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Sino-Myanmar Economic Relations Since 1988

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Sino-Myanmar Economic Relations Since 1988

Maung Aung Myoe

INTRODUCTION

One of the key features of the Sino-Myanmar relationship since 1988 has been the growing bilateral cooperation in the areas of trade, aid or development assistance, and investment. Since 18 September 1988, when the State Law and Order Restoration Council (SLORC)¹ came to power through a military coup, China has become one of the most important sources of trade and development assistance for Myanmar. Though overall investment volumes are small, a hallmark of Chinese investment in Myanmar is its heavy concentration in a few strategic sectors. The pattern of the Sino-Myanmar economic relationship has reflected what the "Modern World System" theorists call "centre-periphery" relations: the wealth flows from the periphery to the centre and the authority or influence flows from the centre to the periphery.

BILATERAL TRADE

Sino-Myanmar bilateral trade has been growing steadily since 1988. The official trade relations between Myanmar and China before 1988 were small in both volume and value. The prevalence of communist insurgency in the Northeast border area of Myanmar since 1968 had almost entirely discouraged official overland border trade between the two countries. Official trade existed only through normal overseas trade with the main entry port at Yangon. According to official trade statistics compiled by the Myanmar government, the total value of Sino-Myanmar bilateral trade between 1974 and 1988 was Kyat 2987.2 million (approximately US\$ 495 million), with China enjoying a trade surplus of Kyat 1035.4 million (approximately US\$ 172 million). This figure does not of course reflect the absolute reality of the bilateral trade relations between the two countries. In another set of data provided in the publication "Burma: Century of Statistics", for example, the total value of Sino-Myanmar trade between 1974 and 1988, was given as US\$ 381.72 million, with China enjoying a US\$ 186.1 million trade surplus.

¹ Later renamed as the State Peace and Development Council [SPDC] on 15 November 1997.

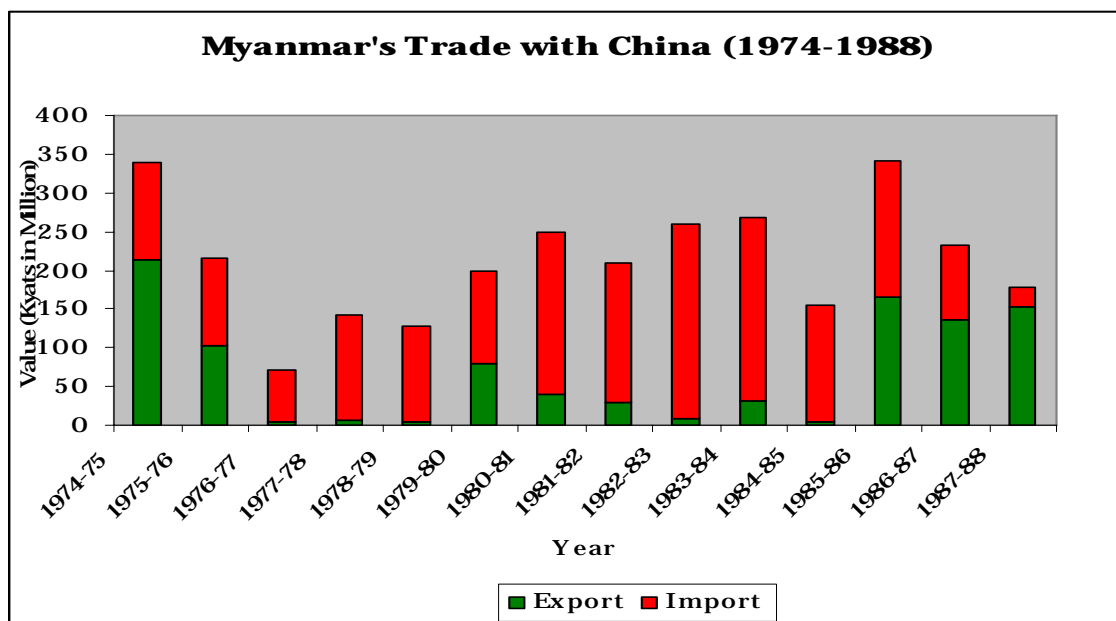
In reality, since the early 1970s Chinese consumer goods have, along with Thai goods, flooded the Myanmar market through illegal trade. Every household in Myanmar relies on cheap Chinese products, such as toiletries, cloth, medicines, electronics and so on. Muse-Lashio and Bhamo were the two major gateways for the Chinese products. The volume and impact of the illegal Chinese trade with Myanmar is difficult to assess. But it was Chinese and Thai goods that helped fill the gaps created by the badly performing centrally-planned socialist economy in Myanmar.

Table (1): Myanmar's Trade with China (1974-1988)

(Million)

Year Apr-Mar	Exports Kyat	Imports Kyat	Value Kyat	Balance Kyat	Year	Exports US\$	Imports US\$	Value US\$	Balance US\$
1974-75	212.8	127.5	340.3	+85.3	1974	3.60	19.16	22.76	-15.56
1975-76	102.9	111.9	214.8	-9.0	1975	16.35	20.51	36.86	-4.16
1976-77	3.2	68.1	71.3	-64.9	1976	0.06	9.32	9.38	-9.26
1977-78	6.8	135.3	142.1	-128.5	1977	0.18	18.68	18.86	-18.50
1978-79	3.4	125.0	128.4	-121.6	1978	0.98	18.14	19.12	-17.16
1979-80	78.6	120.6	199.2	-42.0	1979	1.79	17.60	19.39	-15.81
1980-81	40.2	209.1	249.3	-168.9	1980	4.89	29.30	34.19	-24.41
1981-82	29.2	180.5	209.7	-151.3	1981	5.47	25.99	31.46	-20.52
1982-83	8.4	250.5	258.9	-242.1	1982	13.81	34.51	48.32	-20.70
1983-84	30.5	237.1	267.6	-206.6	1983	14.38	34.82	49.20	-20.44
1984-85	4.9	149.7	154.6	-144.8	1984	13.23	33.52	46.75	-20.29
1985-86	165.3	176.7	342.0	-11.4	1985	3.71	8.92	12.63	-5.21
1986-87	137.0	94.9	231.9	+42.1	1986	3.52	9.61	13.13	-6.09
1987-88	152.7	24.4	177.1	+128.3	1987	2.68	8.48	11.16	-5.80
					1988	1.81	7.70	9.51	-5.89

Sources: *Statistical Yearbook of Myanmar*; *Century of Statistics*



Since late 1988, the Myanmar government has liberalized its trade policy and lifted the restrictions on trading by the private sector. Thus, the volume of trade has greatly increased. In addition, with the introduction of the market economy which encouraged private sector participation in the national economy, Chinese-made machinery and parts have made an inroad into the Myanmar markets. Since then, China has become a major supplier of consumer and capital goods for Myanmar. According to Chinese statistics, the total value of bilateral trade in 1989 was just US\$ 313.72 million, and China enjoyed a trade surplus of US\$ 61.60 million. By 1995, trade had reached a total value of US\$ 767.40 million and China had a surplus of US\$ 468.30 million. In 2005, China reported that the total value of bilateral trade was US\$ 1209.25 million with China's surplus being US\$ 660.45 million. Between 1989 and 2005, China enjoyed a total accumulated trade surplus with Myanmar of US\$ 6438.86 million. Some observers have speculated that much of the trade surplus could have flowed back into Myanmar in the form of investment in property and other assets or through the illegal drug trade.

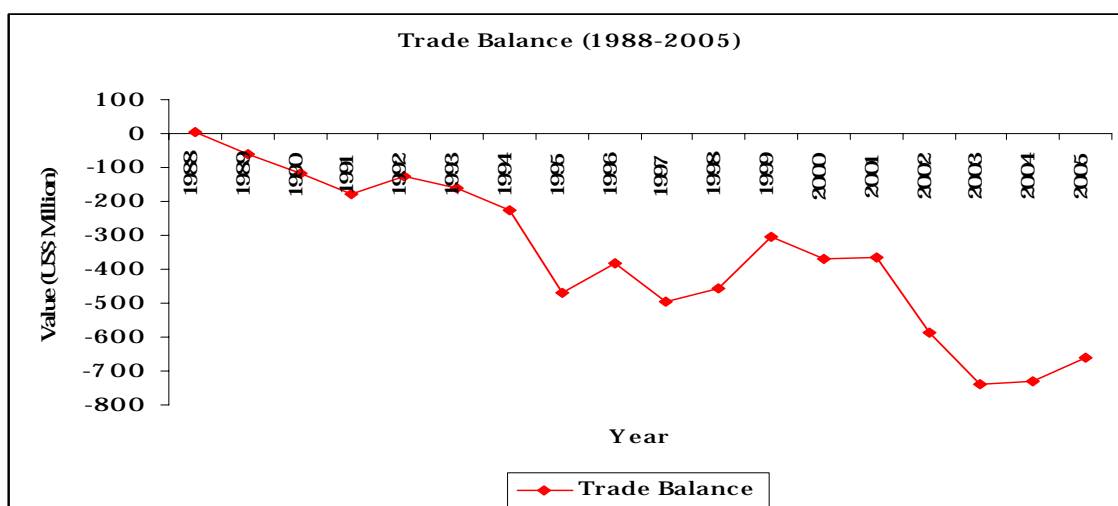
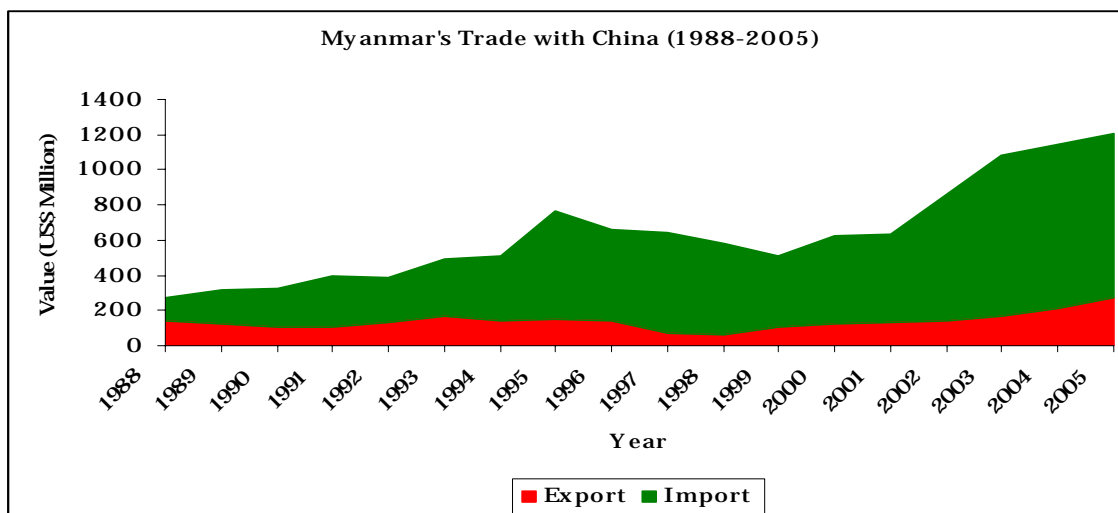
Table (2): Myanmar's Trade with China (1988-2005)

(US\$ million)

Year	Export	Import	Value	Balance
1988	137.10	133.61	270.71	+ 3.49
1989	126.06	187.66	313.72	-61.60
1990	104.08	223.54	327.62	-119.46
1991	105.92	286.17	392.09	-180.25
1992	131.27	259.04	390.31	-127.77
1993	164.83	324.70	489.53	-159.87
1994	143.34	369.11	512.45	-225.77
1995	149.55	617.85	767.40	-468.30
1996	137.41	521.12	658.53	-383.71
1997	73.41	570.09	643.53	-496.68
1998	62.04	518.86	580.90	-456.82
1999	101.68	406.53	508.21	-304.85
2000	124.82	496.44	621.26	-371.62
2001	134.19	497.35	631.54	-363.16
2002	136.89	724.75	861.64	-587.86
2003	169.52	910.22	1079.74	-740.40
2004	206.94	938.44	1145.38	-731.50
2005	274.40	934.85	1209.25	-660.45

Source: *China Statistical Yearbook* (Various Years)

While Myanmar's exports to China increased in this period just 2.2 times, from US\$ 126.06 million in 1989 to US\$ 274.40 million in 2005, its imports from China grew nearly 5 times, from US\$ 187.66 million in 1989 to US\$ 934.85 million in 2005. The bilateral trade figures show a chronic trade deficit on the part of Myanmar.



