists of 12,000 of containerized cargo trucks and 2,600 of bulk cargo trucks. Export trucks are many containerized cargo trucks as well as import trucks.

Table 4.40 Number of imported trucks passing Bavet (Unit: Number of truck per year)

	Year	2013	2014	2015
Poipet	Container trucks	3,916	9,952	12,431
	Bulk Trucks	4,194	9,202	14,924
SEZ (Manhattan& Tai Seng)	Container trucks	6,569	7,440	8,260
	Bulk Trucks	4,152	4,835	5,895
Others	Container trucks	22,133	19,917	19,424
	Bulk Trucks	237	233	713
Total	Container trucks	32,618	37,309	40,115
	Bulk Trucks	8,583	14,270	21,532

Source: GDCE

Table 4.41 Number of export trucks passing Bavet (Unit: Number of truck per year)

	Year	2013	2014	2015
Poipet	Container trucks	98	226	549
	Bulk Trucks	118	232	219
SEZ (Manhattan& Tai Seng)	Container trucks	9,030	11,379	11,878
	Bulk Trucks	1,529	2,252	2,281
Others	Container trucks	672	342	373
	Bulk Trucks	296	106	193
Total	Container trucks	9,800	11,947	12,800
	Bulk Trucks	1,943	2,590	2,693

Source: GDCE

The half number of import trucks, which passes Bavet, consists of Manhattan SEZ and Tai Seng SEZ. The truck that passes Bavet consists of 400,000 of import, and 128,000 of export. The number of imported trucks is about three times that of the export truck number. Trucks in Bavet carry many one-way loaded cargo. This is considered to be factory customs clearance in the Phnom Penh SEZ and factories in Phnom Penh, etc.

Table 4.42 Container truck passing Bavet (Unit: Number of truck per year)

	Year	2013	2014	2015
Poipet	Import	3,916	9,952	12,431
	Export	98	226	549
SEZ (Manhattan& Tai Seng)	Import	6,569	7,440	8,260
	Export	9,030	11,379	11,878
Others	Import	22,133	19,917	19,424
	Export	672	342	373
Total	Import	32,618	37,309	40,115
	Export	9,800	11,947	12,800

Source: GDCE

3) New Phnom Penh port

Table 4.42 shows the number of container truck transition using new Phnom Penh

Port. The table also shows the place where customs-procedures were performed. The number of containerized cargo trucks using new Phnom Penh Port (2015) consists of 36,000 of import trucks and 33,000 of export trucks per year. As for almost all of the imported containerized cargo, customs procedures are performed at the new Phnom Penh Port.

On the other hand, as for 25,000 of the 33,000 of the export trucks, customs procedures are performed except for the new Phnom Penh Port.

Table 4.43 Import container truck number of new Phnom Penh Port

(Unit: Number of truck per year)

	2013	2014	2015
PPAP	22,317	31,030	36,242
Others	486	595	578
Total	22,803	31,625	36,820

Source: GDCE

Table 4.44 Export container truck number of new Phnom Penh Port

(Unit: Number of truck per year)

	2013	2014	2015
PPAP	5,977	6,938	7,783
Others+	21,944	25,640	25,835
Total	27,921	32,578	33,618

Source: GDCE

4) Sihanoukville Port

Table 4.44 shows the number of container truck transition using the Sihanoukville Port. The table also shows the place where customs-procedures were performed. The containerized cargo truck (2015) using the Sihanoukville Port consists of 103,000 of the import trucks and 75,000 of the export trucks in a year. Customs procedures of 85,000 (of 103,000) import trucks 85,000 are performed in Sihanoukville Port.

On the other hand, export procedures for 54,000 (of 75,000) of export trucks are performed excluding the Sihanoukville Port.

Table 4.45 Import container truck number of Sihanoukville port

	2013	2014	2015
SHV Port	71,582	81,818	85,134
SHV SEZ	1,252	2,400	2,905
Others	6,896	10,202	14,986
Total	79,730	94,420	103,025

Source: GDCE

Table 4.46 Export container truck number of Sihanoukville port

	2013	2014	2015
SHV Port	16,743	15,637	20,918
Others	40,427	50,042	54,926
Total	57,170	65,679	75,844

Source: GDCE

(4) Transport Time

The JICA Study Team equipped a trailer with GPS and measured for the average speed on RN 1 and RN 5.

1) RN 1

RN 1 was measured for the average speed between the major cities, from Ho Chi Minh to Phnom Penh. The result of this survey is shown in Table 4.46. The average speed of that is about 30 km/h in Vietnam, even though it takes time because of traffic congestion. The situation is the same in Cambodia; this is because RN 1 in most places has only one lane and poor road conditions. In the future, when the highway along the RN 1 has been developed, it is necessary to avoid the transport congestion from Bavet to Ho Chi Minh City. The trailer trace survey shows that the trucks and trailers were not waiting only at "0 Point". Therefore, traffic congestion on the border had not occurred.

Table 4.47 Average Speed between Major Cities on NR 1

No	Departure Place	Arrival Place	Distance (km)	Time	Average Speed (km/h)	Maximum Speed (km/h)	Minimum Speed (km/h)
1	HCM	Bavet	70.1	2:19	30.2	53.1	0.0
2	Bavet	Svay Rieng	41.3	1:51	22.3	58.2	0.0
3	Svay Rieng	Tsubasa Bridge	60.9	1:51	32.9	60.5	18.6
4	Tsubasa Bridge	Pnom Penh City	49.6	2:10	22.9	56.2	7.9
5	Pnom Penh City	Pnom Penh City	37.4	0:55	40.8	51.5	0.0
Total			259.3	9:06	28.5		

Source: JICA Study Team.

2) RN 5

RN 5 was measured for the average speed between the major cities from Poi Pet to Phnom Penh. Widening of RN 5 is under construction, the road pavement is not good and trucks run at a low speed. However, excluding this area trucks can usually run at speed.

The result of this survey is shown in Table 4.47. The average speed is about 37 km/h, which is a low speed to run for about 390 km, this is because RN 5 in most places has only one lane and lacks an adequate number of streetlights, and the trucks run at night to avoid the truck ban in Phnom Penh. Even if it were developed into two lanes, there is another problem in that it serves as a community road in many places. If the trucks can run at high speed it will reduce the portal-to-portal time for the truck drivers and also the transport cost.

