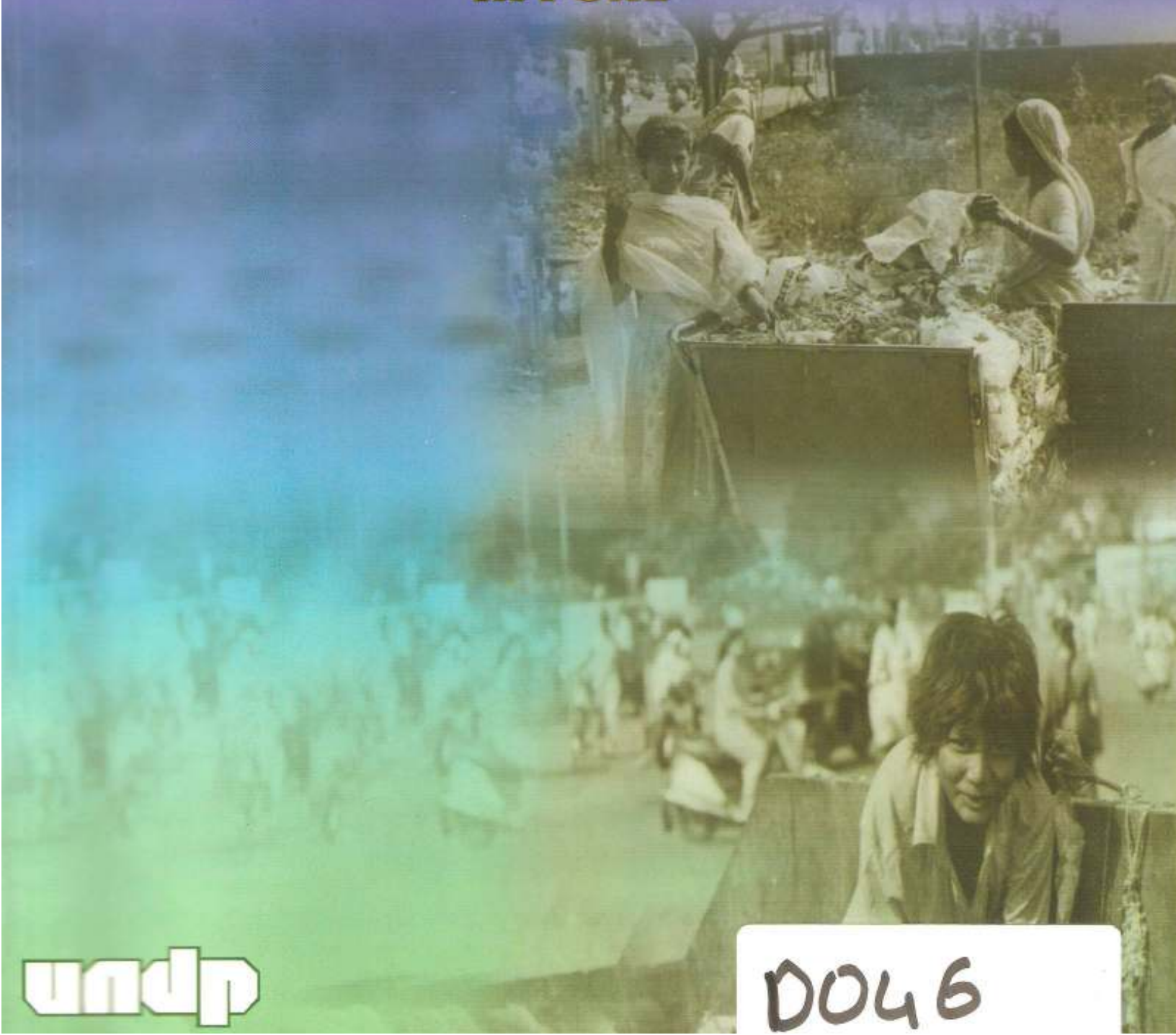
REPORT ON SCRAP COLLECTORS, SCRAP TRADERS AND RECYCLING ENTERPRISES IN PUNE



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ILO-SNDT

STUDY OF SCRAP COLLECTORS, SCRAP TRADERS AND RECYCLING ENTERPRISES

IN PUNE

Preliminary Report of Findings

By

Poornima Chikarmane Dr Medha Deshpande Lakshmi Narayan*

Note: This is only an unedited report of the preliminary findings and is being circulated only for purposes of discussion at the seminar as per the requirements of the ILO. Further analysis of available data and editing remains to be done.