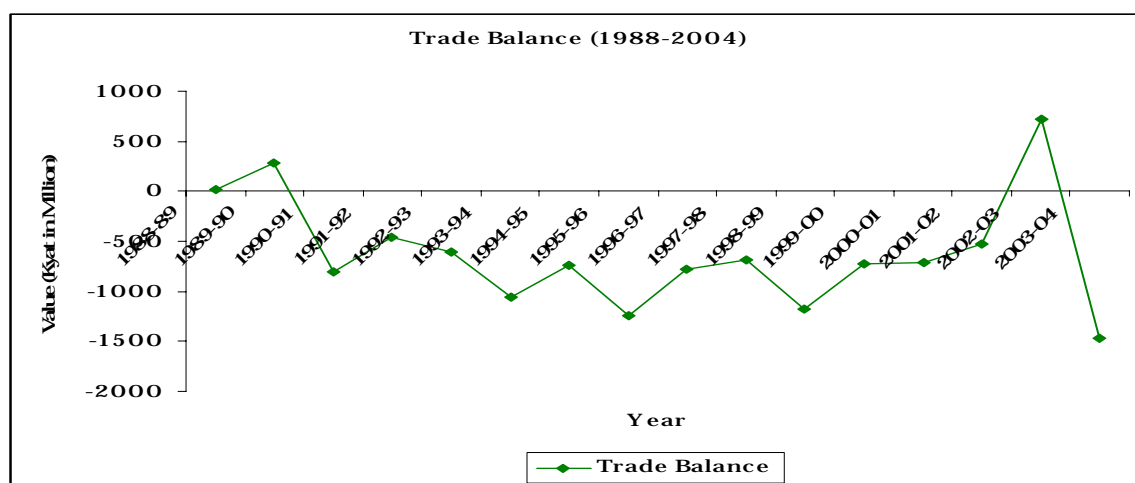
Chinese data can by no means be considered fully accurate in terms of Sino-Myanmar trade, but the figures are generally more reliable than those of Myanmar. With regard to Sino-Myanmar trade, Myanmar data show a different picture. It is generally agreed among Myanmar scholars that the Myanmar trade statistics are notoriously unreliable and that the figures are completely distorted. Generally, Myanmar trade data are undervalued. This is not only due to different methods of calculation, but also more importantly to a widespread corruption in trade and customs offices as well as among border security authorities.² Myanmar data show smaller deficits and even surpluses for Myanmar.

² At a press conference held on 24 October 2004, General Thura Shwe Mann mentioned widespread corruption in Muse trading zone. The amount involved was revealed as over 3 billion kyat within three months. Actions were taken against 186 service personnel in connection with the corruption. [NLM, Special Pamphlet 31 October 2004] As a further example of the problem, over 500 officers from Customs Departments were dismissed in 2005.

Table (3) Myanmar-China Trade (1998-2005)

(Million Kyat)

Year	Exports	Imports	Value	Balance
1988-89	942.56	929.18	1771.74	+13.38
1989-90	800.85	517.97	1318.82	+282.88
1990-91	396.29	1205.39	1601.68	-809.10
1991-92	438.34	894.97	1333.31	-456.63
1992-93	338.60	945.96	1284.56	-607.36
1993-94	209.82	1261.43	1471.25	-1051.61
1994-95	277.48	1019.38	1296.86	-741.90
1995-96	195.14	1433.82	1628.96	-1238.68
1996-97	336.14	1116.29	1452.43	-780.15
1997-98	836.98	1524.42	2061.40	-687.44
1998-99	570.62	1744.34	2314.96	-1173.72
1999-00	846.99	1568.17	2415.16	-721.18
2000-01	1143.00	1855.20	2998.20	-712.2
2001-02	1545.17	2068.14	3613.31	-522.97
2002-03	3070.48	2349.99	5420.47	+720.49
2003-04	1343.24	2816.74	4159.98	-1473.50
2004-05	1643.99	2818.96	4462.95	-1174.97

Source: *Statistical Yearbook of Myanmar*

What is more important in bilateral trade is the significance of the border trade. During his trip to China in 1984, President San Yu made a stop-over in Yunnan and invited Yunnan authorities to visit Myanmar. President San Yu believed that Kunming was much closer to Yangon than was Beijing and it was important to nurture friendly relations between Myanmar and the Yunnan authorities. As a result, a delegation led by the Yunnan Governor paid a visit to Yangon in May 1986. During the visit, the Yunnan Governor discussed the issue of border trade with the Myanmar deputy minister for trade. It was followed up by the Chinese authorities and, in August 1986, the interim *charge d'affaires* from the Chinese Embassy in Yangon called the deputy minister for trade to hold further discussions. On the Myanmar part, the issue was submitted for further discussion at the cabinet meeting held on 5 January 1987. In March 1987, the Chinese government invited the Myanmar minister for trade to Beijing for negotiations over border trade. A delegation led by the Myanmar minister for trade left for Beijing on 4 April and returned 12 days later. During the trip, the delegation reached a 15-point agreement on border trade with the Chinese authorities. Meanwhile, the Myanmar government conducted a preliminary survey. In the survey, the Myanmar government found that the value of annual exports from Myanmar across the overland border averaged about Kyat 341.42 million while imports were valued at Kyat 799.92 million, in addition to the illegal exports of about Kyat 458 million. In total, therefore, according the survey, Myanmar's annual exports were valued at Kyat 799.42 million. The survey was reported at the Burma Socialist Programme Party's 84th CEC (Central Executive Committee) meeting held on 11 July 1988. It was then that the CEC subsequently authorized cross-border trade.

The border trading agreement was in line with the Myanmar-China Trade Agreement signed in Beijing on 19 November 1970. To implement the border trading agreement, a Chinese delegation led by the then Deputy Governor of Yunnan Province came to Yangon in July 1988. After resumption of negotiations, the Agreement for Sale and Purchase of Goods between Myanma Export Import Corporation (MEIC) and Yunnan Provincial Import Export Corporation (YPIEC) was finally signed on 5 August 1988. In addition, the Banking Arrangement between Bank of China (Kunming Branch) and the Myanma Foreign Trade Bank (MFTB) was also concluded on the same date. According to the plan, border trading offices were to be opened in Lashio and Muse in August 1988 and were to begin trading on 1 October 1988. But due to the political upheavals in Myanmar the implementation of the border trade agreement had to be temporarily suspended. Finally, on 2 December 1988, the MEIC opened border trade offices in Muse, Kyukok, Namkham, Lashio, and Kunlone.

At the initial stage, 25% of the export earnings from cooperative societies and 40% of the export earnings from private firms had to be dedicated to the purchases of import items prescribed by the MEIC. This percentage was changed to 20% and 30% respectively as of 15 June 1989. Between December 1988 and July 1989, the MEIC imported K 214.409 million worth of commodities by this arrangement. In August 1989, the Myanmar government stopped the border trading of private firms and cooperative societies and only the MEIC and YPIEC continued border trading on a government-to-government basis. Thus, in the 1989-1990 fiscal year, the MEIC exported K 17.020 million and imported K 13.128 million worth of goods. However, private firms and cooperative societies were subsequently allowed to trade all goods except 16 items under state monopoly, by following the normal procedures at customs department.³ A new system was introduced on 1 October 1991 to supplement the existing one. Thus, border trading was carried out by both a normal-procedure trade method and border trade method. New border trading posts were opened at Muse-105 Mile, Laizar, Lweje, and Chinshwehaw. According to Myanmar statistics, border trade with China constitutes over 60% of Myanmar's total border trade and approximately 50% of overall Sino-Myanmar trade.

Table (4) Myanmar's Border Trade with China (1991-2005)

(US\$ million)

Year	Exports	Imports	Value	Balance	TBT	Percentage
1991-92	52.52	54.47	106.99	-1.95	139.27	76.82
1992-93	58.50	131.24	189.74	-72.74	257.93	73.56
1993-94	27.04	90.23	117.27	-63.19	248.04	47.28
1994-95	29.96	65.08	95.04	-35.12	231.87	40.99
1995-96	22.03	229.31	251.34	-207.28	335.95	74.81
1996-97	29.82	158.68	188.50	-128.86	357.13	52.78
1997-98	86.44	59.37	145.81	-27.07	257.06	56.72
1998-99	94.88	99.41	194.29	-4.53	300.27	64.71
1999-00	96.39	94.90	191.29	+1.49	344.39	55.54
2000-01	124.38	100.11	224.48	+24.28	411.74	54.52
2001-02	133.12	115.85	248.96	+17.27	505.83	49.22
2002-03	158.17	132.57	290.74	+25.60	460.57	63.13
2003-04	177.26	163.84	341.10	+83.42	531.80	64.14
2004-05	246.46	176.37	422.83	+70.09	687.88	61.47

Source: Ministry of Commerce (Myanmar)

BT = Total Border Trade

³ *Taingkyo-Pyipyu*, Vol. 1, pp. 229-231; *Taingkyo-Pyipyu*, Vol. 2, pp. 158-159

Table (5) Sino-Myanmar Bilateral Trade (1996-2005)

(US\$ Million)

Year	Export	Import	Volume	Balance	Border	Percentage
1996-97	56.87	188.87	245.74	-132.00	188.50	76.71
1997-98	134.51	244.98	379.49	-110.47	145.81	38.42
1998-99	91.37	279.31	370.68	-187.94	194.29	52.41
1999-00	135.68	251.20	386.88	-115.52	191.29	49.44
2000-01	175.44	285.12	460.56	-158.33	224.48	48.74
2001-02	229.40	307.91	537.31	-78.51	248.96	46.33
2002-03	472.23	362.89	835.12	+109.34	290.74	34.81
2003-04	224.87	471.23	696.10	-246.36	341.10	49.00
2004-05	290.90	489.65	780.55	-198.75	422.83	54.17

Source: Directorate of Trade (Myanmar)

Chinese statistics shows a slightly different picture. We can assume that Yunnan's trade with Myanmar is basically just border trade. Although the value of trade provided by Yunnan is much higher than the Myanmar figures, the percentage of Yunnan's trade with Myanmar is about the same, that is about 50% of overall Sino-Myanmar trade. The Myanmar-Yunnan border trade accounts for about 55% of the total trade value of the overall Sino-Myanmar trade; over 80% of Myanmar exports to China and about 40% of Myanmar imports from China are through the border trade. Myanmar is the largest trading partner of Yunnan, followed by Hong Kong, Vietnam and Japan in term of export destination and Hong Kong, Germany and Canada in term of origin of imports.