The maximum speed will be 60 km/h, which is about 1.6 times the average speed. If it can run at this speed, the time required can be shortened from the current nine and a half hours to about six hours.

Table 4.48 Average Speed between Major Cities on NR 5

No	Departure Place	Arrival Place	Distance (km)	Time	Average Speed (km/h)	Maximum Speed (km/h)	Minimum Speed (km/h)
1	Poi Pet	Sisophon	42.6	0:57	43.9	59.3	0.0
3	Sisophon	Battambang	63.8	1:51	54.0	34.3	16.5

No	Departure Place	Arrival Place	Distance (km)	Time	Average Speed (km/h)	Maximum Speed (km/h)	Minimum Speed (km/h)
4	Battambang	Pursat	111.5	2:29	37.9	52.4	0.0
5	Pursat	Kampong Chhnang	94.7	2:03	37.3	51.8	0.0
6	Kampong Chhnang	Road improvement	59.5	1:27	39.8	55.1	0.0
7	Road improvement	Phom Penh	18.8	0:41	24.4	41.4	0.0
Total			390.9	9:31	37.1		

Source: JICA Study Team.

Trucks entering Poipet via the Aranyaprathet wait on the Thailand National Road 33 if they arrive before the border opening time. Therefore, the JICA Study Team measured the distance of the traffic congestion for every hour from 7:00 to 10:00. Trucks cannot come within 1.5 km of the border until 10:00. Traffic congestion starts at the same point.

Table 4.49 Measurement of Traffic Congestion at Aranyaprathet

Time	Starting point of waiting trucks	Distance from Border	Number of waiting trucks
7:00	1.5 km from Border	2.58 km	54
8:00	1.5 km from Border	2.75 km	63
9:00	1.5 km from Border	2.96 km	73
10:00	1.5 km from Border	3.02 km	76
10:30	Border	2.13 km	107

Source: JICA Study Team.

The trucks start moving toward the border at 10:00. When the travel time of twenty trucks was measured, the movement for one truck was about 20m per one minute. Since the length of traffic congestion is about 1.52 km at 10:00, the tail end of the trucks needed 76 minutes to arrive at the border.

According to interviews with Japanese logistics companies, even if the trucks arrive early in the morning, they go through the border after 11:00. If the traffic congestion is resolved, it will be possible to reduce transport cost.

4.4.6 Actual Condition Survey for Container Transport by Rail to Sihanoukville Port

(1) Framework of Experimental Railway Survey

The survey team observed the container rail transport processes and administrative protocols, interviewed the relevant officials in charge of a warehouse and ICD in PNH and SHV port including custom offices. The Survey Team boarded a regularly scheduled train in order to conduct the train operation survey (Time, Distance, and Speed).

(2) Survey of Rice Exporter

Surveys of rice export procedures targeting the largest rice exporting companies, Amru Rice and Khmer Foods Group, were carried out.

1) Amru Rice

- Location: 10 km north from the Railway ICD, outside the area of the truck ban
- Export Volume in 2015: 60,000 tons (2,400 TEUs)
- Area of Rice Production: Every province but the majority is produced in Batambang Province
- Export Regions: Europe, China, USA

Table 4.50 Transport Cost of Amru Rice

	Truck	Rail
Modal Share to SHV	80%	20%
Transport Cost to SHV	\$180-200	\$197 (trailer \$75, rail \$100, port \$22)
Transport Time to SHV	6 hours	0.5 hour to ICD&11 hours to SHV port
Arrival day and time	Saturday morning.	Friday morning
Customs Clearance	At the port, self-clearance	At the port, self-clearance

Source: Study Team

2) Khmer Foods Group

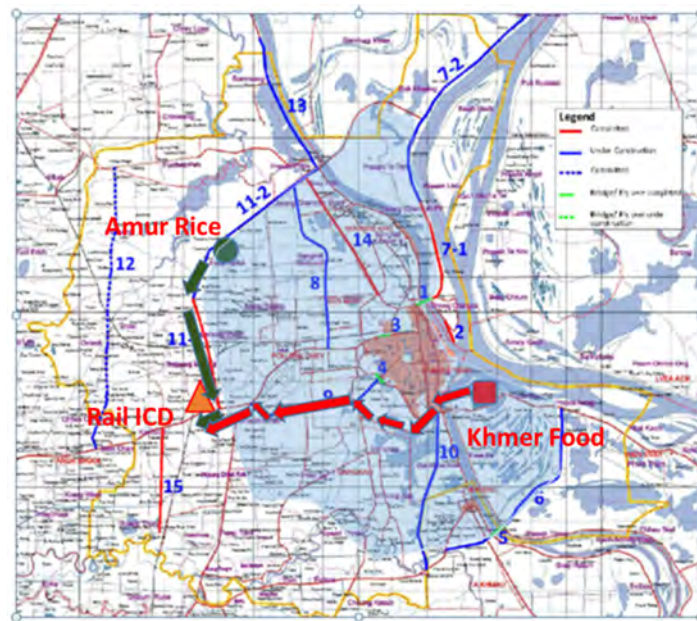
- Location: 2 km from Monivong Bridge NH.1, inside the area of the truck ban
- Export Volume in 2015: 58,000tons (2,320 TEUs)
- Area of Rice Production: Every province but the majority is produced in Batambang Province
- Export Regions: Europe in the case of Sihanoukville Port, China in the case of Phnom Penh Port

Table 4.51 Khmer Foods Group

	Truck	Rail
Modal Share to SHV	80%	20%
Transport Cost to SHV	\$220	\$222 (trailer \$100, rail \$100, Port \$22)
Transport Time to SHV	6 hours	11 hours 1hour to ICD
Arrival day and time	Saturday morning.	Friday morning
Customs Clearance	At the port, self-clearance	At the port, self-clearance

Source: Study Team

Khmer Food Factory is located inside the area of the truck ban in Phnom Penh. Trucks should wait until 8 pm in the evening to leave for ports. Khmer Foods Group has five special transport passes which make day time transportation inside the city possible but the permission fee is very high.



