

Better Environment Hong Kong

Revolutionizing Our Waste Management System

Waste Paper Recycling Industry in Hong Kong: Current Situation

- In 1997,
 - more than 1.3 million tonnes of waste paper were produced ¹
 - 440,000 tonnes were exported ¹
 - 371,000 tonnes were recycled locally ¹
- The market price for waste papers have been on decline since 1995 (Appendix I). This has affected the export business of waste paper which have been going down since 1995.
- there were more than 40 waste paper exporters in 1995, and today we have only 15 operators left in the market.

Immediate Remedial actions are required to rescue the industry. Government needs to implement a cost-effective waste management system in Hong Kong which has been proven very successful overseas. If this kind of proposal is not taken by the government seriously, everyone in Hong Kong will suffer!!

Our Proposal: Improved waste recycling system = increase employment opportunities

In Hong Kong, the Government dump wastes into the landfill directly regardless whether the recyclable wastes have separated or not (Appendix II). In fact, BEHK was forced to advise about 100 schools to dump almost 40 tonnes of waste paper recently.

Hong Kong is one of the very few advanced cities which has not implemented a waste management system yet. Waste collectors in the western countries provide a separate treatment for recyclable wastes (Appendix III). Collection without planning and system is a loss of billions of dollars and thousands of jobs for Hong Kong.

Example: Once implemented an effective waste management system, Waste Management Incorporation in Houston has helped the city build up a 80-million industry with its recyclable wastes. The company also created direct jobs for 5,000 people.

If a cost-effective waste management is implemented in Hong Kong, we can basically consider million tonnes of waste including plastics, construction and demolition waste, etc, which were dumped into the landfill each year, potential commodities (Appendix IV) for Hong Kong.

1. Short-term plan - Establish Centralized Storage Depots

- Provide central recyclables depots in different part of Hong Kong.
- Government waste collection team should implement a system to separate useful recyclables (already separated by the public) and ordinary wastes and they should responsible to transport the recyclables to the central depots.
- Recyclers will buy recyclables from the government at a price (this income will subsidize government' transportation cost. The extra work for the government involved in the process is minimum, but this effort will mean a lot to the recyclers, especially in helping them to cut down on operation costs.

Major problems facing the waste recycle industry:

- high transportation cost
- lack of a central body to control the quality of our recyclable products
- lack of enthusiastic support from the public (e.g. According to Paper Chase, the research program on waste paper collection for schools we started two months ago, there is a great difference in their level of participation among the 95 schools who joined the program (Appendix V).

Long-term strategy: production of ethanol from biomass

- In the long run, the renewable energy is an option to be explored such as producing ethanol from biomass (Appendix VI). BEHK is planning to produce ethanol as a possible gasoline additive in our 1999 research program agenda.

Reference

1. *Summary of Local Waste Recycling Statistics 1997, 1998*. Facilities Planning Group. Environmental Protection Department, Hong Kong.