Table (6): Yunnan's Share of China's Trade with Myanmar (1999-2004)

(US\$ million)

Year	Exports			Imports			Value		
	Yunnan	China	%	Yunnan	China	%	Yunnan	China	%
1999	245.99	406.53	60.51	53.53	101.68	52.65	299.52	508.21	58.94
2000	293.01	496.44	59.02	69.93	124.82	56.02	362.94	621.26	58.42
2001	251.51	497.35	50.57	97.22	134.19	70.21	348.73	631.54	55.22
2002	296.08	724.75	40.85	110.70	136.89	80.87	406.78	861.64	47.21
2003	356.83	910.22	39.20	135.96	169.52	80.20	492.79	1079.74	45.64
2004	386.61	938.44	41.20	164.71	206.94	79.59	551.32	1145.38	48.13

Sources: *China Statistical Yearbook*; *Yunnan Yearbook*

Table (7): Myanmar's Share in Yunnan Trade (1999-2004)

(US\$ million)

Year	Exports			Imports			Value		
	Yunnan	Myan	%	Yunnan	Myan	%	Yunnan	Myan	%
1999	1034.43	245.99	23.78	625.24	53.53	8.56	1659.67	299.52	18.05
2000	1175.16	293.01	24.93	637.67	69.93	10.97	1812.83	362.94	20.02
2001	1244.12	251.51	20.22	744.94	97.22	13.05	1989.06	348.73	17.53
2002	1429.65	296.08	20.71	796.70	110.70	13.89	2226.35	406.78	18.27
2003	1676.58	356.83	21.28	991.09	135.96	13.72	2667.67	492.79	18.47
2004	2238.82	386.61	17.27	1508.95	164.71	10.92	3747.77	551.32	14.71

Sources: *China Statistical Yearbook*; *Yunnan Yearbook***Table (8): Yunnan's Trade with Mainland Southeast Asia (1999-2004)**

(US\$ million)

Year	Export				Import			
	Myanmar	Vietnam	Thailand	Laos	Myanmar	Vietnam	Thailand	Laos
1999	245.99	62.52	18.56	10.22	53.53	9.69	5.93	5.39
2000	293.01	92.64	23.56	13.36	69.93	7.66	8.02	5.90
2001	251.51	142.32	36.39	14.08	97.22	18.67	6.88	4.25
2002	296.08	133.71	37.66	10.53	110.70	28.95	5.94	6.02
2003	356.83	192.99	77.11	14.58	135.96	28.15	10.18	6.53
2004	386.61	286.82	110.32	26.63	164.71	51.76	19.05	7.13

Source: *Yunnan Yearbook*

While Myanmar now exports raw materials, agricultural products, livestock, fishery products, and forest products to China, China floods the Myanmar market with its cheap finished products ranging from foodstuffs to electronics. The trade imbalance will continue to grow. According to customs data, the top Myanmar export items to China are beans and pulses, timber, textiles and garments, gems and jewelry, prawns, fish, and rubber. In 2000 and 2001, the export of timber stood at the top of the list; but beans and pulses have taken poll position since 2004. Top import items from China since 2000 have been machines and machinery equipment, garment accessories, construction materials, electronic and electrical products, and consumer goods. But, it is important to remember that serious illegal logging and export of timber to China has been going on at the Sino-Myanmar border; this trade could not be properly quantified. Nevertheless, Chinese customs data revealed that timber accounted for

69% in 2004 and 71% in 2005 out of all of China's imports from Myanmar. Nearly 90% of this timber is imported via Yunnan province. Thus, timber remains the top of China's import list, contrary to the Myanmar data. In terms of imports, there has been a shift away from heavy dependence on consumer goods in 1990s to capital and intermediate goods in the years since 2000.⁴ However, since capital and intermediate goods are mostly for import-substitution industries, it could not have had a major immediate impact on Myanmar's export value.

Sino-Myanmar bilateral trade is about 10% of Myanmar's total trade according to Myanmar statistics. Myanmar's imports from China account for nearly 25% of its total imports while exports are just 10% of Myanmar's total exports. In the 2005-06 fiscal year, Myanmar's imports from China were valued at US\$ 468 million, out of a total of US\$ 1.95 billion; Singapore stands at the top with US\$ 558 million worth of good being imported from there to Myanmar. However, the share of Myanmar's exports to China in its overall exports has declined in recent years due to more export of gas to Thailand. This trend could be reversed once Myanmar begins to export gas to China in the near future. At present, China stands as the second largest trading partner of Myanmar after Thailand.

The Share of Sino-Myanmar Trade in Myanmar's Overall Trade (2000-2005)

(US\$ million)

Year	Sino-Myanmar Trade				Myanmar's Overall Trade			
	Exports	Imports	Value	Balance	Exports	Imports	Value	Balance
2000-01	111.79	270.62	382.41	-158.83	1595.88	2291.24	3887.12	-695.36
2001-02	229.40	307.90	537.31	-78.51	2439.33	2631.95	5071.28	-192.62
2002-03	472.23	362.89	835.12	+109.34	3062.87	2299.64	5362.51	+763.23
2003-04	224.87	471.23	696.10	-246.36	2356.82	2239.97	4596.79	+116.85
2004-05	290.90	489.65	780.55	-198.75	2927.83	1973.28	4901.11	+954.55

Source: Myanmar Directorate of Trade

⁴ For example, in the 1990s Chinese medicines, Chinese beers, and Chinese cigarettes were very common. But in 2000s, Indian medicines are more common.

The Myanmar government also allowed Chinese transit trade with Thailand via Myanmar: Xishuangbanna to Maesai via Tachileik. In the early 2000s, the value of this trade was about US\$ 75 million a year. The Myanmar government allowed crossing of 20 convoys per day; the Chinese authorities have tried to boost the trade three to four times the present value.⁵

CHINESE INVESTMENT

Chinese investment in Myanmar is driven by both geopolitical and economic factors. Official Chinese FDI (Foreign Direct Investment) in Myanmar is rather small; but there are a large number of hidden Chinese investments and business ventures, most of which are in the names of their relatives who hold Myanmar citizenship. Many businesses, both large and small, in almost all major cities in Myanmar have some form of Chinese investment. Nevertheless, in term of official FDI figure, as of 30 November 2005, China had only invested US\$ 194.221 million in 26 projects in Myanmar. They are mostly in certain strategic sectors like energy and mining, and a few in manufacturing. China ranks only 13th among all foreign investors. At present, there are 12 ongoing projects by Chinese firms.

Two Chinese firms have invested in nickel mines: Tagaung in Thabeikkyin and Mwetaung in Tetain and Kalay. Contracts for the study of feasibility and survey were signed with the China Non-Ferrous Metal Mining and Construction (Group) Co Ltd and Kingbao Mining Ltd on 18 July 2004 (during General Khin Nyunt's visit to China) and 12 August 2005 respectively. China Non-ferrous Metal Mining & Construction (CNMC) has received approval from the Myanmar government to invest US\$500 million in nickel mining operations. The targeted reserves are located 120kms from the south-eastern border town of Liangjiang, in Yunnan province, and a few kilometers from Myanmar's Ayeyarwady River, which will provide water for the open-pit mining project. CNMC has received permission to explore 40 sq km in the region. Preliminary studies have revealed an average nickel content of about 2 percent, with likely total reserves of about 800,000 tonnes. It plans to invest US\$500 million to build a 30,000 tonne-a-year nickel production plant at the site. China Hainan Jiayi Machine Import & Export Co Ltd (CHJMIE) has invested in joint exploration of copper and other minerals and has been conducting feasibility surveys in Hsinbo-Nanlihsan Block in Bhamo Township, Kachin State, Monywa Block-1 in Kani Township, Sagaing Division, and Monywa Block-2 in Salingyi Township: the contract was signed on 25 July 2004.

⁵ *Myanmar News Gazette Journal*, Vol.1, No. 9 (13 July 2004) p. 1,

Chinese Companies Investing in the Mining Sector of Myanmar

No.	Name of Investor	Location	Field	Date
1	CNMC	Tagaungtaung	Nickel	18-07-04
2	Kingbao Mining Ltd	Mwaytaung	Nickel	12-08-05
3	CHJMIE	Hsinbo/Monywa	Copper	25-07-04

Another investment area is the energy sector, especially oil and gas. Myanmar has proven recoverable reserves of 510 billion cubic meters out of a total 2.54 trillion cubic meters estimated reserves of offshore and onshore gas. It is also estimated to have 3.2 billion barrels of recoverable crude oil reserve, according to official statistics.⁶ Between 1988 and 2005, the Myanmar ministry of energy developed 71 onshore and offshore blocks, and entered 67 production sharing contracts with 59 companies.⁷ A few more off-shore blocks were created in 2006. As of February 2007, three China-based companies have signed contracts for oil and gas exploration in 14 blocks. The China National Offshore Oil Corporation Myanmar Ltd (CNOOC-Myanmar Ltd) signed three contracts on production sharing with the Myanmar state-owned Myanmar Oil and Gas Enterprise (MOGE) on 25 January 2005. The CNOOC Myanmar formed a consortium with China Huanqiu Contracting and Engineering Corporation and Singapore-based Golden Aaron Pte Ltd, chaired by U Tun Myint Naing. The exploration blocks under contracts are PSC-C1 (17,000 square metres), PSC-C2 (26,000 square meter), and M-2 (9,600 square metres). This is the third exploration period. The first one was in October 2004 for block PSC-M, an onshore block near Kyaukphyu.⁸ The second period was in December 2004 for block A-4 in the Rakhine State and block M-10 in the Gulf of Mataben. On 15 January 2007, the CNPC signed production sharing contracts with the MOGE covering crude oil and natural gas exploration projects in three deep-sea blocks off the Rakhine coast in Myanmar. The exploration will be carried out in blocks AD-1, AD-6 and AD-8, off the Rakhine coast, which cover a total area of 10,000 square-kilometres.⁹ The China Oilfield Services Limited (COSL), a subsidiary of the CNOOC, is also involved in gas exploration by winning subcontracts for offshore drilling.¹⁰ Moreover, China's state-owned

⁶ The official government figures show that in the fiscal year 2005-06 [April-March], the country produced 7.962 million barrels of crude oil and 11.45 billion cubic meters of gas. Gas export during the same fiscal year hit 9.138 billion cubic meters, earning over US\$ 1 billion. Available statistics reveal that investment in Myanmar's oil and gas sector had reached US\$ 2.635 billion dollars by the end of the fiscal year 2005-06.

⁷ "New Offshore Blocks for Oil and Gas Exploration", *The Voice Weekly*, Vol. 1, No. 44, 1 August 2005, p. 1.

⁸ Test Well Yanbye 19-1-1 was drilled on 27 December 2005. (*NLM*, 28 December 2005).

⁹ *Xinhua* (15 January 2007); *NLM* (17 January 2007).

¹⁰ *Myanmar Times* (English) Vol. 15, No. 295 (5 December 2005), p. 9. See Appendix to the article for blocks allocated.

China National Petroleum Corporation (CNPC), including its subsidiary Chinnery Assets Limited, has also won contracts to upgrade the four old oilfields in central Myanmar: RSF-2 (Tuyuantaung), RSF-3 (Gwecho), IOR-3 (Tetma), and IOR-4 (Mahutaung). SINOPEC and its subsidiary Dian-Qian Gui Petroleum Exploration Bureau also work on the block PSC-D. These companies are now at various stages of exploration and, under the Production Sharing Contract (PSC) terms, have made the financial commitment of US\$ 162.79 million during the study and exploration period. Compared to US\$ 2610.02 million in the oil and gas sector in overall investment in Myanmar at the end of 2005, the amount of Chinese investment is rather small. Like the Chinese companies, India's ONGC and GAIL, Korea's DAEWOO, Thailand's PTTE, and Malaysia's PETRONAS are operating in Myanmar.¹¹

Chinese Companies Investing in the Energy Sector of Myanmar

No.	Company	Blocks	Total
1	CNOOC	A-4, M-2, M-10, PSC-M, PSC-C1, PSC-C2	6
2	SINOPEC	PSC-D	1
3	CNPC	IOR-3, RSF-2, RSF-3, IOR-4, AD-1, AD-6, AD-8	7

China plans to build an oil pipeline from Myanmar to China. The proposal was made by a team of Chinese professors from Yunnan's Social Science Academy, and was reported in *Outlook (Liaowang)*, a subsidiary magazine of Xinhua. The pipeline would be constructed from Sittwe to Kunming. Sittwe port could also be used as a deep water seaport since it can handle up to 200,000 tonnage cargo.¹² In connection with the gas pipeline, Petro China signed a MoU (Memorandum of Understanding) with the MOGE to buy 6.5 trillion cubic feet of natural gas from Block A-1 over a period of 30 years starting from 2009.¹³ China is also interested in the Kyaukphyu-Kunming corridor, which is both geopolitically and economically motivated. The CNPC and the MOGE have launched a feasibility study on building a gas pipeline and an oil pipeline from Myanmar to Kunming, the capital of Yunnan province.¹⁴ The gas pipeline will initially supply 600 million cubic feet of gas a day and this will eventually increase to 1 billion cubic feet a day. The proposed oil pipeline will have an annual capacity of 20 million metric tons. The oil for the pipeline will be mainly imported

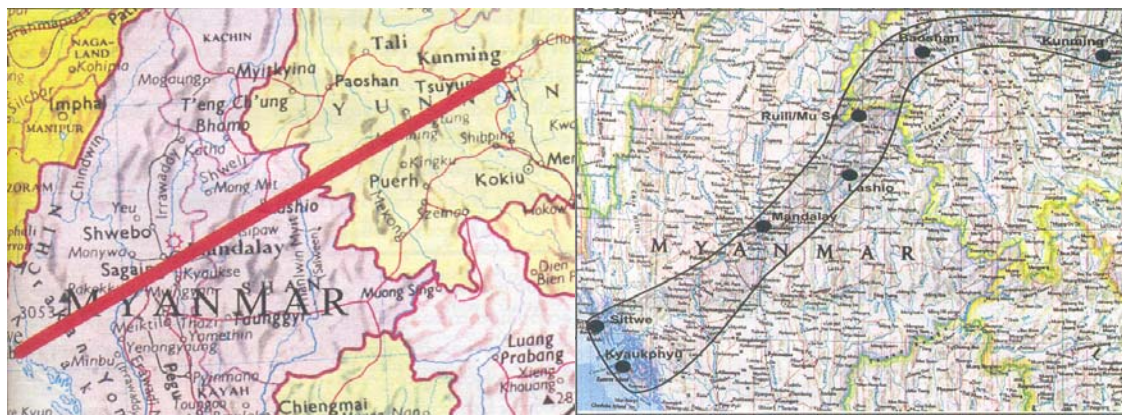
¹¹ Asian Oil Companies enter Myanmar Energy Sector, *Living Color*, No. 117, April 2005, pp. 24-26.