Source; Study Team

Figure 4.26 Rice Transport Route

3) Stuffing Rice into Container

Paddy rice is milled to brown rice in the production field and transported to factories in Phnom Penh City. Trucks from the rice field are required to wait outside the city until the truck ban is lifted and must wait again on their return. Accordingly, the number of trucks transporting the rice is limited which drives up the cost. Brown rice is re-milled for exportation in factories. There are two ways to stuff the rice into containers: through the use of 50kg bags or by pouring it into the container. The total weight of rice is limited up to 25 tons per one container; therefore, a 20-foot container is always used for rice exportation. Due to the heavy weight, one trailer can transport only one rice container. After the pest-control process is carried out, container doors are closed and locked by the pin of the shipping company. Containers are transported to the ICD.

4) Rail Transportation of Rice

A train bound for Sihanoukville Port always leaves the ICD at 22:00 and arrives at the port at 9:00. Container cut off time at the port is 14:00 on every Saturday. Rice containers are heavy and are loaded in the bottom of the ship. Rice containers are generally transported to the port on Friday for risk aversion. Therefore, rice

containers are loaded onto train wagons on Thursday night.

5) Basic Information regarding Train Service

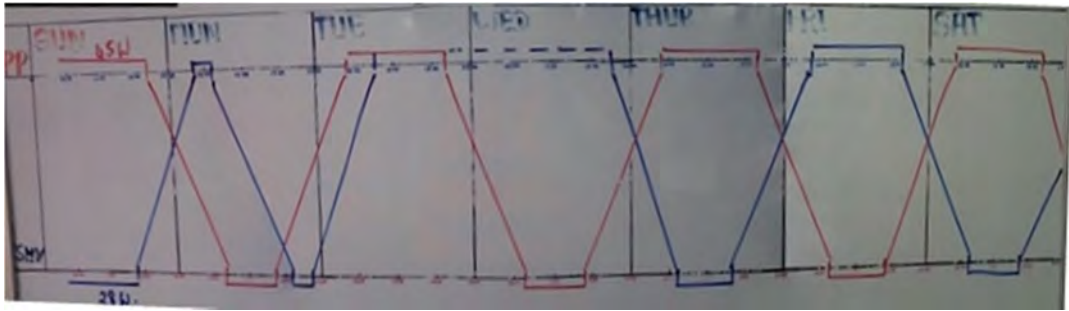
In February 2015, Toll Holdings was acquired by Japan Post but continues to operate as an affiliate company. In 2014, Toll Holdings divested its stake in Cambodia railway to the Royal Group of Cambodia. Royal Group has an O&M contract with Toll Holdings.

As of 31 May 2014, the section from Phnom Penh (9+400) to Sihanoukville had been rehabilitated by the French-based firm TSO but train operation could not achieve the maximum average speed of 50km/h as specified in the rehabilitation specifications. Some of the structures (Bridge, Box Culvert and Pipe Culvert) have been repaired but remain far from a condition that would allow trains to operate at the as-specified speed. Rehabilitation of the container and rail terminal at Sihanoukville has been completed by the Sinohydro Company (Chinese Company) as of the end of 2014. The container train service restarted in 2014 between the TOLL Royal Railway (TRR), Phnom Penh and Sihanoukville Port. This is operated three times per week and the total volume of containers transported by train was 17,770 boxes up to November 2014 (11months).

Table 4.52 South Line Railway Service

Frequency of Container Train		14		Service/week	
Capacity of Container Carriage		100TEU		Chassis/service	
Departure Time from Phnom Penh			Arrival time at Sihanoukville		
Day of The Week		Time	Day of The Week		Time
Everyday		22:00	Everyday		09:00
Whether or Not of Extra Train Operation			Yes		
Departure Time from Sihanoukville			Arrival time at Phnom Penh		
Day of The Week		Time	Day of The Week		Time
Everyday		22:00	Everyday		9:00

Source; Royal Rail of Cambodia (RRC)



Source; Royal Rail of Cambodia (RRC)

Figure 4.27 Train Service Diagram (up PNH ICD, below SHV port)

Table 4.53 Railway Service Tariff

	20 feet		40 feet	
	Laden	Empty	Laden	Empty
From P.Penh to S.Ville	\$100	\$65	\$120	\$80
From S.Ville to P.Penh	\$110	\$65	\$160	\$80

Trailer Cost inside PNH city \$80-100

Trailer Cost inside SHV port \$22

Source; RRC



Figure 4.28 Railway ICD in Phnom Penh



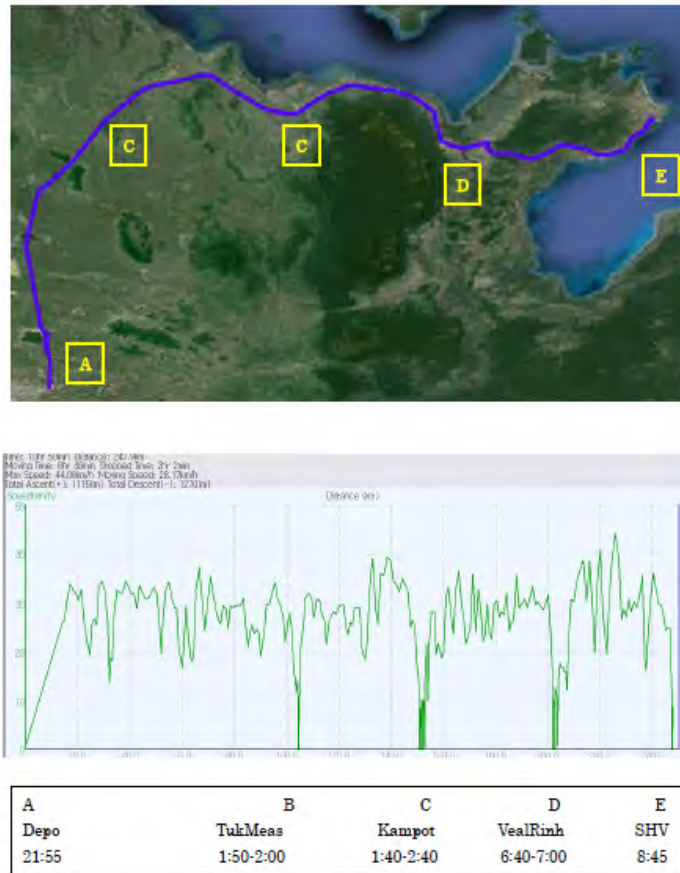
Source: MPWT (Upper picture), PASS (Lower picture)