-Authors-

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Note:
The views expressed in this report are entirely those of the authors. The International Labour Organisation does not necessarily subscribe to them.

This study is dedicated to the city's first environmentalists, the wastepickers. Their faces do not appear on the cover pages of magazines; they do not read papers at conferences or win awards. These trappings are not material to their existence. How their claims to scrap are protected, are!

Expressions of gratitude

It is ten years since we first started our work with wastepickers and seven since the establishment of the Kagad Kach Patra Kashtakari Panchayat. Eventful years of highs and lows, joys and frustrations that have added meaning to our lives. Our immense gratitude to the scrap collectors for spending long hours answering endless questions knowing fully well that they would not derive any direct personal benefit from the exercise. Bursting into giggles at the incongruity of some of the questions relating to facilities at the workplace. The scrap traders for sharing the secrets of their trade saying all the while, "you've been in this for so many years. What can we hide from you?" And the reprocessors, curious but co-operative.

It is fitting to thank all those who contributed to the process of organising scrap collectors, that preceded the study because it is that which has informed and enriched the study itself.

Dr Mariamma Verghese, Vice Chancellor, SNDT Women's University and her predecessors for their belief that the university can and should play a role in social processes through outreach. Dr Parasnis, former Registrar, Dr Vandana Chakrabarti, Director, Adult Education and Ms Freny Tarapore, former Honorary Director, Pune sub-centre for their support.

Dr Baba Adhav in whom the wastepickers and we, repose much confidence because of his relentless struggle against discrimination and injustice, for his practical wisdom and guidance.

Our comrades in the struggle: Mr Mohan Nanavre, President and Mr Raju Dhade, Treasurer, Kagad Kach Patra Kashtakari Panchayat and Adv. Ram Sharmale; and Ms. Surekha Gade, Sangita John, Sunil Borawade, Asha Netke, Mangal Rajput, Pushpa Vyas who also assisted in the collection of baseline data of scrap traders.

Ms Mini Bedi and Community Aid Abroad for their core support to SNDT for the Programme for the Empowerment of Women Wastepickers from the concept through its evolution.

Mr Ratnakar Gaikwad, Commissioner, Pune Municipal Corporation and Mr Nagrale, Commissioner, Pimpri Chinchwad Municipal Corporation and their predecessors for their sensitivity to and readiness to act for the welfare of wastepickers. Dr Anil Ravetkar, Dr Dhaigude and Dr Nagkumar for the same reasons.

Deepa Natu, Bhima Narale, Vidya, Reshma, Administrative Staff of the Pune sub-centre for coping with the additional workload and our 'moods' without complaint.

Seema Kulkarni for her contribution during the design of the study. Shabana Diler and Ujwalla for assisting in the data collection. T.Mani for data entry. Sugandha More data entry and assistance in data analysis.

Dr Harjit Anand and The International Labour Organisation for proposing the study at the opportune time and providing the financial resources for it.

Dr Anant Phadke and the Ranade Foundation for supporting the health referral service introduced as part of the study.

Dr Kharshikar, Dr Rajarshi and Dr Kunte, Statistics Department, University of Pune for patiently helping to decide the sampling design.

Our friends Dr Sanjivani Mulay, Anwar Rajan, Joe Lobo and Dr Sharmila Rege and many others for lending their ears to the dilemmas raised by us, and offering inputs during the course of the study.

This study is not merely an academic exercise. It is one more indictment of the inequities in our social and economic system and a tool in the struggle against injustice.