Appendix J

Exportation of Waste Paper

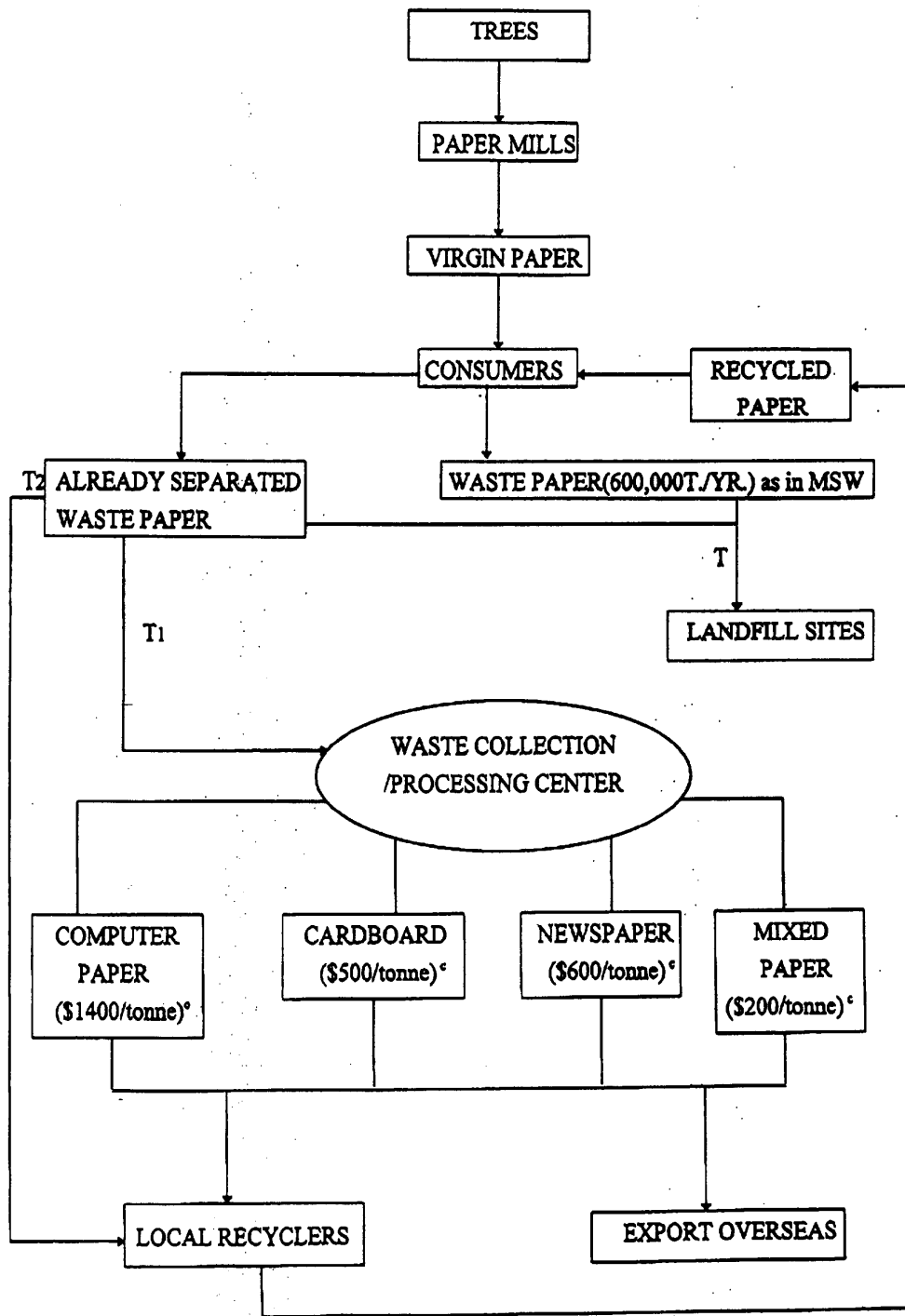
Code	1992		1993		1994		1995		1996		1997	
	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity
Export from Hong Kong												
	value (HK\$ '000) quantity (Tonnes)											
47071000	82988	110402	59264	95135	192676	210766	275910	274329	202710	269437	152683	227267
47012000	30890	30875	27599	27279	41442	28750	77680	38841	24688	12018	21051	13592
47073000	32858	40710	41022	59362	41671	53160	103282	70217	56197	52138	52510	65432
47079000	224984	314915	120493	200864	82336	147988	73219	105181	60853	91541	83444	133520
Total	371931	496902	248398	362860	328625	441696	530291	489506	344448	425134	309888	439831
47071000		Value/Ton		Value/Ton		Value/Ton		Value/Ton		Value/Ton		Value/Ton
47012000		751.70		623.16		772.70		1005.76		752.35		671.76
47073000		1003.72		1011.73		1393.01		1954.77		2054.25		1546.78
47079000		809.58		690.82		789.52		1470.90		1077.85		802.51
		714.46		599.87		556.33		696.12		684.76		624.96
Re-export												
47071000	14024	14495	3224	3600	2512	2293	24630	8594	2010	1449	988	2002
47012000	0	0	0	0	0	0	4570	1341	9120	2595	2434	941
47073000	1246	1741	70	31	6	2	0	0	733	650	938	460
47079000	15630	20589	8628	10659	6856	4780	72	91	803	850	701	1325
Total	30900	36926	12122	14290	9374	7085	29272	10026	12896	4694	5061	4728
47071000		Value/Ton		Value/Ton		Value/Ton		Value/Ton		Value/Ton		Value/Ton
47012000		667.51		695.56		1095.51		2868.95		1367.16		493.51
47073000		0.00		0.00		3000.00		3407.90		3514.45		2566.91
47079000		715.68		2256.06		1431.32		0.00		1593.48		2039.13
		759.14		828.22		791.21		791.21		1235.38		529.06