Figure 4.29 Railway Freight Station in SHV port

(3) Experimental Container Train Travel

The JICA expert for MPWT and a surveyor of OCDI took a container train on January 13th, 2015. The train left PNH ICD at 22:15 for SHV port. The total number of wagons was 30 and the total number of containers was 40 boxes with two locomotives; one was in the head and the other was on the tail. The train stopped at Tuk Meas, Kampot, and Veal Rinh to give way to a train moving in the opposite direction. At Kampot station, the train stopped for 1 hour while waiting for two trains headed to PNH. The train arrived at SHV port station at 8:45 on January 14th. It took 10 hours and 45 minutes to travel the total running distance of 247.9 km. Maximum speed was 44km/hour between Veal Rinh and Sihanoukville while the average moving speed was 28km/hour. At surface crossings and bridges, the train is required to slow down for safety reasons.

After the arrival of the train, the reach stacker of PAS discharged the rice containers. The discharge tariff is free but PAS charges \$22 for containers marshaled inside the port. Cargo owners have complained that this fee is too high and discourages the use of the rail service. Rice containers are subject to X ray scanning, after which they are placed in the container yard. The scanning price is \$20 for 20-ft containers and \$40 for 40-ft containers. On the other hand, container trucks form a very long queue on NH 4 waiting to enter the port gate.



Source; Study Team

Figure 4.30 GPS Survey Result of Container Train to SHV Port



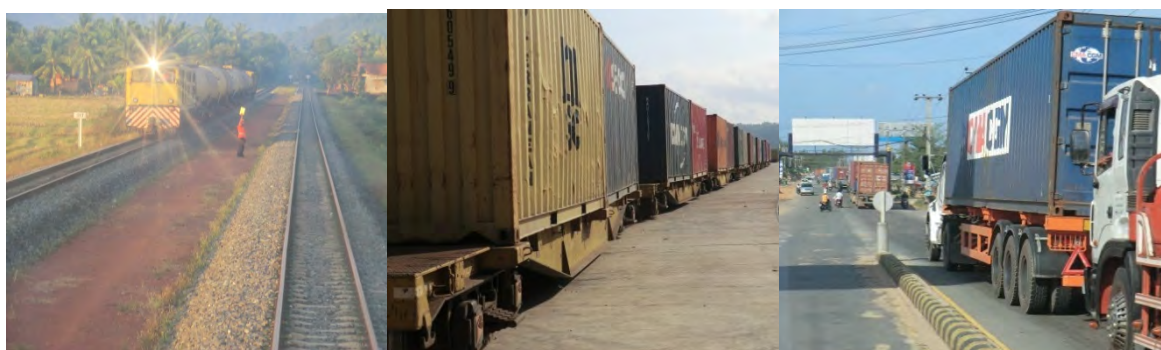
RRC Train Container Depot in
PNH



Steel Bridge Before Civil War



Locomotive Driver
Communicating with OC



Trains Pass Each Other at Veal
Rinh

Container Train Arrived at SHV
Port

Container Trailers Overflow into
SHV city

Source: Study Team

Figure 4.31 Experimental Container Train Survey

4.5 International Logistics Process of Land Transportation

4.5.1 Logistics Process in Thailand

Thailand is already promoting the Electronic Data Interchange (EDI) customs clearance for both imports and exports. In the case of exports to Cambodia, for example, cargo is delivered to the border after completing export customs clearance, and its export information can be confirmed by entering the permit number in a terminal installed at the border customs office. However, it is necessary to bring a copy of the permit.

Table 4.54 Measurement of Export Customs Procedure Time of Thai side

Items	Date	Time	Remark
Documents (invoice, packing list) receipt from shipper.	N-3 days	11:40	
Documentation (for input).	N-1 days	15:10	Waiting for the completed document from the shipper.
Declaration.	N days	10:00	N= ETD.
(Documents check).	N days	11:00	On queue checking.
Permit.	N days	13:00	
Transfer export permits information to Cambodian Logistics company.	N days	14:00	
Document receipt.	N days	14:30	Cambodia side.

Items	Date	Time	Remark
Export documents or data check.	N days	16:00	Cambodia side.

Source: JICA Study Team.

Table 4.55 Measurement of Export Truck Time of Thai side

Items	Date	Time	Remark
Departure at Bangkok	N day	16:00	N= ETD.
Arrival at Aranyaprathet	N+1 days	9:00	Waiting at trucking hub yard then departure again in early morning.
Exit border procedure for immigration		13:00 to 13:30	Thai side. (driver with proper license can cross to Cambodia with a limitation of distance around 10 km.)
Exit border procedure for customs		13:00 to 13:30	Thai side.
Entry border procedure at Poipet		14:00 to 14:30	Cambodia side.
Departure at evening	N+1 days	18:00	Departure at border switching area in the evening.

Source: JICA Study Team.

4.5.2 Logistics Process in Vietnam

In Vietnam, considerable effects were expected with the introduction of the Vietnam Automated Cargo and Port Consolidated System (V-NACCS), based on Japan's Nippon Automated Cargo and Port Consolidated System (NACCS). However, as far as interview results show, border transport has not been simplified.

Cambodia adopts the "registration customs" system for exports. Shippers need to make an import/export declaration at the customs office where they are located. In the case of imports, therefore, shippers in Ho Chi Minh make an import declaration at Ho Chi Minh Customs and obtain permission to transfer cargo at a border-crossing point. Cargo cannot enter Vietnam without the original of this permit.

In the case of exports, an export permit issued by the registration customs is brought to the border to obtain border-crossing permission.

The time schedule from the Cat Lai port in Vietnam to the customs in Bavet border is shown in the Table 4.55.