¹² *7 Day News*, Vol. 3, No. 19, 29 July – 4 August 2004, pp. 1-14.

¹³ *The Myanmar Times*, Vol. 15, No. 300 (16 January 2006), pp. 1, 4; *Weekly Eleven News Journal*, Vol. 1, No. 15 (18 January 2006), p. 3.

¹⁴ *Shanghai Daily* (2 February 2007).

from the Middle East and Africa. The gas pipeline may speed up efforts by China to tap gas reserves in Myanmar to meet strong domestic demand, while the oil pipeline will boost security for China's oil imports from the Middle East and Africa by reducing the country's sole reliance on the Malacca Strait.¹⁵ The CNPC also plan to build a refinery near Kunming to process crude oil piped from Myanmar.



Other Chinese companies investing in Myanmar are Beijing Fisheries Corporation in the fishery sector, China National Complete Plant Import & Export (Yunnan) Corporation in the production of concrete rail sleepers at Myitnge, China National Construction Machinery Corporation, Yunnan Machinery and Equipment Import and Export Corporation, and Myanmar Sindo Wooden Products Co Ltd in the manufacturing of furniture, and Yunnan De Hong Prefectural Grain and Oil Group Corporation in agriculture-related foodstuff production. More Chinese companies are expected to invest in Myanmar in the wake of PM General Soe Win's visit to China in July 2005. Chinese companies from Shanghai subsequently came to Myanmar for a feasibility survey in Thilawa Special Industrial Development Zone.¹⁶

In recent years, some Chinese companies began to invest in power generation plants in Myanmar. On 10 December 2005, the Myanmar Department of Hydropower and Thailand's Electricity Generating Authority of Thailand (EGAT) signed a MoU to build the US\$ 1 billion Hutgyi dam and power plant on the Thanlwin River.¹⁷ On 26 June 2006, China's state-owned Sinohydro Corporation signed an agreement with the EGAT to build a power plant in the Hutgyi project. Hutgyi hydroelectric station, which will have an installed capacity of 600

¹⁵ Daw Jones Energy Service (29 January 2007).

¹⁶ *Living Color* (No. 124, November 2004), p. 23.

¹⁷ *NLM* (11 December 2005)

MW, is the first of the 5-dam cascade on the Thanlwin River, with a total installed capacity of 12,700 MW. Sinohydro will not only act as the major investor, but also the major contractor for the design, procurement and implementation works of the Hutgyi project.¹⁸

On 5 April 2006, Myanmar signed a hydroelectric project with Thailand to build a dam on the Thanlwin River, which is worth US\$ 6 billion and the plant will be the biggest in Myanmar with a 7,000-megawatt capacity.¹⁹ China showed a strong interest in the project. On 30 December 2006, the Myanmar Ministry of Electric Power No (1) and China's Yunnan United Power Development signed a MoU to build a hydroelectric power plant on the Shweli River on a Build-Operate-Transfer (BOT) basis. It is China's first hydropower BOT project in its neighbouring country. It is a joint venture in the name of the "Shweli (Ruili) River-I Power Station Co Ltd". The Yunnan United Power Development, which comprises the Yunnan Huaneng Lancang River Hydropower Co., Yunnan Power Grid Co., and Yunnan Machinery Equipment Export-Import Co Ltd., is dedicated to developing hydropower resources in Myanmar and the Shweli River-I Power Station is its first hydropower project outside mainland China. The Yunnan United Power Development, which owns 80 percent of the joint-venture, will be fully in charge of the project construction, operation and management. The company will run the power station for 40 years after its completion, and then transfer it to the Myanmar government. The plant will have an installed capacity of 600 MW; but the actual power supply will be 174.8 MW, and the annual power output will be 4,022 GWh.²⁰

DEVELOPMENT ASSISTANCE

Like any other country, China uses development assistance as an instrument to win friends and influence people in the recipient countries. Chinese development assistance usually comes in the forms of grants, interest free loans, or concessional loans and debt relief. Since 1988, international donors have stopped all developmental assistance to Myanmar. The West led by the United States has also imposed economic sanctions on Myanmar. Thus, China has subsequently become a major source of development assistance. Between 1966 and 2000, Myanmar received loans equivalent to US\$ 138.7 million from China for the implementation

¹⁸ www.chinaeconomy.ce.cn/no2/newsmore/200606/27 (27 June 2006)

¹⁹ *NLM* (6 April 2006)

²⁰ *NLM* (1 January 2007); *Xinhua Net-Yunnan Channel* (30 December 2006)

of projects that comprised Yangon-Thanyin Rail-cum-Road Bridge, Agricultural Machinery Production, Installation of Satellite Communication Earth Station and Satellite TV Ground Station, Mawlamyaing Steam Power Station, Renovation and Procurement of Turbine Generator for Sittaung Paper Mill, Construction of Hmawbi Rubber Ball Factory, Tyre Factory, Belin Sugar Mill, Shwedaung Textile Mill, Meikhtila Textile Mill, and Thuwana National Indoor Stadium.²¹ During the state visit of President Li Xianian in March 1985, the Chinese government signed a grant agreement to build a national cultural theatre in Yangon for Sino-Myanmar friendship; it was opened on 31 January 1990.²² According to the available data, Myanmar received Chinese development assistance loans of US\$ 64 million in 1979, US\$ 15 million in 1984 and Yuan 80 million in 1987. According to the Myanmar government, between 1989 and 2006, the PRC government provided over Yuan 2.15 billion and US\$ 400 million in various forms of loans. There were also debt relief of Yuan 10 million and Yuan 200 million grant aid. Moreover, the Chinese government also helped the Myanmar government secure private financial loans from Chinese banks and business firms.

Myanmar and China signed an agreement for economic and technical cooperation on 26 December 1989. Under this agreement, the first time since the military takeover in September 1988, the Chinese government committed a grant of Yuan 50 million during the state visit of Senior General Saw Maung in December 1991.²³ Then on 30 July 1993, the two governments signed another agreement on economic and technical cooperation, under which the Myanmar government received an interest-free loan of Yuan 50 million from China. As mentioned earlier, these loans were for a Satellite TV ground station, renovation project for paper mill, and so on. About the same time, on 31 July 1993, the Yangon-Thanyin Bridge, which had been built through economic and technical cooperation between the two countries since October 1986 with a Chinese loan of Yuan 169 million, was opened and hailed as a milestone in the bilateral cooperation.²⁴

²¹ Myanmar received loans equivalent of US\$ 1889 million from Japan in the period between 1970 and 2000 and loans equivalent of US\$ 365.6 million from West Germany in the period between 1970 and 1987.

²² The construction of the theatre began on 3 June 1987 and was completed on 27 December 1990. Ministry of Information, *Taingkyo Pyipyu [Nation-Building Endeavors]*, Vol. 1 (Yangon: News and Periodical Enterprise, 1991), pp. 403-404.

²³ Ministry of Information, *China Myanmar Goodwill Visit of Historic Significance* (Yangon: News and Periodical Enterprise, 1991), p. 60.

²⁴ *Taingkyo Pyipyu* (Vol. 1), pp. 430-431; (Vol. 2), p. 373.

Major development assistance from China, however, came only after the state visit of Senior General Than Shwe to China in January 1996. During his visit, Senior General Than Shwe signed another agreement on economic and technical cooperation between the two countries. Moreover, on the same occasion, the two governments signed a framework agreement on the provision of interest subsidized credits by the Chinese government.²⁵ Under the interest subsidized loan agreement, the Myanmar government took a loan of Yuan 150 million for the procurement of machines for factories in Indagaw Industrial Zone. On the same occasion, the Myanmar government received an interest free loan of Yuan 50 million for machines to be installed at the No. 1 Agricultural Machinery Factory in Sinda. Between 1997 and 2006, the Chinese government provided Yuan 200 million as a grant, Yuan 685 million and US\$ 400 million as loan in various forms, and Yuan 10 million as debt relief. Although the amount of Chinese development assistance is not really big, it is significant for the Myanmar government.

Chinese Development Assistance to Myanmar (1997-2006)

(in million)

No.	Year	Grant	Loan	Debt Relief
1	1997		RMB 100	RMB 5
2	1998	-	-	-
3	1999	-	RMB 50	-
4	2000	-	RMB 80	-
5	2001		RMB 105	-
6	2002	-	RMB 100	-
7	2003	RMB 50	US\$ 200	RMB 5
8	2004	RMB 80	RMB 250	-
9	2005	-	-	-
10	2006	RMB 70	US\$ 200	-

In 1997, the Myanmar government received a low-interest loan of Yuan 100 million for the Agricultural Machinery and Equipment project under the Ministry of Industry (2). The agreement was signed on 7 June 1997. In the same year, during the state visit by State Councilor Mr. Luo Gan in March, the Chinese government provided a debt relief of five million yuan in the form of grant for the procurement of electrical equipment and air-conditioners for Yangon and Mandalay Cultural theatres, Pyithu Hluttaw, and the Cultural

²⁵ *NLM* (14 January 1996).

Institute in Bagan.²⁶ Then, in 1999 and 2000, the Myanmar government received interest free loans of Yuan 50 million each for the Power Tiller and Power Reaper Production Project, for first and second phases. The loan agreements were signed on 7 June 1999 and 16 July 2000. In July 2000, during the state visit of Vice-President Hu Jintao in Myanmar, the Chinese government provided another interest free loan of Yuan 30 million for agricultural sector in Myanmar.

In 2001, the Chinese government provided a low interest loan of Yuan 105 million for cross-bar exchanges and replacement and expansion projects, power tiller and power reaper projects and the procurement of rail lines projects. The framework agreement was signed on 6 February 2001. As part of the loan package, on 26 August 2001, during the visit of Chinese Vice Foreign Minister Mr. Wang Yi to Myanmar, the two governments signed an agreement on economic and technical cooperation for the railway project in Myanmar.²⁷ On 4 October 2002, Myanmar received a loan of Yuan 70 million for the procurement of materials to be used in the Ministries of Industry (2), Rail Transport, Health, and Electric Power. Then, on 18 December 2002, the Myanmar government signed a loan agreement of Yuan 30 million with the Chinese government for the establishment of Technical Schools in Mandalay under the Ministry of Industry (2).

In January 2003, during the state visit of Senior General Than Shwe in China, the Chinese government agreed to provide a grant of Yuan 50 million and a loan of US\$ 200 million as preferential buyer's credit. In accordance with the agreements signed on 7 January 2003, the grant was to be utilized for building a combine harvester plant in Ingone at the cost of 18 million RMB Yuan, three small scale hydroelectric plants at Ngamoeyeik, Thonese, and Kanyin dams at the cost of 32 million Yuan, and the feasibility study on probation of quality sugarcane and cotton strains.²⁸ During the visit, China also provided a grant of Yuan 5 million for the supply of culture, educational and sporting goods for the Myanmar government under the partial debt relief agreement. The special loan of US\$ 200 million for development projects signed during the visit was the largest loan ever made by the Chinese government to Myanmar.²⁹ The agreement for the use of loan was finally signed on 15

²⁶ *NLM* (26 March 1997).