Comparisons:	92		93		94		95		96		97	
	Export	Re-Export	Export	Re-Export	Export	Re-Export	Export	Re-Export	Export	Re-Export	Export	Re-Export
47071000	751.70	987.51	623.16	895.56	772.70	1095.51	1005.76	2868.85	762.35	1387.16	671.76	n/a
47072000	1003.72	n/a	1011.73	n/a	1393.01	n/a	1954.77	3407.90	2054.25	3514.45	1548.78	2598.61
47073000	809.58	715.98	690.82	2258.06	789.52	3000.00	1470.90	0.00	1077.95	1593.48	802.51	2039.13
47079000	714.46	759.14	599.87	828.22	556.33	1431.32	696.12	791.21	684.76	1235.38	624.96	n/a

code
 47071000-waste & scrap of unbleached kraft paper or paperboard or corrugated paper or paperboard
 47072000-waste & scrap of other paper or paperboard made mainly of bleached chemical pulp, not coloured in mass
 47073000-waste & scrap of paper or paperboard made mainly of mechanically pulp
 47079000-waste & scrap of paperboard NES (no elsewhere states)

Reference: Census and Statistics Department

Appendix II: CURRENT SITUATION



Key:

T = Transportation provided by the Hong Kong Government (USD)

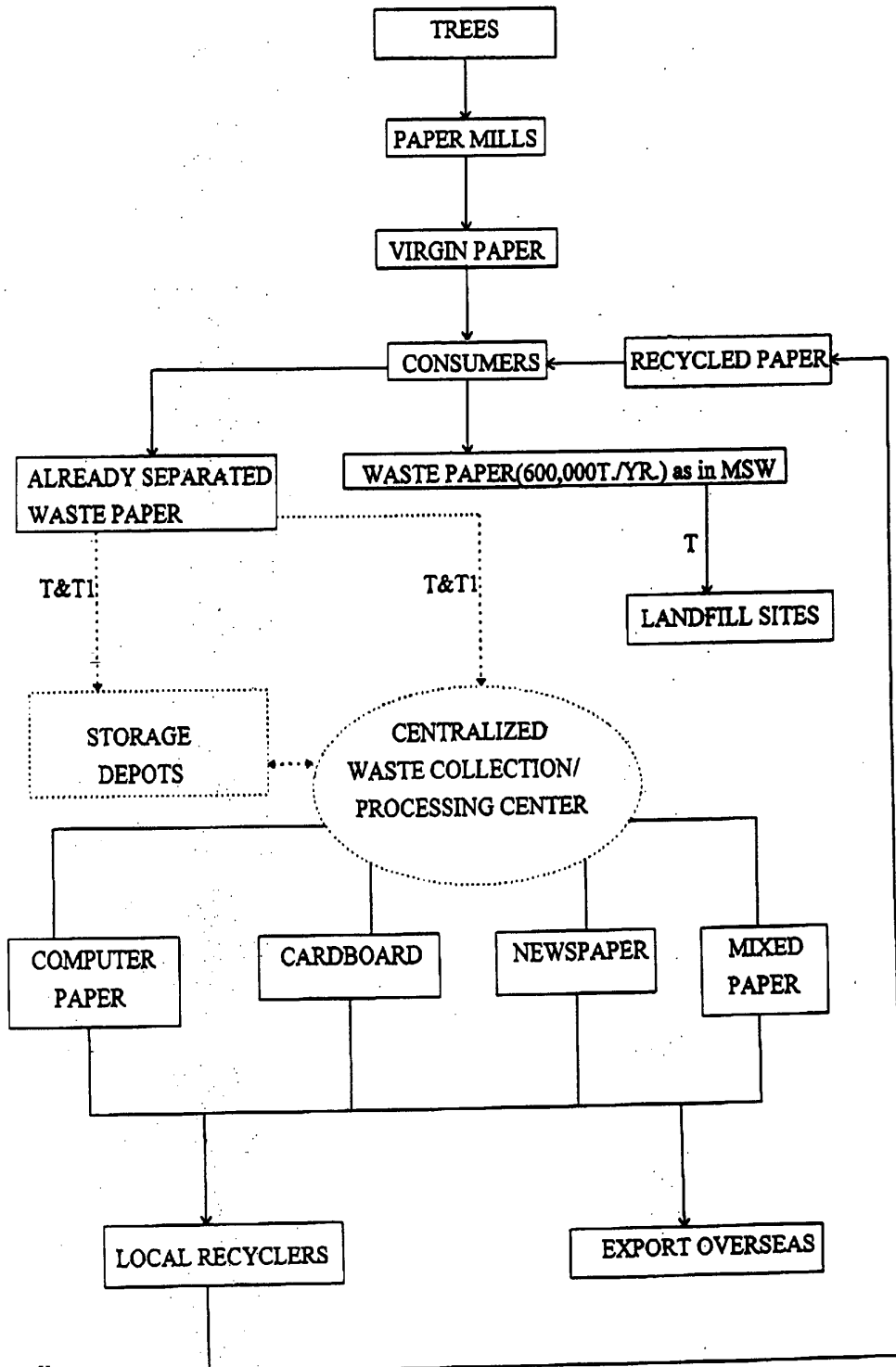
T₁ = Transportation arranged by private sector or street collectors