In order that the shipping freight traffic from Ho Chi Minh City to Bavet at the

border in Cambodia may avoid the traffic congestion in Ho Chi Minh City and the surrounding area, picking up a container early in the morning is generally performed. Therefore, the transporter is standing by at Cat Lai Port from midnight to dawn in order to pick up imported cargo.

The target cargo is the transit cargo from a third country. Therefore, the export clearance procedure at the Cambodian boundary is unnecessary, and the necessary procedure is only exchanging B/L for D/O. Cargo that arrives in Cambodia is scanned. After that, the cargo is moved to the So Nguon Dry Port near the Bavet border.

In So Nguon Dry Port, the container is transshipped into a Cambodian truck from the Vietnamese truck, and the ASYCUDA is performed for the import declaration procedure.

Since the consignee in Cambodia is a QIP company and it is the cargo for ex post facto examination, the report procedure by ASYCUDA might be ended in about 20 minutes. In addition, according to the survey, when dealing with cargo from a company other than a QIP company, the time of report by ASYCUDA and import clearance procedure are completed in about two hours.

Table 4.56 Measurement of Export Truck Time of Vietnam side

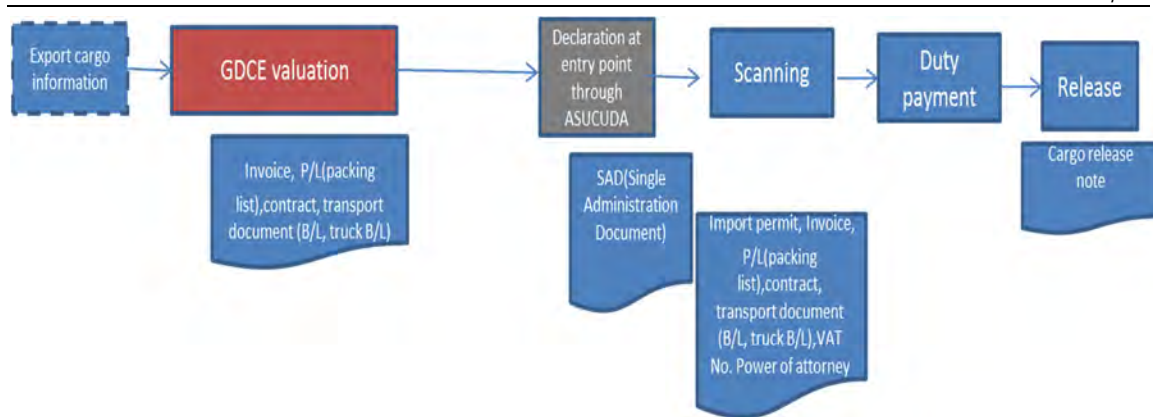
Items	Scheduled time
Pick up containers at Cat Lai Port (queue for port entry)	14:00
Pick up container and dispatch from Cat Lai	6:00
Arrive at border	10:00
Border crossing at Vietnam border	12:00
Scanning (including waiting time)	13:00-14:00
Arrived So Nguon Dry Port in near Bavet	14:00
ASYUCDIA entry/permit and container transporting	14:00-16:00
Dispatch from dry port	16:00

Source: JICA Study Team.

4.5.3 Import Clearance Flow

(1) Basic Flow (Import Taxation)

The customs clearance process of import taxation is shown in the figure 4.30.



Source: GDCE, Handbook on Customs Clearance, 2015.

Figure 4.32 Basic Flow of Customs Procedure of Import

Taxable goods (after the results of the examination, including the case of no tariff) are first checked for the validity of the declared price (Valuation) at GDCE (Phnom Penh Customs consumption Directorate General). GDCE issues a document called "Import Permit" to the cargo in which the validity was checked. The required documents for Valuation are 1) invoice, 2) packing lists, 3) transportation bonds, 4) contracts, etc.

After acquiring the "Import Permit", an import trader reports by using ASYUCDA at the border and port. After completing scanning and tax payment procedures, it is possible to receive the import cargo. An import trader needs the "Import Permit", an invoice, a packing list, and a customs clearance letter of attorney in customs declaration. Moreover, the test result of scanning is also attached. Customs issues the "Release Note" to the cargo in which import was permitted.

(2) In the case of QIP company

The duty-free importation of raw material is beforehand permitted to the QIP company due to a master list. Therefore, assessment is unnecessary. To be required, an importer needs to submit an invoice, a packing list, etc. to GDCE and to obtain permission from GDCE. However, according to the survey, the procedure mentioned before is omitted. In the import declaration in a customhouse, import cargo is classified into a blue lane and released instances. Blue lane cargo is a posteriori survey goods.



Source: GDCE, Handbook on Customs Clearance, 2015.

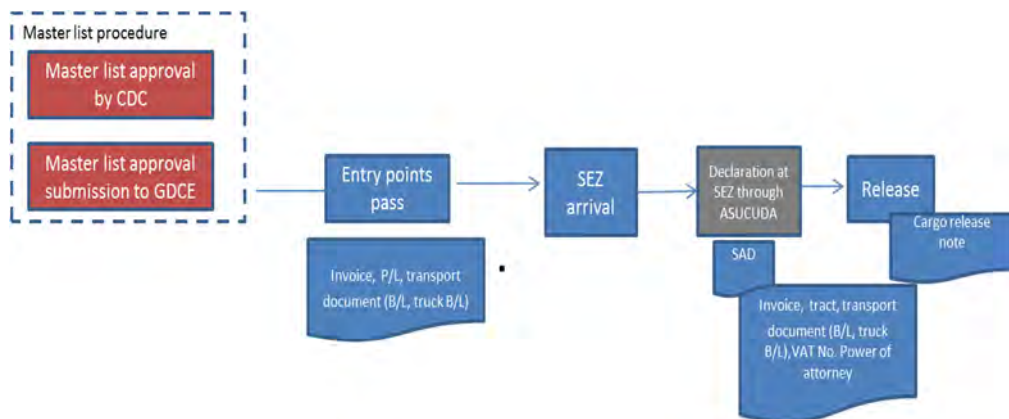
Figure 4.33 Basic Flow of Custom Procedure in case of QIP Cargo

(3) In the case of SEZ Company

Companies in SEZ get permission of duty-free importation of raw material like the QIP Company. Therefore, a dutiable-value determination process is omitted. SEZ cargo is classified into two patterns and it is exempted from scanning. 1) In the case of less than 20 km away from the border point, 2) In the case of more than 20km from the SEZ.