²⁷ *NLM* (27 August 2001).

²⁸ These agreements were finalized only during the visit of Vice Premier Wu Yi to Myanmar in March 2004.

²⁹ *NLM* (15 January 2003)

August 2003 in Yangon and the loan was made through the China Export and Import Bank for the construction of Yeywa hydropower plant.³⁰

During Vice Premier Madam Wu Yi's visit to Myanmar in March 2004, the Chinese government provided a grant of Yuan 50 million and a low interest concessional loan of Yuan 200 million. The agreements were signed on 24 March 2004. The grant was for a number of projects which included the renovation of Yangon National Cultural Theatre at the cost of Yuan 12.4 million. It was also used for the rice milling machine installation project. The loan was divided among ministries. Ministry of Agriculture and Irrigation bought nearly 200 electric water pump at the cost of Yuan 60 million. Ministry of Mines plans to buy an oxygen plant and spare parts for the iron and steel plants in Pyin Oo Lwin with its share of 10.33 million. Ministry of Industry (1) will use up to 44 million for its projects. Similarly, Ministry of Industry (2) will spend 20 million for engine modification for vehicle use and another 30 million for the production of hydro turbine and generators. The Ministry of Electric Power will receive 35.65 million for three hydropower projects. In July, when Lieutenant General Khin Nyunt visited China, the Chinese government gave another grant of Yuan 30 million and an interest free loan of Yuan 50 million. The grant was for the procurement of a mobile X-ray container vehicle inspection system, the expenditure for the feasibility study on the project of International Convention Centre in Yangon, the expenditure for drawing of master plans for hydropower projects and Thanlyin-Kyauktan Industrial Zone. The 50 million Yuan loan was for the procurement of rails from China. During his meeting with Chinese Premier Wen Jiabao on 4 July 2005 in Kuming, at the sideline meeting during the 2nd Greater Mekong Sub-region (GMS) Summit, Prime Minister Soe Win said that the time was ripe to provide financial assistance to Paunglaung hydel power project (Phase-2), urea fertilizer plant at Taikgyi, deep water oil rigs and related equipments, and a loan of 200 million Yuan agreed by the Chinese government (signed during the visit of Madam Wu Yi).³¹

In February 2006, the Chinese government committed a grant of Yuan 70 million and a low interest concessional loan of US\$ 200 million during the state visit of Prime Minister General Soe Win. During his meeting with Chinese Premier Wen Jiabao in Beijing on 14 February 2006, General Soe Win explained that there were some agreed projects left to be implemented under the economic and technical cooperation between the two countries and he

³⁰ *NLM* (16 August 2003)

³¹ *NLM* (7 July 2005)

wanted them to be materialized as soon as possible. Moreover, he also mentioned that there were new projects for negotiation which included dredging of waterway for 20,000 tonnage vessels to be able to cruise along the Yangon River in connection with Thilawa Industrial Zone, the construction of Lashio-Muse railway, and building of a glass factory in Myeik and a tyre factory in Taikkyi.³² The US\$ 200 million loan is for the procurement of drilling materials for oil drilling rigs and urea fertilizer plant at Taikgyi.

China has provided financial and technical assistances for industrial and infrastructural developments in Myanmar. Without official data from both sides, it is difficult to distinguish genuine development assistance from commercially-based operations. Most development projects are tied to Chinese state-owned economic enterprises (SEE). Although the Chinese government and the Chinese SEEs offered no or low interest on commercial loans and suppliers' credits, according to some observers, in reality they have added the cost to the plants or parts they export to Myanmar. Moreover, observers believe that the machines are outdated and of poor quality. Nevertheless, low price machinery, equipment and services, long-term and low-interest loans, and export credits by Chinese public financial institutions have made it possible for Chinese firms to play an important role in the Myanmar economy. It has also helped the Myanmar government achieve the massive expansion of SEEs. The Myanmar economy is now heavily dependent on its economic ties with China. Through bilateral development assistance, since 1988, China helped the Myanmar government build eight out of nine new sugar mills [US\$ 158 million], 20 new hydroelectric power plants [US\$ 269 million], 13 out of 45 new factories under the Ministry of Industry-1 [US\$ 198 million], and 12 out of 21 new plants under Ministry of Industry-2 [US\$ 137 million]. In addition, China also upgraded six factories under the Ministry of Industry-2 [US\$ 346 million], supplied six ocean-going vessels, and built a dry dockyard [US\$ 25 million]. In 2006, Chinese firms are building 7 out of 11 new hydro-electric plants in Myanmar [US\$ 350-400 million].

In term of infrastructure development, one of the key areas for development assistance is in the area of electricity generation. Before 1988, Myanmar built 14 hydroelectric power stations, eight gas-turbine power stations, and three steam-turbine power stations, with generating capacities of 228 MW, 300 MW, and 60 MW respectively. Among the 14 hydroelectric power stations, the Lawpita hydroelectric power station (both first phase of

³² *NLM* (19 February 2006)

1960 and second phase of 1973) was built with the Japanese reparation and Tatgyi hydroelectric station in Lawk Sawk was with the Finish development assistance. Since 1988, the Myanmar government completed 30 hydroelectric power plants, three gas-turbine power plants, three combined cycle turbine plants, and one coal-fired power plant, with generating capacities of 517.35 MW, 400 MW, and 120 MW respectively. In building hydroelectric power plants in Myanmar, Yunnan Machinery and Equipment Import and Export Corporation (YMEC), China International Trust and Investment Corporation (CITIC) Technology Co Ltd, and China National Heavy Machinery Corporation (CHMC) play major roles. According to the state-run New Light of Myanmar, “YMEC is an old friend of Myanmar, jointly undertaking projects with the Myanma Electric Power Enterprise since launching of Kyein Khayankha power project in 1991”.³³ In fact, on the occasion of the signing of the US\$ 160 million contract to build Paunglaung hydroelectric power plant in October 1998, China’s Xinhua reported that, “since 1989, YMEC has built 17 small and medium sized hydroelectric power stations in Myanmar, accounting for 94.4 percent of Myanmar’s hydropower projects.”³⁴ However, on the same occasion, it was reported in Myanmar newspapers that YMEC has built 15 hydroelectric plants since 1990, and the total value of machinery is about US\$ 50 million.³⁵

Most of the hydroelectric power plants were small. Only Thaphenseik, Mone, and Paunglaung plants have 30MW, 75MW, and 280MW generating capacity respectively. On 20 November 1998, China International Trust and Investment Corporation (CITIC) Technology Co Ltd signed a MoU with MEPE for the financial assistance and technical cooperation to build Mone Creek and Thaphenseik hydro-electric power plants that are worth US\$ 52 million.³⁶ Thaphenseik hydroelectric power plant was finally opened on 18 June 2002. The plant was built at a cost of K 1155 million and US\$ 20 million.³⁷ Then, on 29 December 2004, Mone Creek hydroelectric power station, the 43rd hydel power station of the Ministry of Electric Power or 29th since 1988, was commissioned.³⁸

³³ *NLM* (8 September 2004) It was also mentioned that the YMEC also helped MEPE build Namhmyaw, Namwok, Zawgyi-1, Zaungtu, Paunglaung and Shweli hydroelectric power station.

³⁴ *Xinhua News Agency*, (6 October 1998).

³⁵ *NLM* (7 October 1998).

³⁶ *Kyemon* (21 November 1998).

³⁷ *NLM* (19 June 2002).

³⁸ *NLM* (30 December 2004).

Paunglaung hydropower project was the biggest undertaking of YMEC in Myanmar at that time. Indeed, the Paunglaung hydroelectric power plant is the biggest power plant completed so far since 1988, for it has a capacity of 280 MW and accounts for nearly one third of Myanmar's existing installed capacity. For the hydroelectric power plant at Paunglaung, the Chinese government provided an export credit for the deal, which comes with a 2.75 percent rate of annual interest, payable over 10 years. Thus, on 6 October 1998 the Export-Import Bank of China (Eximbank) signed an agreement with Myanma Electric Power Enterprise to approve 1 billion Yuan (US\$ 120 million) worth of export seller's loan to help it build the Paunglaung hydroelectric power plant. Prior to this, the Eximbank had also approved a loan of Yuan 60 million (US\$ 7.2 million) for the project. It was China's largest export of complete sets of hydro-power equipment to Southeast Asian countries, and also Yunnan's largest foreign trade project. However, the total cost for construction of the power plant was estimated at US\$ 160 million. The Paunglaung hydroelectric power plant was completed and opened on 25 March 2005.

At present, there are 11 major on-going hydroelectric power plant projects, with a total capacity of generating 1734 megawatts. So far, contracts have been signed for construction of seven plants, all with China-based companies.

On-going Hydroelectric Power Plant Projects

No.	Power Plant	Location	Capacity	Contractor	Cost (million)
1	Yenwe	Kyaukdaka	25MW	CITIC/CNEEC	-
2	Shweli	Namkhan	400MW	YMEC	US\$ 150
3	Kengtaung	Mongnai	54MW	CNEEC	US\$ 20
4	Phyu	Phyu	40MW	-	-
5	Khabaung	Taungoo	30MW	-	-
6	Kun Chaung	Phyu	60MW	CHMC	-
7	Shwekyin	Shwekyin	75MW	-	-
8	Yeywa	Kyaukse	790MW	CITIC	US\$ 700
9	Upper Paunglaung	Pyinmana	140MW	YMEC	US\$ 60
10	Kyi-Ohn Kyi-Wa*	Pyintphyu	60MW	CGNTIEZ	US\$ 20
11	Bu-Ywa*	Pyintphyu	60MW	CGNTIEZ	US\$ 20

* These projects are undertaken by the Department of Irrigation.

With a capacity of 790-megawatt, four-generator hydropower plant at *Yeywa* will generate 3.55 billion kilowatt-hours of electricity a year upon completion. The estimated cost of the project is US\$ 700 million. In August 2003, the China Exim Bank approved a loan of US\$ 200 million at preferential interest rates for the *Yeywa* project. The electricity will be transmitted to the whole country through Kyaukse, Meikhtila and Mandalay via 230 KV double cable lines. On 24 March 2004, the China National Electric Equipment Corporation (CNEEC) signed a contract with MEPE for building a dam gate worth US\$ 2.2 million. Then on 15 July 2005, China International Trust and Investment Corporation (CITIC) Technology Co Ltd and Sinohydro Corporation Ltd signed contracts worth US\$125 million: CITIC will supply US\$ 113.13 million worth of generators and transformers and Sinohydro will provide US\$ 12.50 million worth of water-gate doors and pipelines.³⁹ It was followed by a deal closed with the China Gezhouba Water and Power (Group) Co Ltd, in August 2005, for the construction of a reinforced concrete dam with the supply of machinery equipment valued at US\$ 46.32 million. A year later, China National Heavy Machinery Corporation (CHMC) signed contracts with the Hydroelectric Power Department (HPD) of Myanmar on 2 September 2005 on the implementation of the *Yeywa* Hydropower Project, the largest in Myanmar so far. Under the contracts that worth US\$45.84 million, CHMC will supply 230 KV transmission lines and substations for the *Yeywa* Hydropower Project.⁴⁰

The YMEC signed an agreement with the HPD for the construction of the *Upper Paunglaung* hydroelectric power project located in the east of Pyinmana, northern Mandalay division, on 30 June 2005. The YMEC will supply US\$ 80 million worth of materials, mostly the generators.⁴¹ The project was based on the preliminary survey report prepared by the HPD and Kansai Co of Japan in 2002, and feasibility report authored by the Switzerland based Colenco Power Engineering Ltd in 2004. The *Kun Chaung* hydroelectric power plant is under construction with the assistance of the CHMC. The contract was signed on 24 March 2004 during the state visit of Chinese Vice Premier Madam Wu Yi to Myanmar. Under the terms of contract, the CHMC is to supply hydraulic steel structure works and electrical and mechanical equipments.⁴²

³⁹ *NLM* (16 July 2005).