T₂ = Transportation arranged by private sector (cost of ave. \$400/tonne)

MSW = Municipal Solid Waste

* = Current price

Appendix III
Waste Management in the US



Key:

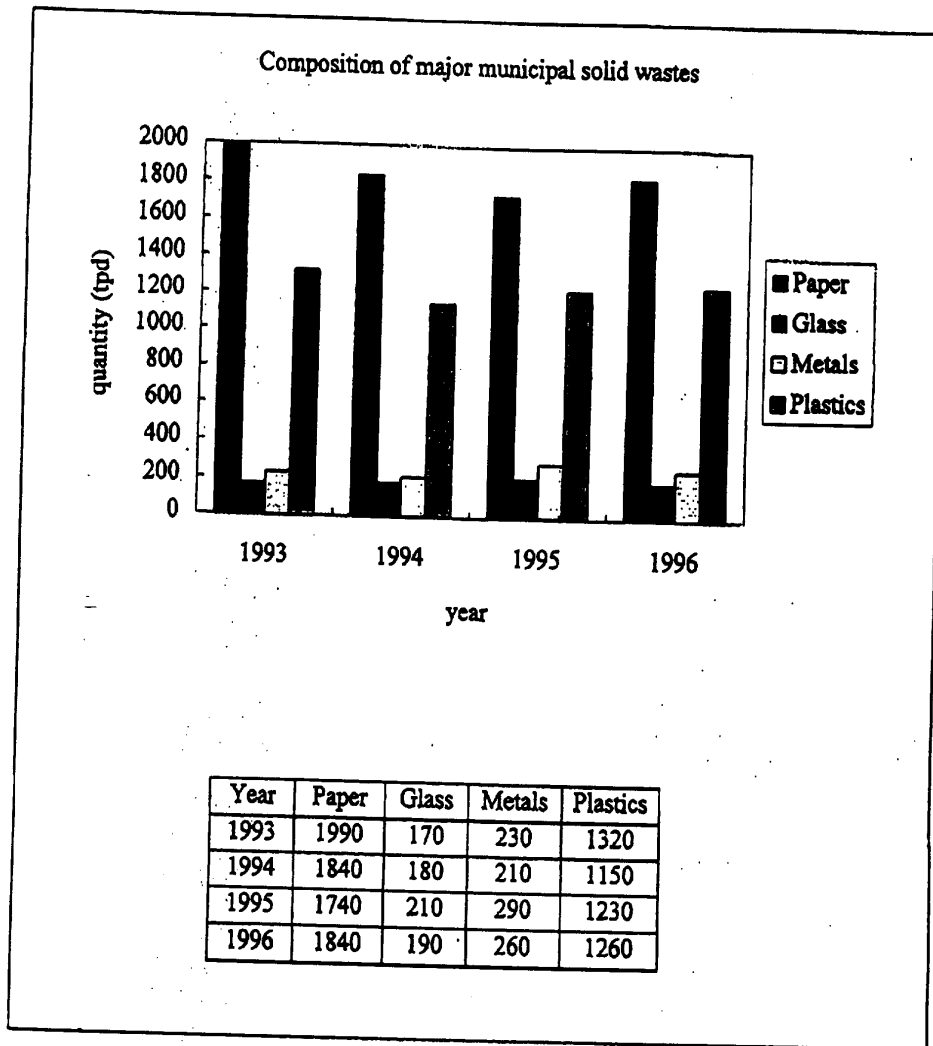
T = Transportation provided by the Hong Kong Government (USD)

T_i = Transportation arranged by private sector or Street Collectors

◄--> The waste collection center and the processing center can be in a different or same plant.