1) Less than 20 km

In the case of SEZ cargo (less than 20 km), an importer does not need any documents other than an invoice, a packing list, truck B/L, and for SEZ(s). Cargo reaches SEZ and after unloading, an importer performs report procedure using ASYUCDA.



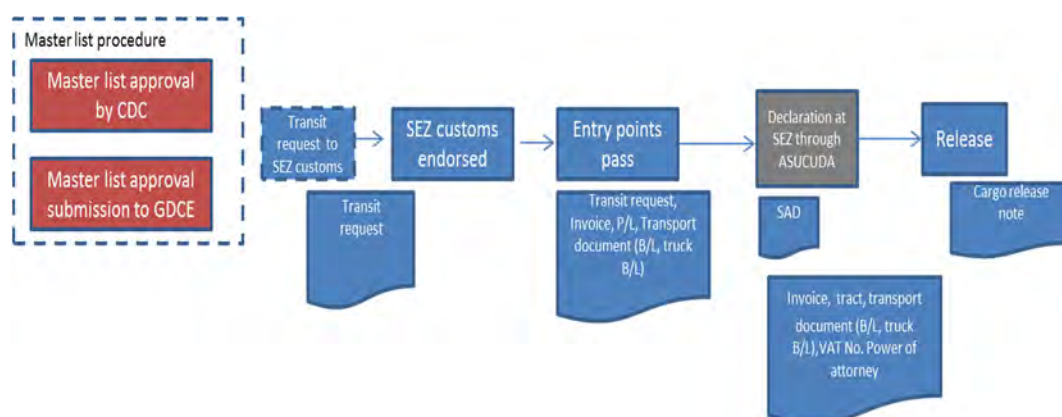
Source: GDCE, Handbook on Customs Clearance, 2015.

Figure 4.34 Basic Flow of Custom Procedure in Case of SEZ (less than 20km) Cargo

2) More than 20km

In the case of SEZ (more than 20 km) cargo, the importer needs to apply for the transit request document to SEZ customs, and needs to get endorsement from SEZ customs.

It is necessary to show a transit request document to customs. Customs checks the written contents of the transit request document, and the contents of the container. An importer applies the report by using ASYUCD after the arrival of import cargo.



Source: GDCE, Handbook on Customs Clearance, 2015.

Figure 4.35 Basic Flow of Custom Procedure in Case of SEZ (more than 20km) Cargo

(4) For Dry Ports

A dry port operator needs to apply for a transit transportation permit to GDCE. The dry port operator needs to present transit transportation to customs, and needs to perform the in bond report from a border to a dry port. It is possible to perform the scanning procedure of cargo in a dry port. An importer performs the report by ASYUCD after dry port arrival of import cargo.

Phnom Penh, [REDACTED] 2015

Attention to

Your Excellency Deputy Director General of Customs and Excise of Cambodia

Subj.: Requesting to carry 04 containers by trucks from Bavet border checkpoint to [REDACTED]

Port in Phnom Penh with the details as follows:

- FINAL DESTINATION : PHNOM PENH, ETA BAVET ON : [REDACTED]

[REDACTED] [REDACTED]
[REDACTED] [REDACTED] Kg

TOTAL : [REDACTED]

As per above-mentioned, on behalf of Dry Port Operator, I have an honor to request for Your Excellency's permission to carry the transit cargoes by trucks to [REDACTED] for the purposes of inspection and taxation based on the effective law. Our Company shall take a legal responsibility for the case of illegal cargoes when found.

May Your Excellency please consider my request at your convenience.

Yours Sincerely;
No. 03505 GDCE
Customs and Excise Branch Office of Svay Rieng:

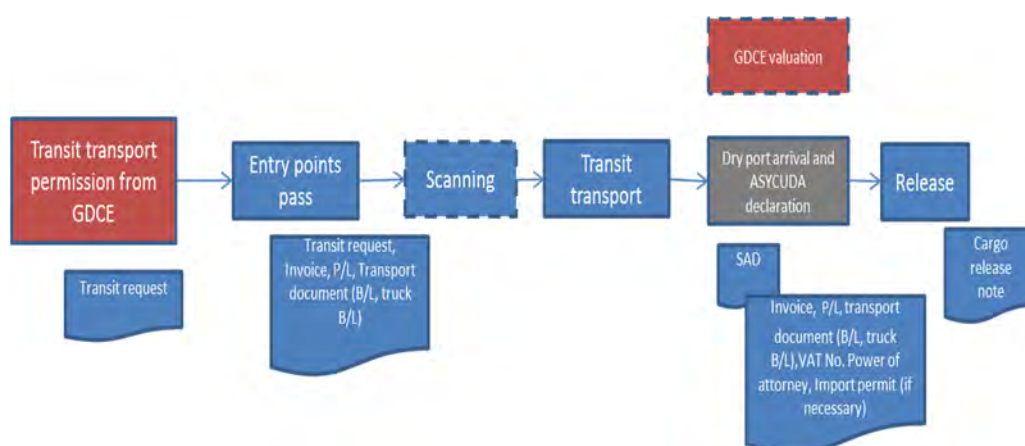
Customs and Excise Office of Bavet
Allowed 04 containers to be carried by trucks
to get inspection and pay tax at SOKAN TRANSPORT Dry Port
Valid for 15 days from the signature date

Phnom Penh, 11-12-2015
As duly instructed by Director General
General Department of Customs and Excise of Cambodia
Deputy Director General

Signed and stamped

Dr. PEN SAM ARTH

Figure 4.36 Transit Application for Dry Port Cargo



Source: GDCE, Handbook on Customs Clearance, 2015.

Figure 4.37 Basic Flow of Custom Procedure in case of Dry Port

(5) Best Trader

Thirteen companies, which carry out a great contribution to Cambodia companies, are recognized as the best traders. A best trader has the preferential treatment shown below.