⁴⁰ *Xinhua News Agency* (2 September 2005); *NLM* (16 July, 3 August, 3 September 2005).

⁴¹ *NLM*, (2 July 2005).

⁴² *NLM* (25 March 2004).

For the construction of *Kengtaung* hydroelectric power plant, the CNEEC and Zhejiang Orient Holdings Group Limited (ZOHG) signed a MoU with the HPD on 16 June 2005. The CNEEC-ZOHG Consortium will supply generators, transformers, and electrical equipment worth US\$ 11.5 million. In a separate deal with the CNEEC, the HPD will buy ironwork valued at US\$ 3.5 million.⁴³ Then on 22 August 2005, ZOHG signed another contract with the HPD to supply 132KV power cable worth US\$ 4.56 million.⁴⁴ On 7 July 2004, the China Guangdong New Technology Import and Export Company of Zhuhai (CGNTIEZ) signed a contract with the Department of Irrigation, Ministry of Agriculture and Irrigation, to supply turbine generators, water gate doors, steel pipes, water sluice doors, switchyard and power house for the *Kyi-Ohn Kyi-Wa* hydroelectric power plant. The contract was to provide technical and financial assistance: the loan of US\$ 20 million in the form of credit sale was to be paid within seven years.⁴⁵ Similarly, the CGNTIEZ signed a Letter of Intent with the Ministry of Agriculture and Irrigation on 4 November 2004 for the construction of *Bu-ywa* hydroelectric power plant. Based on the preliminary survey prepared by Kansai Co and the HPD, the *Yenwe* hydroelectric power plant was built by the CITIC. The CITIC and the HPD signed a contract on 28 February 2003 to supply equipments. The CNEEC also signed a contract with the HPD on 31 May 2003.

For the *Shweli* hydroelectric power plant, the HPD hired a consultant engineering group under YMEC, at the cost of US\$ 1.15 million, to prepare a feasibility study report, and signed a MoU on 26 February 2002.⁴⁶ The YMEC submitted the report on 13 February 2003 and the two organizations signed another contract on 8 August 2003. The contract is worth US\$ 150 million, and prompt payment will be made in respect of the accomplishment of the task. Under the contract, the YMEC will undertake the construction of a concrete diversion weir, underground tunnel and high-pressured steel pipelines, and the installation of Turbine generator transformers and electrical appliances, within three years.⁴⁷

⁴³ *NLM* (17 June 2005).

⁴⁴ *NLM* (23 August 2005).

⁴⁵ *Myanmar Times* – Myanmar (Vol. 9, No. 170, 16-22 July 2004); *Myanmar Times* – English (Vol. 12, No. 224, 12-18 July 2004).

⁴⁶ *NLM* (9 August 2003); *Kyemon* (23 July 2003).

⁴⁷ *NLM* (9 August 2003).

In terms of other power generation projects since 1988, as of the end of 2005, the Myanmar government had built three gas-turbine plants, three combined cycle turbine plants, and one coal-fired power plant.

Other Power Generation Plants

No.	Plant	Contractor	Capacity	Completion
1	Tharkedada Gas Turbine	Marubini	57MW	22.03.90
2	Alone Gas Turbine	GEC Alsthom	100MW	12.04.95
3	Hlawga Gas Turbine	GEC Alsthom	100MW	21.01.96
4	Tharkedada Combined Cycle Turbine	Marubini	35MW	06.02.97
5	Hlawga Combined Cycle Turbine	Marubini	54 MW	30.04.99
6	Alone Combined Cycle Turbine	Marubini	54 MW	14.09.99
7	Tikyit Coal-fired Power Plant	CHMC	120MW	15.04.05

Of the seven non-hydroelectric power plants, only the Tikyit Coal-fired plant was built by China National Heavy Machinery Corporation (CHMC). The rest were built by either Japanese Marubini or French GEC Alsthom. The CHMC signed a contract with Myanmar Electrical Power Enterprise (MEPE) on 27 August 2001 for the supply of generators worth US\$ 42.94 million for the Tikyit coal-fired plant.⁴⁸ The construction began on 4 September 2002 and was completed on 31 March 2005: it was inaugurated on 15 April 2005.⁴⁹ It is apparent that Chinese firms have been playing a very important role in building power generating plants in Myanmar. They will continue to do so in future. However, it is important to note that both India and Thailand are increasingly interested in the energy sector of Myanmar, especially in the hydroelectric generation, for both political and economic reasons.⁵⁰ Since Myanmar has potential for supplying electricity to neighbouring countries, investment in the hydroelectric sector, along with the gas and oil sectors, will play a part in her conduct of foreign relations.

⁴⁸ *NLM* (21 July 2005).

⁴⁹ *NLM* (16 April 2005).

⁵⁰ India is interested in building the Tamanthi hydroelectric power plant that could generate 1200MW. The Indian and Myanmar governments signed a MoU on developing Tamanthi hydroelectric power plant on 25 October 2004. Similarly, Thai-based MDX Co negotiated with the Myanmar government to build a hydroelectric power plant at Tarsan which could generate 7310 MW.

The transport sector is another area of Sino-Myanmar development cooperation. Since 1988, the Myanmar government has bought a total of six vessels from China with a total DWT of 31,092 tons. Although the number of ship and the total tonnage is not great, it is significant since it amounts to 86% of the ship and 92% of the tonnage that the government procured in the period between 1988 and 2006. More importantly, it is a major break from the past since all 18 vessels, with a total DWT of 108,061 tons plus, bought between 1962 and 1988 were from European countries: nine from FRG, five from Norway, and two each from Denmark and Poland. [Myanmar received two ships from Japan as war reparations in 1963, with a total DWT of 20,086 tons, and built a small ship with the DWT of 790 tons in 1978.] All new ships were bought under low interest commercial loans agreements.

Procurement of Ships since 1988

Sr.	Name	Year	Country	DWT	Remark
1	Shweli	1994	Japan	1305	Ex- Sheraton II, 1970
2	Chin Shwe Haw	1996	China	3300	SSCV
3	Mongla	1996	China	3300	SSCV
4	Kengtung	1998	China	11654	MPV
5	Dawei	1998	China	11654	MPV
6	Thanlwin	1999	China	592	CPV
7	Chindwin	1999	China	592	CPV

CPV (Coastal Passenger Vessel)

SSCV (Short Sea Cargo Vessel)

MPV (Multi Purpose Vessel)

The PRC also helped Myanmar build a dry dockyard at Simaleik at the cost of US\$ 25.45 million and K 16 billion in 2001. The Shandong Agricultural Industry & Commerce Group Corporation provided the loan and technical assistance.⁵¹ In early 2006, the Chinese government also presented 130 train coaches for the Myanmar Railways. The Lashio-Muse railway project is another infrastructure development project to be implemented with the financial and technical assistance from China. A Memorandum of Understanding was signed during Prime Minister Soe Win's visit to China in February 2006.

⁵¹ *Myanmar Times* (Vol. 11, No. 203; 9-15 February 2004).

In the telecommunication sector too, Chinese firms are playing an increasingly important role in wireless communication and fixed lines.⁵² When the Myanmar government introduced GSM mobile service to Mandalay in early 2000, the ZTE Corporation won the contract. From then onward, Chinese companies have become prominent in Myanmar's telecommunication sector. Again on 16 July 2004, the Myanmar Post and Telecommunication (MPT) and the ZTE signed a contract for the supply of machines that could support 100,000 GSM phones in Yangon and 10,000 units in Mandalay. With regard to fixed auto exchanges, in December 2000, Shanghai Bell Co won the contract to install digital exchanges in Yangon, Mandalay, Taungoo, and Pyay. The MPT closed a deal with China National Electronic Import and Export Shenzhen Company (CEIEC), to install digital exchanges in 12 townships that could accommodate 13,500 lines, worth US\$ 6.5 million, on 20 March 2002. Similarly, Alcatel Shanghai Bell Co supplied new auto-exchanges, mobile telecommunication system, and fiber optics for nine townships, with the capacity of 9,000 lines.

The Ayerwaddy Transportation project, which has been in the process of negotiation since the late 1990s, will provide a transport link between Yangon and Kunming, mostly by the Ayerwaddy River. In October 1999, the then Secretary-1 of the SPDC, Lt. Gen Khin Nyunt and a high-level Chinese delegation visited the northern most port city Bhamo, which is about 30 miles from the China border, to materialize the project. The project included building a container port near Bhamo, upgrading the road from Bhamo to the China border town of Lweje [then to Zhangfeng], and dredging the waterway of the Ayerwaddy river. According to the Myanmar Port Authority, the "Ayerwaddy Transportation Project" will allow to transport up to two million containers per year in the future. However, details for project funding and management arrangements still need to be sorted out. The total cost of the project is yet to be revealed. In February 2005, a 500-GRT container barge was built with financial assistance from China, and it will ply the route regularly. During his visit to China

⁵² When the SLORC government introduced cellur mobile communication system, the MPT signed a contract with Erisson Australia Pty Ltd on 27 November 1992 to install machines for 1000 lines. At the cost of K 24.23 million and US\$ 3.45 million, the cellur mobile phone became operational in Yangon on 8 December 1993. The MPT signed another contract with the same company for the second phase of the mobile phone project for another 1000 lines. This US\$ 81.48 million project was completed in July 1994. Similarly, in December 1994, the MPT signed a contract with Thai based Losli Co to supply machines made by US Northern Telecom for 1000 lines of cellur phones to be used in Mandalay at the cost of US\$ 3.69 million. The MPT also bought auto radio telephone system and 1700 units from US Interdigital Communication. Even when it introduced the CDMA phone system in 1996, the MPT contracted Singapore-based Qualcomm for 3000 units. Then on 5 March 1998, the MPT and UCOM International (Singapore) signed a contract worths US\$ 27.54 million to supply 20,000 lines and units of the CDMA communication system. Again in the case of GSM phone system, on 7 April 1999, the MPT initially signed a contract with Skylink Communication Co based in British Virgin Island to supply Sieman products for operation of 135,000 units of GSM phones. Thus, with the help of Sieman MSC, six stations were built in Yangon.

in February 2006, Prime Minister General Soe Win discussed the dredging of the Yangon river with his Chinese counterpart. In connection with this project, two cross border road-links were constructed. Local county governments in the Yunnan Province built 95-kilometer long Tengchong-Myitkyina [via Kanpeikti] at the cost of Yuan 192 million [US\$ 23.2 million] and upgraded Zhangfeng-Bhamo road at the cost of Yuan 28 million [US\$ 3.38 million]. The agreement to build the Tengchong-Myitkyina road was signed in Yangon on 19 May 2004 and Tengmin Road Construction and Maintenance Co Ltd, based in Tengchong of Yunnan Province, would build the road under the build-and-transfer system and it would take care of the road maintenance for 10 years. The Public Works Department of Myanmar will assume the maintenance work after the 10-year period has expired. The ceremony for the launch of road building was held on 19 October 2004 in Kanpaikte, and it was attended by local authorities from Myitkyina and Tengchong.⁵³ Zhangfeng-Moemauk Road Construction Co, based in Zhangfeng, will upgrade the Zhangfeng-Bhamo road for free and maintain it for another 10 years for free of charge.⁵⁴ Another infrastructure project is the Kyaukpgyu-Kunming corridor project; no detail is known about the project.

In terms of the industrial sector, Chinese development assistance has mainly been used to build new SEEs in Myanmar. Since 1988, the Ministry of Industry-1 had built 56 new factories so far: 11 factories in the period between 1988-89 and 1995-96 and 45 factories between the 1996-97 and 2005-06.⁵⁵ Some of the eleven factories built before the 1995-96 fiscal year were left-over projects of the previous government.⁵⁶ While some factories were renovated, others were new.⁵⁷ Between the 1996-97 and 2005-06 fiscal years, Ministry of

⁵³ *Myanmar Times*, Vol. 11, No. 217 (24 May 2004); *NLM* (27 October 2004).

⁵⁴ *Flower News* (Vol. 1, No. 15, pp. 1, 14).

⁵⁵ *NLM* (29 January 2006) See detail for Appendix (1).

