




Recycling of Waste Paper in the Philippines

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- Paper industry in the Philippines
 - Ecological solid waste management law
 - Recycled paper requirement
 - Waste paper recycling infrastructure
 - Issues in waste paper recycling




End-users of paper and paper products

Paper and Paperboard Product	End-User
Newsprint	News and magazine publishers, computer and office forms, school pads
Printing and writing Paper	General printing, books, stationery, duplicating paper, writing
Corrugated material	Export packaging, domestic packaging for food products, household appliances, paints, ceramics, and others
Carton board	Food packaging sector
Sack paper	Cement sector and coconut products sector
Tissue paper	Hotels, restaurants, households
Other wrapping paper	Fruit export packaging sector, retail sector



Paper Mills in the Philippines

Paper Mills	Number
Paper mills (waste paper)	39
Abaca paper mill (non-wood pulp)	6
Integrated paper mill	1
Total	46



Paper Products	Quantity (MT)
Industrial grade packaging paper	426,000
Newsprint	231,000
Printing and writing	232,000
Tissue paper	35,000
Kraft paper and board	662,000
Total	1,586,000
Effective capacity (75%)	1,189,500



Paper Consumption and Production in Tons

Grade	Production	Net Import	Consumption
Newsprint	105,000	18,000	123,000
Printing/writing	103,000	50,000	153,000
Corrugating	253,000	190,000	443,000
Others	26,000	48,000	74,000
Total	487,000	306,000	793,000

Based on 1993 figures of production and consumption needs of about 26 paper mills.



Municipal Solid Waste Production, 1999

Waste type	Percentage
Kitchen waste	42 %
Paper	19 %
Plastic	17 %
Metal	6 %
Garden waste	7 %
Others	9 %
Total	100 %



Country	Consumption per capita (kg)	Country	Consumption per capita (kg)
USA	333	Australia	167
Finland	266	South Korea	134
Hong Kong	233	Malaysia	82
Japan	230	Portugal	75
Singapore	230	Thailand	34
Netherlands	227	Brazil	27
Taiwan	225	Chile	27
Canada	220	China	20
Germany	200	Indonesia	13
Sweden	195	North Korea	3
UK	192	Vietnam	1
New Zealand	184	Laos	<1

Source: Chris Lang 1996

Philippines	13
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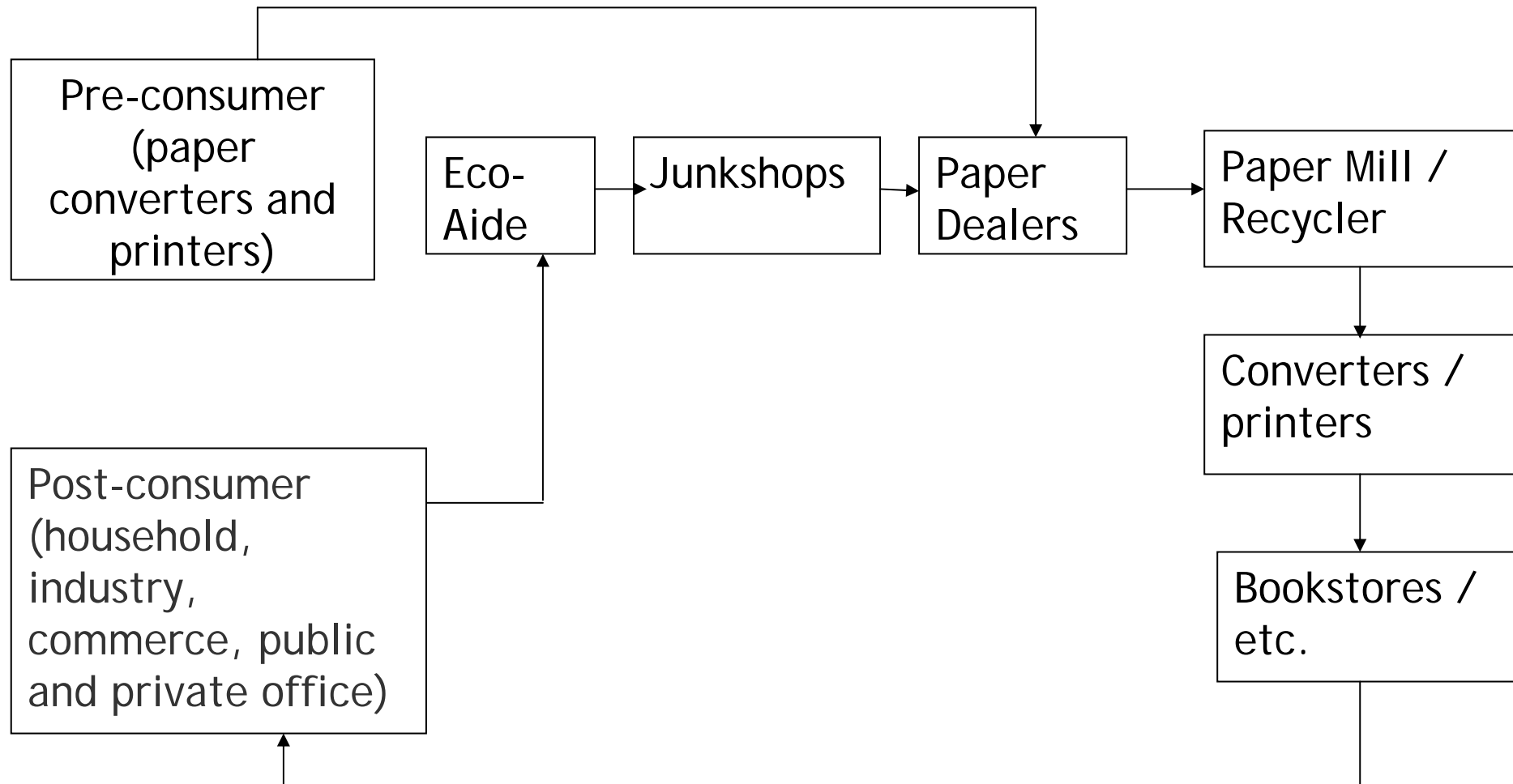