- 1) Preferential examination
- 2) Quick examination
- 3) Exemption of Valuation procedure
- 4) Report recognition before freight arrival
- 5) 50% or less of scanning procedure

The License holder of Best Trader is shown the table below.

Table 4.57 List of the License holder of Best Traders

No.	Description
1	Sopheak Nika Investment Group Co., Ltd.
2	Minebea (Cambodia) Co., Ltd.
3	Cambodia Beverage Company Ltd.
4	British American Tobacco Cambodia Co., Ltd.
5	Goodhill Enterprise (Cambodia) Ltd.
6	UNT Wholesale Co., Ltd.
7	AEON (Cambodia) Co., Ltd.

No.	Description
8	Toyota (Cambodia) Co., Ltd.
9	Crown Beverage Cans (Cambodia) Limited
10	DKSH (Cambodia) Ltd.
11	Kampot Cement Co., Ltd.
12	Suntex Pte Ltd.
13	Unilever (Cambodia) Limited

Remark: as of 23 Febureary 2016.

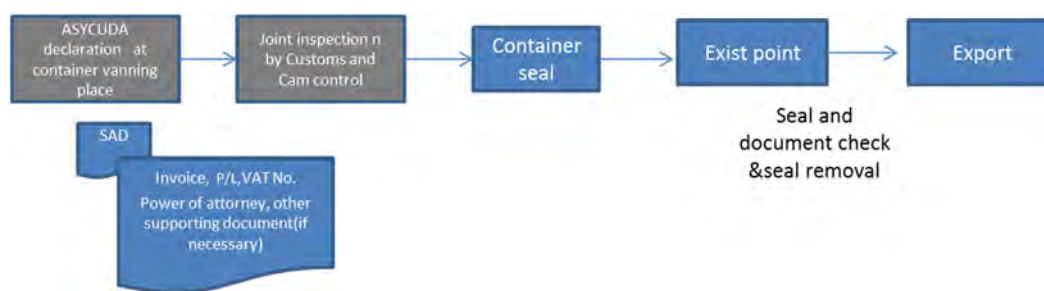
4.5.4 Export Clearance Flow

In export clearance, it is necessary to obtain the export admission of GDCE and to make a declaration to the customhouse of the place, which performs container stuffing at first. Next, loading the cargo into a container and a seal is given, and it is carried to the departure point.

It is possible to carry out export clearance institutionally at the border, a port, etc. However, cargo other than rice performs a little export clearance at a port. The export customs clearance is carried out in the factory of clothing and shoes in around Phnom Penh, dry port (Buyer's consolidation), and SEZ. In land transportation, only the check of border transgression is performed on a border point. In a port, it is only checking export clearance being completed.

(1) QIP Company

A QIP company performs an export declaration at the place (a factory, a dry port), which loads cargo. An exporter is checked by both customhouse and Cam control for joint after an ASYUCDA export declaration. And then, container-stuffing work is done. The sealed cargo is conveyed to a border point. The customhouse of a departure point from the country checks the sealed container. After release of a customhouse seal, a container is transshipped to foreign country vehicles after the shipment of cargo.

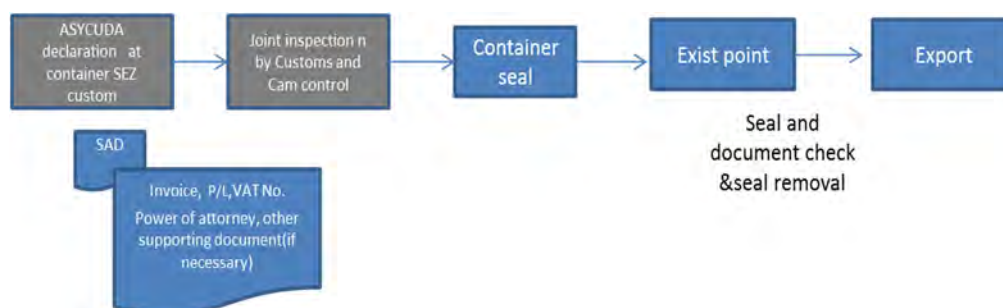


Source: GDCE, Handbook on Customs Clearance, 2015.

Figure 4.38 flow of QIP export clearance

(2) SEZ

In the export of SEZ, an exporter performs the report by ASYUCUDA to a SEZ customhouse. The sealing of a container is performed with export admission. A container is checked by both customs and a Cam control officer after container stuffing work is done, and a container is sealed. The sealed container is conveyed to a departure point from the country. When cargo leaves a country, first, the check of a container seal is done, next a custom seal is checked, and is then loaded to ship and transshipment on foreign country vehicles.



Source: GDCE, Handbook on Customs Clearance, 2015.

Figure 4.39 Basic flow of SEZ export clearance

The items shown in Table 4.57 need to acquire the related documents after loading.

Table 4.58 Necessary documents for Export

	Goods	Necessary document	Authority
Export license	Unprocessed rubber	Export license	Ministry of commerce
	Processed wood and non-timber forest products	Export license Permission letter	Ministry of commerce Ministry of agriculture forestry and fish Council of ministers
Certificate	Fresh fruits Vegetables,	Custom and excuse permit	Custom and excuse house