⁵⁶ Shwetaung Textile Factory was first built in 1980 under the Burma-China Bilateral Economic Program, and it became operational in 1982. Then in 1984, the factory was upgraded with the financial loan from the World Bank; it was completed only in December 1990 [*Myanma Alin* (4 March 1998)]. Sagaing Garment Factory was also built in July 1987, but became operational only in July 1990 [*Kanaung Magazine* (Vol. 9 No. 12, December 2002), p. 101]. Similarly, Yedashe Sugar Mill was built by Japanese Tsuki Shimakikai Co in 1986 at the cost of US\$ 27.53 million and it was completed only in December 1990. With regard to No. 2 Gas Factory, since the 1986-87 fiscal year, No. 1 Gas Factory had been under renovation and upgrade program under the ADB loan. When machines for Oxygen, Nitrogen, and Argon gas were installed by China National Machinery Import and Export Corporation in 1992, old machines were moved to Mandalay to become No. 2 Gas Factory [*Kanaung Journal* (Vol. 7, No. 37, 14 September 2005), p. 16] The construction of No. 3 Footwear Factory began in July 1986 and completed in July 1988. It was built under the loan (US\$ 15.56 million) provided by the ADB and machines were imported from Korea [*Kanaung Magazine* (Vol. 6, No. 2, February 1999), p. 113].

⁵⁷ The No. 2 Soap Factory was originally known as Shwehti Soap Factory and it was nationalized on 16 December 1968. In 1995, the factory was installed with new production line made entirely by local technicians with local materials [*Kanaung Magazine* (Vol. 9, No. 12, December 2002), pp. 114-115].

Industry-1 has built a total of 45 factories so far. Thus, Myanma Textile Industries (MTI) has 13 new factories, Myanma Foodstuff Industries (MFI) has 7 new factories, Myanma Pharmaceutical Industries (MPI) has 8 new factories, Myanmar Ceramic Industries (MCI) has 7 new factories, Myanma Paper and Chemical Industries (MPCI) has 2 new factories, and Myanmar General and Maintenance Industries (MGMI) has 8 new factories.

Among the 13 projects under MTI, Chinese companies were involved in seven projects. Tianjin Machinery Import and Export Corporation (Group) China built textile factories in Pyintphyu and Pakokku at the cost of US\$ 37.28 million and US\$ 23.36 million respectively.⁵⁸ The China National Constructional and Agricultural Machinery Import and Export Corporation exported machines worth of US\$ 23.55 million for a textile factory in Salingyi.⁵⁹ The Shanghai World Best Group supplied machines for vest factories in Kyaukse and Taungthar at the cost of US\$ 2.95 million and US\$ 3.28 million.⁶⁰ With regard to the Looms Extension projects in Myingyan and Yemathin factories, the MTI installed 200 looms and 400 looms respectively; these 600 looms were actually from the textile factory in Shwetaung while it received new 600 looms from textile factories in Pakokku and Salingyi as these new factories.

The MFI has built seven new factories. All of them except the instant noodle factory in Sagaing were built with machines supplied by local companies.⁶¹ Although no details are known, Karehua Noodle Line Machinery Ltd from China provided machines for the instant noodle factory.⁶² Between 1996 and 2005, the MPI built eight new factories and all of them were installed with machines supplied by local companies.⁶³ Out of seven new factories

Diamond Soft Drink Factory, built in 1926 and nationalized in December 1968, was also upgraded in early 1990s by installing machines made in Italy and Korea [*Kanaung Magazine* (Vol. 9, No. 4, April 2002), pp. 112-113]. The MTI and the Daewoo signed a contract to build Thanlyin Garment Factory on 27 July 1989 at the total cost of K 48.88 million, which included US\$ 2.69 million for sewing machines [*Kanaung Magazine*, Vol. 5, No. 4, April 1998, p. 116]. Caustic Soda Factory at the Sittaung Paper Mill was built at the cost of K 33.08 million with machines imported from China in early 1990s [*Kanaung Magazine* (Vol. 2, No. 12, December 1995), pp. 20-21].

⁵⁸ *NLM* (11 September 2003); (25 July 2003).

⁵⁹ *NLM* (1 September 2003).

⁶⁰ *NLM* (24 July 2003); (29 January 2006)

⁶¹ For example, Vinegar Factory in Yangon is a joint venture between the MFI and the Dream World Co Ltd at the cost of K 40. 83 million and US\$ 0.35 million [*Kanaung Magazine* (Vol. 9, No. 8, August 2002), p. 111].

⁶² *Kanaung Magazine* (Vol. 10, No. 12, December 2003), p. 85.

⁶³ For example, soap factories were built by Seinpan Industrial Cooperative.

under the MCI, two were built by Chinese companies.⁶⁴ The China National Constructional and Agricultural machinery Import and Export Corporation (CAMC) supplied machines worth US\$ 16.5 million for a cement factory in Kyaukse industrial zone.⁶⁵ The China National Building Material Equipment Corporation (CBMEC) supplied machines worth of US\$ 3.24 million for a refractory brick factory in Kyaukse.⁶⁶ Two new factories under the MPCCI were built with Chinese technical assistance. The Tianjin Machinery Import and Export Corporation (Group) provided machines worth of US\$ 3.45 million under the contract signed on 7 September 1999.⁶⁷ The China Metallurgical Construction (Group) Corporation supplied machines for a pulp factory in Tharbaung at a cost of US\$ 90 million; and the Myanmar government spent K 28.66 billion in the project.⁶⁸ Among eight new factories under the MGMI, machines for five factories were imported from India and Hong Kong.⁶⁹ The three umbrella factories were built through local procurement.

Before 1988, the Myanmar government had eight sugar mills under the Ministry of Industry-1; only one was built by a Chinese firm -- in 1964. Since 1988 the government has built nine new sugar mills at a total cost of US\$ 180.98 million. Of these, eight mills were built with financial and technical assistance from Chinese firms at a cost of US\$ 157.58 million. All these new mills were bought with low-interest commercial loans from a Chinese state-owned bank.

⁶⁴ Danyingone Refractory Brick Factory was built by Daimaru Co Ltd of Japan at the cost of K 152.969 million including foreign currency equivalent to K19.392 million (US\$ 2.98 million). The extension project was also implemented by the same company at the cost of K 286.485 million including foreign currency equivalent to K 15.184 million (US\$ 2.34 million) [*NLM* (14 August 2003)]. New machines for the Tiles factory in Thayarwaddy was supplied by Italy based Nasseti Co in 1997.

⁶⁵ *NLM* (23 July 2003); *Kanaung Magazine* (Vol. 10, No. 7, July 2003), p. 99.

⁶⁶ *Flower News* (Vol. 1, No. 46, 21 September 2005); *NLM* (14 August 2003) It was reported that the factory was built at the cost of K 988.07 million including foreign currency equivalent to K 21.07 million.

⁶⁷ *Kanaung Magazine* (Vol. 8, No. 7, July 2001), p. 114.

⁶⁸ *NLM* (31 July 2003).

⁶⁹ Machines for Bicycle Factory (Kyaukse), Bicycle Factory (Yangon), and Sewing Machine Factory – extension (Kyaukse) were supplied by Samra International (Pvt) Ltd (India) while machines for Sewing Machine Factory (Kyaukse) was supplied by Angelique International Ltd (India). Hong Kong based New Light Co supplied machines for Footwear Factory in Kyaukse.

New Sugar Mills since 1988

Sr.	Sugar Mill	Date	US\$ million	Contractor
1	Nawaday (Pyay)	5 Jun 1997	23.40	SEC (Thailand)
2	Dahatkone (Leiwe)	24 May 1997	16.44	GNTIEZ (China)
3	Taungzinaye (Aunglan)	24 May 1997	16.44	GNTIEZ (China)
4	Duyingbo (Aunglan)	24 Jun 1997	20.80	CNCPIE-YC (China)
5	Paukkhaung (Paukkhaung)	24 Jun 1997	20.80	CNCPIE-YC (China)
6	Oktwin (Taunggu)	14 Jul 1997	20.80	CNHMC (China)
7	Myohla (Yedashe)	14 Jul 1997	20.80	CNHMC (China)
8	Okkan (Taikkyi)	16 Oct 1997	20.80	CNCAMIEC (China)
9	Yoneseik (Aunglan)	16 Jan 1997	20.70	CNCAMIEC (China)

SEC = Suntech Engineering Co Ltd

GNTIEZ = Guangdong New Technology Import and Export Zhuhai Co

CNCPIE-YC = China National Complete Plant Import and Export (Yunan Corporation)

CNHMC = China National Heavy Machinery Corporation

CNCAMIEC = China National Constructional & Agriculture Machinery Import and Export Corporation

Before 1988, the Ministry of Industry-2 had only nine factories. Since then the ministry built 21 new factories in Indagaw, South Dagon, Thargaya, and Pakokku: Indagaw alone has 11 factories. Now the ministry runs a total of 30 factories.⁷⁰ Most of major renovation works and new plants were financed through grants, loans, and bank guarantee notes from the Chinese government. For example, before 1988, motor vehicles plants under the ministry assembled MAZDA brand and HINO brand Japanese-made cars for local use. However, after 1988, since Japan no longer supplied parts for the production, the ministry imported parts from China to produce MYANMAR JEEP. Assembly plants were renovated to accommodate the new products. All renovation projects were undertaken with the financial and technical assistance from Chinese state-owned firms, at a total cost of US\$ 346.24 million.

⁷⁰ *New Light of Myanmar* (16 January 2006).

Factories Upgraded under Ministry of Industry-2

(in million)

Factory/Plant	Before 1988		After 1988		Remark
	Kyat	US\$	Kyat	US\$	
No. 1 Motor Vehicle Plant (Yangon)	223.79	39.79	343.60	40.85	China
No. 2 Motor Vehicle Plant (Htonebo)	479.27	51.56	786.80	54.09	China
No. 1 Agricultural Machinery Plant (Sinde)	523.73	62.14	1148.39	63.85	China
No. 2 Agricultural Machinery Plant (Malun)	690.93	81.09	1370.06	81.27	China
No. 1 Machinery Plant (Nyaungchedauk)	378.81	16.56	530.74	16.64	China
No. 1 Machine Plant (Hlaing)	11.81	-	44.91	-	-
No. 2 Machine Plant (Mayangone)	6.02	-	18.35	-	-
No. 3 Machine Plant (Insein)	9.62	-	16.16	-	-
No.1 Tyre and Rubber Plant (Thahton)	1459.12	87.07	2315.42	89.54	China

In term of new factories, all plants in Indagaw were built with grants and loans from the Chinese Government. Under the interest-free loan of Yuan 50 million from China, the Ministry of Industry-2 signed a contract with COMPLANT of China on 13 December 1996 to buy machines for the Agricultural Machinery Factory at Sinde. Then on 8 August 1997, another contract was signed with COMPLANT to buy machines for Myanmar Automobile and Diesel Industries to build disc wheel plant, radiators plant, and ball bearing plant at the Indagaw Industrial zone. Altogether 259 machines were bought with a low interest loan of Yuan 150 million. Then, on 17 December 1999, the ministry signed another contract with COMPLANT to buy materials for machine shop, forging shop, heat treatment shop, and assembly shop for hand tractor (power tiller) factory. It came under a low interest loan of Yuan 100 million from China. On 18 December 2002, the ministry signed an agreement for a loan of Yuan 30 million to establish a technical training school in Mandalay. Under this program, the ministry sent 43 trainees to China in September 2003. The latest in this development assistance came in 2004. Of the Yuan 80 million loan received from China, the ministry received Yuan 15 million to build a generator plant at Sinde. On 22 November 2004, the ministry contracted China National Machinery Import & Export Corporation to buy parts for generators. In addition to these projects, by signing contracts on 27 December 2004, China-owned XJ Group Corporation and Henan Diesel Engine Group became key players in

building the multi-purpose diesel engine plant in Thagara, at a cost of Kyat 7836.825 millions and US\$ 112 million.⁷¹

New Factories under the Ministry of Industry-2

(in million)