Ecological Solid Waste Management Act of 2000

Selected provisions on recycling

- Department of Trade and Industry to study existing markets for processing and purchasing recyclable materials
- Study shall include inventory of existing markets for recyclable materials, product standards for recyclables and recycled materials
- National Ecology Center (NEC) to establish and implement deposit or reclamation programs
- NEC to assist LGUs in establishing buy-back centers and reclamation programs for recyclables

Paper Recycling Flow






Waste Paper - Collection and Recovery

From households to junkshops

- Eco-aides go from house to house to collect old newspapers
- Eco-aides either contracted by junkshop owners or NGOs involved in recycling
- Eco-aides provided with seed money and pushcart by junkshop owners



Waste Paper - Collection and Recovery

From institutions and junkshops to paper dealers


- Junkshop owners employ sorters to sort waste papers collected before delivery to paper dealers
- Granting a contract to paper dealer to collect waste paper from institutions
- ADB granting a contract for 5 years to a paper dealer to collect its solid wastes including recyclables
- Contract award through competitive bidding
- Paper dealers hire contractual labor to do further sorting



Collected Waste Papers



Carpel Trading Corporation



Waste Paper - Collection and Recovery

From paper dealers to paper millers

- Paper dealers mostly located in Metro Manila to save on transport costs
- Because most recyclers are in Metro Manila
- But still, paper dealers charge a high price to paper millers



Some Concerns in Paper Waste Recycling

For junkshop owners

- No segregation of waste at home/source
- Eco-aides not allowed to enter residential subdivisions to collect old newspapers
- Adding weight to waste paper sold to junkshop owner
- Lack of funds of junkshop owners to buy recyclables



Some Concerns in Paper Waste Recycling

For waste paper dealers

- Entry of imported waste paper
- Price could be the same or cheaper than local waste paper
- Junkshop owners spray water (to add weight) on waste paper before delivery to dealers
- Entry of imported finished paper products reduces domestic production requirement for paper millers
- Depresses demand for waste papers
- Delayed payment by paper miller resulting in delayed purchase of waste papers



Some Concerns in Paper Waste Recycling

For paper millers

- Reduced demand for paper could result in shut down
- Unstable supply of waste paper
- Production increases, but could not increase price of papers



Waste recovery in Metro Manila by Linis Ganda

Year	Material Purchased (tons)	Value (million pesos)
1998	69,400	95.2
1999	95,600	124.5
2000	101,850	132.5
2001	120,162	157.2
2002	182,051	231.6
2003	209,770	267.2

Source: Report of the Metro Manila Federation of Environment Multi-Purpose Cooperative, Bong Teves, March 1, 2001



City	Cartons	Old Newspaper	Waste Paper	Total
Caloocan	3,512.33	2,029.05	1,452.07	6,993.45
Las Pinas	3,347.36	1,799.52	571.86	5,718.74
Makati	1,872.05	1,008.43	505.76	3,386.24
Malabon	832.59	744.47	620.18	2,197.24
Mandaluyong	1,460.43	1,071.65	988.03	3,520.11
Manila	2,009.05	2,357.48	1,389.00	5,755.53
Marikina	1,732.47	2,550.79	1,800.89	6,084.15
Muntinlupa	1,588.51	1,724.36	1,408.87	4,721.74
Navotas	1,459.25	1,748.96	1,408.23	4,616.44
Parañaque	1,554.24	1,322.73	971.52	3,848.49
Pasay	2,109.48	1,437.18	1,168.66	4,715.32
Pasig	1,956.46	1,650.24	1,239.61	4,846.31
Pateros	810.10	271.31	581.36	1,662.77
Quezon City	31,222.07	11,735.31	16,439.64	59,397.02
San Juan	1,440.06	2,330.30	1,252.37	5,022.73
Taguig	1,389.18	1,714.70	920.46	4,024.34
Valenzuela	1,864.20	1,185.32	1,937.39	4,986.91
TOTAL	60,159.53	36,681.80	34,655.90	131,497.43

Source: Metro Manila Linis-Ganda, 2004.