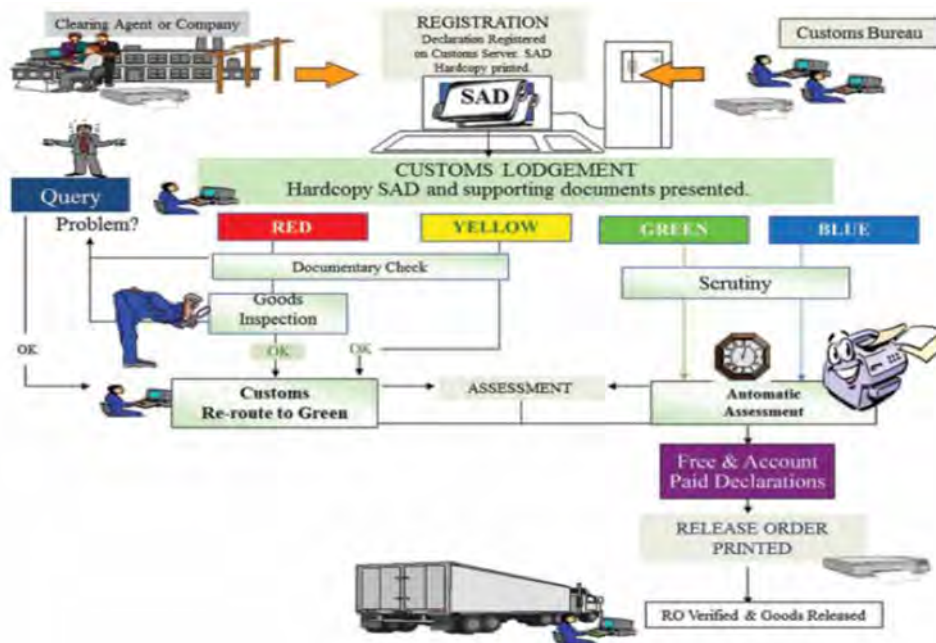
	Goods	Necessary document	Authority
	plants and agricultural materials	Sanitary and Phytosanitary certificate	Ministry of agriculture forestry and fish
	Garment	Certificate of origin	Ministry of commerce
	Drugs and medicines	Ministry of health certificate	Ministry of health
	Live animals	Aniela health certificate	Ministry of agriculture forestry and fish
Permission letters	Art and cultural podcasts	Permit letter	Ministry of culture and fine art
	Fish, crustaceans, mollusks and other aquatic products	Permit letter Certificate of origin Customs permit	Ministry of commerce Ministry of agriculture forestry and fish Custom and excuse house
	Jewelry, silverware and unprocessed precious stones	Permit letter	National bank of Cambodia

Source: JICA Study Team.

4.5.5 The Current Condition of ASYCUDA Operation

In the introduction of the Sihanoukville Port in 2008, the introduction of ASYCUDA was installed in Phnom Penh Port, the main border points, and dry ports. ASYCUDA could be used on the main 22 points in 2012. According to customs HP, 87% of the application amount and 87% of trade amount is processed by ASYUCDA.

In April 2015 and afterwards, although ten points are be planned to be installed, the budget is not secured.



Source: GDCE, Handbook on Customs Clearance, 2015.

Figure 4.40 Procedures of Customs Declaration in ASYCUDA

Hereinafter, the procedure flow of ASYCUDA is shown.

- Declaration.
- Receipt of a declaration.
- The document of SAD (Single Administration document) is submitted (it is still not paperless customs clearance).
- Custom inspection. The custom officer checks the contents of custom application. It is distinguished for the purpose of risk management by Red channel which needs cargo inspection, Yellow channel of documents examination, and Green (automatic permission)/ Blue channel (a posteriori survey being possible) in which an instant release is possible.
- Inspection is performed according to each channel.
- Scanning is performed without concerning with each channel.

In the JICA investigation in 2010, there is a room where the ASYCUDA computer is installed in each custom office. A customs broker does input work of custom clearance items. Now, the user became possible being connected on-line to the customs.

In the TRS (Time Release Survey) in 2013, the inspection time of ASYCUDA is about a maximum of three hours. In this field survey, it is two to three hours for the inspection. On the other hand, the longtime spending until an inspection start is a problem.

Table 4.59 TRS Summary

Average time	Cargo arrival to lodgment	Lodgment to cargo release	Release to physical removal	Total
Phonom Penh port	6d 09h 02m	0h 03h 25m	0d 02h 40m	6d 15h 08m
Sihanoukville port	2d 05h 55m	0d 02h 50m	0d 10h 36m	2d 19h 22m
Poipet	0d 18h 22m	0d 01h 57m	0d 00h 52m	0d 21h 11m
Bavet	0d 02h 27m	0d 00h 43m	0d 01h 19m	0d 04h 31m
Tec Srum dry port	2d 03h 21m	0d 01h 15m	0d 01h 17m	2d 05h 54m
Teng Lay dry port	0d 07h 09m	0d 00h 45m	0d 02h 14m	0d 10h 15m

Source: TRS

TRS investigation shows the necessity for the following measure as a time reduction measure.

- It abolishes printing out SAD and aims at paperless customs clearance.
- Improvement of DTI system
- Improvement of best trader system and AEO system
- Improvement of posteriori registration system
- Installation of a better risk management system
- Improvement in the quality of customs broker and export-and-import contractor

The Study Team checked the improvement of the customs clearance system in Vietnam. V-NACCS system was introduced in Vietnam in April 2014. The customs clearance system in land route transportation was changed by this introduction as follows:

- Examination of import duty was shortened for about two hours because of V-NACCS. (The customs clearance system failure which had occurred frequently was solved, and the report process was stabilized)

-
- Customs clearance data is transmitted to a border customhouse.
 - The prior check about the importer information on a border customs was attained, and quick border passage was realized. In addition, the cargo inspection in border customs clearance of Red channel became possible.

The following is the previous procedure:

- Import declaration is carried out. (In the import to Ho Chi Minh City, an import declaration is carried out to the customhouse in Ho Chi Minh City)
- From a border custom to bond transmission permission. Cargo inspection exemption in the border. Transmission permission in a border point is acquired.
- Original documents, such as in bond transmission permission, an invoice, and a packing list, are brought on the border. Border passage procedure is performed.
- Waiting for the import permit after in bond transmission in the place of arrival cargo.

Since it became possible from inland customs to transmit data to border customs, lead times including border procedure was reduced. As a result, it became possible for the documents concerning an import declaration to come to hand on the previous day.

However, although the data transmission to border customs has been realized, a paperless process has not been realized. Therefore, a customs broker is required to present a declaration and required documents to the border customs. It is considered for the forwarder charge of Vietnam to be high by the above-mentioned process.³

If a forwarder's procedure cuts down by information cooperation between inland customs and border customs, it is acceptable to expect it to lead to logistics cost reduction even in Cambodia.

³ Although the forwarding charge of Vietnam is about 250 dollars, 50 dollars is a V-naccs report charge. The cost that a forwarder carries documents to the border and performs custom procedure is considered to be 150 dollars, and forwarder's handling fee is the remaining 50 dollars.