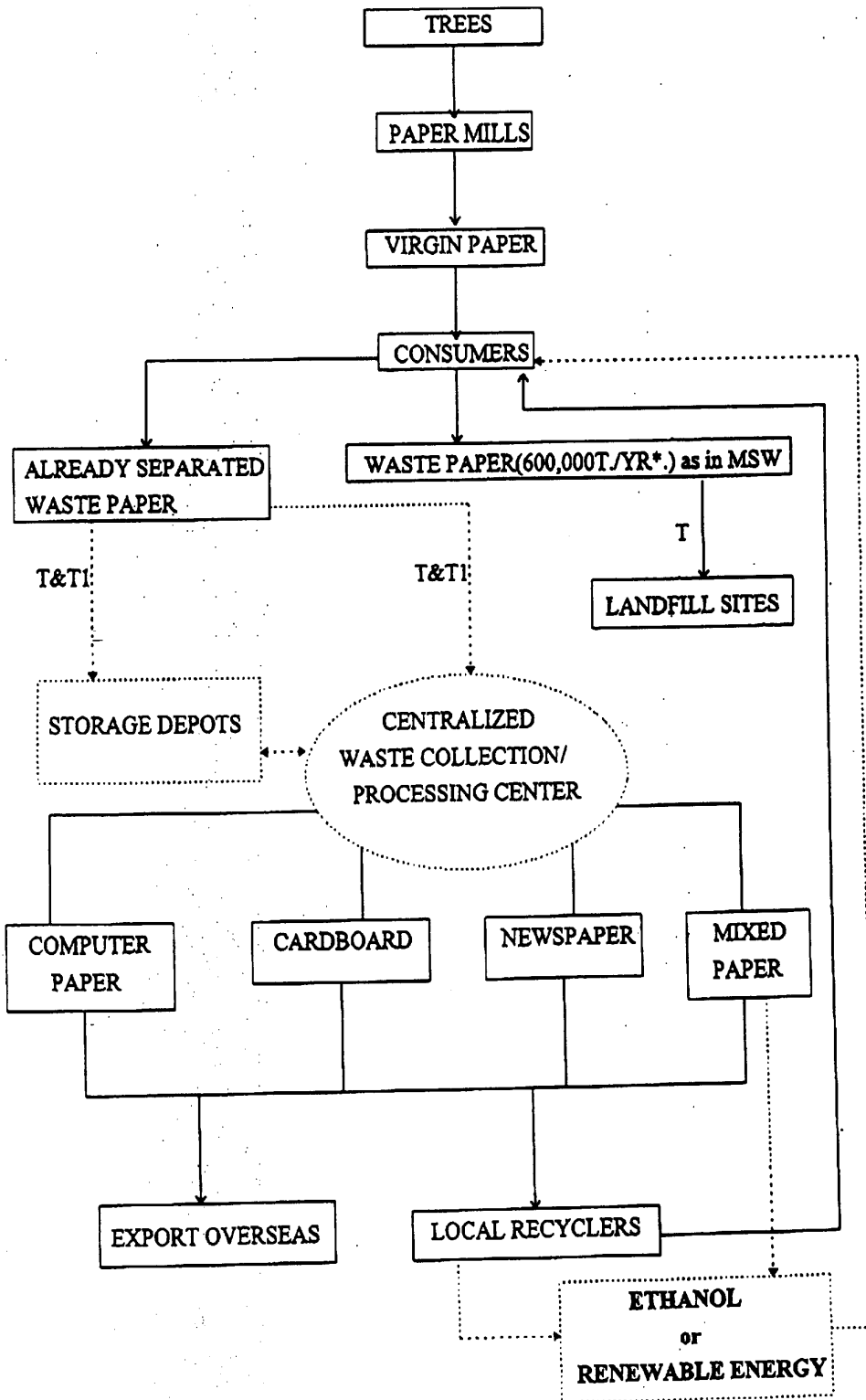
..... Proposed action

Appendix IV
Composition of major municipal solid wastes



Reference: Tsang, C.C. and Ng, K.F. 1997. Monitoring of Solid Waste in Hong Kong 1997. Environmental Protection Department, Hong Kong. p.44.

Appendix VI Long term Plan



Key:

←→ The depot could be within the same or different plant.

* should be reduced in the future