Plant/Factory	Kyat	US\$	Contractor
Electrical and Electronic Appliances Plant	811.66	0.03	-
Dried Cell Battery Plant (South Dagon)	18.22	0.79	-
Battery Plant	55.76	-	-
Oxygen Plant	133.17	0.38	India
Acetylene Plant	116.35	0.09	India
Bolt and Nut Factory	36.91	0.43	India
LPG Casing Plant	200.25	1.10	India
Radiator Plant (Indagaw)	285.61	1.77	China
Disc Wheel Plant (Indagaw)	292.25	4.87	China
Hyote Metal Bearing Plant (Indagaw)	104.22	0.86	China
Inlet & exhaust Valve Plant (Indagaw)	195.81	0.89	China
Copper Casting & Rolling Plant (Indagaw)	99.86	0.65	China
Enamelled Copper Wire Plant (Indagaw)	26.55	0.40	China
Power Cable Plant (Indagaw)	144.62	1.45	China
Power Tiller Engine Plant	983.27	9.01	China
Foundary Plant	508.70	1.98	China
Ball Bearing Plant	167.19	1.10	China
Watt Hour Meter Plant	0.54	0.28	India
ACSR Plant	360.27	1.44	-
Multi-purpose Diesel Engine Plant (Thargaya)	7836.83	112.00	China
Generator Plant (Sinde)	-	1.81	China

⁷¹ Other projects undertaken by the Ministry of Industry-2 under the foreign financial and technical assistance are as follows. Oxygen factory, Acetylene factory, LPG container factory, and Bolt & Nut factory came under US\$ 2 million loan provided by Indian government and machines supplied by the state-owned Project and Equipment Corporation in accordance with the contract signed on 5 February 1999. Out of US\$ 15 million loan signed on 17 November 2000 between Myanmar and Indian governments, the ministry received US\$ 4.8 million to build a plant to make cables, meter units, and power sub stations. The ministry signed a contract with Angelique International Limited to supply machines on 8 June 2001. Another project was also funded by Indian government. Out of US\$ 25 million loan signed between Myanmar and Indian governments, the ministry received US\$ 4.95 million to build a plant at Indagaw to produce various types and sizes of electric motors for cars. Again, Angelique International Limited will supply machines in accordance with the contract signed on 27 February 2004. On 10 October 2005, Myanma Automobile and Diesel Engine Industries under the Ministry of Industry-2 signed a contract to build the earth moving equipment factory, which was worth US\$ 14 million, with Krung Thai Tractor Co Ltd, Thailand.

In addition, other ministries also contracted Chinese firms to build factories. For example, the Ministry of Agriculture built a paper mill in Maubin as a joint project between Myanmar Jute Industries (MJI) and China Yunnan Corporation (CYC). The CYC provided machinery worth nearly US\$ 5.7 million. The contract was signed in September 2002 and the mill became operational on 29 January 2005. The MJI invested nearly Kyat 2 billion in the project. The terms of payment involved the sale of paper to the CYC at a constant price of US\$ 700 a ton.⁷²

The PRC government encourages Chinese businessmen to invest in Myanmar. China helped establish at least two industrial zones in Myanmar: Yangon-Thanyin and Kyaukphyu. The Yangon-Thanyin special industrial zone, built on 1000 acres, is established with 100 percent foreign investment with export concentration. The Myanmar government will lease the land to Chinese investors. The location of the zone, which is next to Thilawa seaport, is convenient for international trade. In July 2003, during the visit of Myanmar Prime Minister General Khin Nyunt to China, the Myanmar and Chinese governments signed an MoU for the establishment of the Yangon-Thanyin Industrial Zone. The industrial zone project is related to the "Ayerwaddy Transportation Project". Another industrial zone project is the Kyaukphyu industrial zone on the west coast of Myanmar. Details have not yet been revealed.

CONCLUSION

The China-Myanmar border trade has thrived, and low-price (but poor quality) consumer goods have literally flooded the Myanmar market.⁷³ In fact both countries have been planning border trade even well before the collapse of the BSPP government in September 1988. Despite this, the Sino-Myanmar border trade remains a lifeline of the Myanmar economy. However, high dependency on timber in her exports to China will pose a serious problem in Myanmar's long-term trade relations with China once this natural resource is depleted. Myanmar needs to export more value-added products. At present timber is exported as logs or raw blocks; value-added products like furniture will increase the value of exports. Both governments have set a target of annual bilateral trade at US\$ 1.5 billion in 2006; yet, the realization of the target, if it was achieved, will have been due most likely to more Chinese

⁷² *Myanmar Times-English* (Vol. 13, No. 354: February 2005), p. 6 [The mill has the capacity of 5000 tons per year production, but it produces less than 2000 ton per year.].

⁷³ Here I would like to give an example of Myanmar's fruit export to China. In the 1990s, for example, Myanmar exported plums and water melons to China. Four or five years later, China exported these items back to Myanmar with better quality. Moreover, Chinese-made preserved fruits are much cheaper than the local ones.

export to Myanmar. Meanwhile, since early 2005, the Myanmar government has been implementing a "balanced trade" policy which will eventually impose restrictions on the value of imports, unless more Myanmar exports can be sold. One way of addressing this issue is to attract more foreign investment and technological transfer into Myanmar so that it could export value-added products which will increase the value of exports.

Chinese development assistance has been closely related to Chinese business interests in Myanmar. Commercial-based loans were made available to the Myanmar government so that Chinese firms could also benefit from the Chinese development programme. Moreover, it also helps China secure the supply of semi-finished materials for its growing economy. In addition, it serves China's geopolitical interest in Myanmar too by securing an access to the Indian Ocean. Since 1988, Chinese development assistance has constituted the largest source of foreign assistance for the Myanmar government because of the sanctions imposed by Western governments.

In the area of investment, China has made strategic investments in strategic sectors, such as oil, gas and other energies. This reflects China's growing concern for energy security in the long term. China has been accused of practicing a modern version of mercantilism, buying oil instead of gold with trade surpluses. China's plan to build oil and gas pipelines are driven by both geopolitical and economic factors. Geopolitically, China appears to realize that it is vulnerable to the imposition of naval blockade at the Malacca Straits by anti-China forces as the strait serves as a chokepoint. Besides, the pipelines are more economical in the long term. Chinese interest in building special industrial zones in Myanmar will also help Chinese business interests. Cheap labour and raw materials and low production and transportation will benefit Chinese businesses too. Myanmar will eventually become a semi-finished goods producer and exporter for the Chinese market. However, Chinese capital, and other foreign capital as well, will flow into Myanmar through these industrial zones and this will shore up and assist the survival of the regime in Myanmar.

Appendix (1): Hydroelectric Power Plants Completed since 1988

No.	Power Station	Location	Capacity	Completion	Contractor
1	Saetawgyi	Matara	25MW	1989	
2	Kattalu	Kyunsu	150KW	1991	
3	Galaing Chaung	Hopin	1260KW	1991	
4	Mogoke	Mogoke	4MW	1991	-
5	Mongla	Mongla	60KW	1991	-
6	Nanshan Chaung	Kunhein	150KW	1991	-
7	Namlat Chaung	Kengtung	480KW	1991	-
8	Parkyehaw & extension	Chinshwehaw	400KW	1992/1995	-
9	Selu	Mongyang	24KW	1992	-
10	Yaetagun Chaung	Malikyun	192KW	1992	-
11	Baluchaung-1	Loikaw	28MW	1992	
12	Namlaung Chaung	Matupi	200KW	1992	-
13	Kyein Khayankha	Myitkyina	2.5MW	1993	YMEC
14	Laiver	Haka	600KW	1994	-
15	Nam Hmyaw	Lashio	4MW	1994	YMEC
16	Nanwok	Kengtung	3MW	1994	YMEC
17	Zawgyi-1	Lawk Sawk	18MW	1995	YMEC
16	NamSaung	Kunlone	500KW	1996	-
19	Zee Chaung	Kalay	1260KW	1996	-
20	Nam Saung	Kyaukme	4MW	1996	-
21	Nam Khankha	Mogaung	5MW	1996	-
22	Lahae	Lahae	50KW	1997	-
23	Twisaung	Tunzan	200KW	1997	-
24	Chi Chaung	Mintut	200KW	1997	-
25	Zawgyi-2	Lawk Sawk	12MW	1998	SCFETC*
26	Zaungtu	Bago	20MW	2000	YMEC
27	Maepan	Mongsat	1.2MW	2002	-
28	Thaphenseik	Kyunhla	30MW	2002	CITIC
29	Mone	Sadoktara	75MW	2004	CITIC
30	Paunglaung	Pyinmana	280MW	2005	YMEC

* Shanghai Corporation for Foreign Economic and Technological Cooperation

Appendix (2): New Factories under Ministry of Industry-1

No.	Factory	Location	Completion	Remark	Industry
1	Dyeing and Printing Factory	Magway	27-08-1999		MTI
2	Bandage Factory	Paleik	01-11-1999		MTI
3	Dyeing and Printing Factory	Myingyan	21-11-1999		MTI
4	Dyeing and Printing Factory	Monywa	24-03-2000		MTI
5	Dyeing and Printing Factory	Pakokku	24-03-2000		MTI
6	Vest Factory	Kyaukse	27-01-2003	China	MTI
7	Dyeing and Printing Factory	Yemathin	21-03-2003	India	MTI
8	200 Looms Extension Plant*	Myingyan	19-12-2004	China	MTI
9	400 Looms Extension Plant*	Yemathin	25-01-2005	China	MTI
10	Textile Factory	Pwintphyu	18-03-2005	China	MTI
11	Textile Factory	Pakokku	01-10-2005	China	MTI
12	Textile Factory	Salinyi	25-11-2005	China	MTI
13	Vest Factory	Taungthar	28-01-2006	China	MTI
14	Soft Drink Factory	Mandalay	08-05-1997		MFI
15	Candy Factory	Yangon	10-09-2000		MFI
16	Soft Drink Factory	Magway	15-03-2001		MFI
17	Instant Noodle Factory	Sagaing	16-07-2001	China	MFI
18	Candy Factory	Kyaukse	14-03-2002		MFI
19	Vinegar Factory	Yangon	30-09-2002		MFI
20	Thitseint Oil Factory	Seikphyu	31.03.2003		MFI
21	MPF (I.V) plant	Yangon	29-12-1996		MPI
22	No. 1 Plastic Factory	Kyaukse	07-02-1997		MPI
23	Soap Factory	Mandalay	20-03-2000		MPI
24	Soap Factory	Magway	15-03-2000		MPI
25	No. 1 Plastic Factory (extension)	Kyaukse	23-09-2002		MPI
26	Soap Factory	Yemathin	21-03-2003		MPI
27	PP Woven Bag Factory	Kyaukse	16-05-2003		MPI
28	Spirulina Factory	Yehkhar	06-06-2003		MPI
29	Refractory Brick Factory	Danyingone	11-08-1998	Japan	MCI
30	Tiles Factory#	Thayarwaddy	03-08-1999	Italy	MCI
31	300TPD Kiln Production Line	Kyaukse	28-08-2000	China	MCI
32	Marble Slab Factory (Branch)	Nayputaung	01-03-2001	-	MCI
33	Refractory Brick Factory (Ext)	Danyingone	13-06-2002	Japan	MCI
34	Cement Factory	Kyaukse	27-01-2003	China	MCI
35	Refractory Brick Factory	Kyaukse	21-12-2005	China	MCI
36	No. 3 Paper Mill	Paleik	14-01-2001	China	MPCI
37	Pulp factory	Tharbaung	03-08-1999	China	MPCI

38	Umbrella Factory	Mandalay	20-03-2000		MGMI
39	Umbrella Factory	Yangon	26-03-2001		MGMI
40	Bicycle Factory	Yangon	01-02-2000	India	MGMI
41	Footwear Factory	Kyaukse	11-04-2002	Hong Kong	MGMI
42	Bicycle Factory	Kyaukse	11-04-2002	India	MGMI
43	Umbrella Factory	Magway	28-07-2002		MGMI
44	Sewing Machine Factory	Kyaukse	05-11-2002	India	MGMI
45	Sewing Machine Factory (Ext)	Kyaukse	16-06-2005	India	MGMI

* from Shwetaung factory while it received 600 new looms from Pakokku and Salingyi factories.

The factory was built in 1972 at the cost of K 48.34 million and Yen 743.76 million coming from Japan Overseas Economic Cooperation fund. New machines were installed in 1997.

Appendix (3): Oil and gas Exploration in Myanmar