Poornima Chikarmane* **Medha Deshpande*** **Lakshmi Narayan***

“Indian society is like a mountain. With the very rich at the top, lush Alpine pastures where skilled workers in the biggest modern industries graze, a gradual slope down through smaller firms where pay and conditions are worse and the legal security of employment means less, a steep slope around the area where the Factories Act ceases to apply, a plateau where custom and the market give poorly paid organised workers some minimum security, then a long steep slope down through casual migrant labour and petty services to destitution. There are well-defined paths up and down those slopes, which are the easiest for some kinds of people”.

Holmstrom 1984

Chapter 1

Introduction

The landscape of the historically inherited informal sector has been continuously expanding in a developing country like India. This part of the urban economy continues to offer opportunities to 'work in order to survive' to a large number of unskilled and semi-skilled migrants and those long resident in the city who are excluded from employment in the formal sector. Employment or work in the informal sector is usually in low-earning occupations in which the conditions of work are insecure.

Various points of view have been expressed regarding the role of the informal sector. These range from preserving the income generating potential of this segment of the macro-economy to bringing it into the fold of the formal sector and to provide protection to workers in this sector.

These divergent views pose a dilemma at the policy level. That of whether to promote the informal sector as the provider of employment and incomes or to seek to extend regulation and social protection and thereby reduce its capacity to provide jobs and incomes for an ever increasing unemployed population (ILO).

The general approach of the ILO towards policy has been to find out the 'optimal' trade off between these two alternatives. By implication this means that the policies adopted should generate more jobs and higher incomes and that simultaneously, better conditions of work and protection should be provided to those employed in this sector.

Given the differences that exist in the nature of the informal sector between countries, the socio-eco-political environment in which it operates and the heterogeneity within the informal sector itself, it is very difficult to formulate a single strategy in pursuit of the above objectives.

One of the inputs required for strategy formulation is the knowledge of 'what' and 'how' with regard to the functioning of the informal sector at micro-locations in the macro-economy.

The present study is an attempt to investigate the functioning of the recycling sector in the city of Pune in the state of Maharashtra. The investigation is expected to highlight intervention variables. The initiation of interventions to improve the conditions of work and levels of incomes is an integral part of the study.

The recycling sector in Pune is not a blank canvas. The Kagad Kach Patra Kashtakari Panchayat, a trade union of scrap collectors who are at the lowest end of the recycling sector (and probably the informal sector) has been operational for the past seven years. It has initiated several processes and programmes with the support of the SNDT Women's University. Hitherto the interventions have been based on the expressed needs and

concerns of scrap collectors and the insights developed during the years of interaction with scrap collectors rather than on formal research.
These insights into the functioning and dynamics of scrap collection and to some extent the scrap trade, are those that form the basis of this study. The present study attempts to systematically explore the relationships and dynamics between the horizontal and vertical constituents of the recycling sector. The findings of this study will inform future interventions.

The scheme of the study is as follows.

Chapter I sets the context for the study. The introduction is followed by a review of literature on the informal sector. The historical backdrop of the organisational status of workers in the sector in Pune is preceded by an overview of the recycling sector.

Chapter II describes the methodology of the study.

The socio-economic background and the living conditions of the constituents of the recycling sector based on primary data are presented in Chapter III.

Chapter IV is divided into three sections. The first section describes the nature and conditions of work of scrap collectors on the basis of primary data. Section II pertains to the size, structure and dynamics of the scrap trade based on primary data. Section III looks at the nature of recycling enterprises. The relationship and the dynamics within and between the different levels are examined using primary data.

Chapter V contains a review of relevant legislation and rules and the implementation machinery in respect of the recycling sector.

The nature and status of the interventions introduced during the course of the study is presented in Chapter VI

The key findings and recommendations are presented in Chapter VII along with the dilemmas in strategising interventions.

The Informal Sector

Generally the formal sector is used to describe wage employment of permanent nature in industries, government, commercial and other large-scale enterprises. This is also variously referred to as the organised or protected or registered sector. In this sector the work situations are structured, differentiated by tasks and hierarchies and recorded in official statistics. The conditions of work and the tenure and terms of employment are prescribed, regulated and protected by the law. These workers are the working elite, privileged and protected.

Myriad economic activities that do not meet the above criteria are thrust into the basket referred to as the informal sector. The diversity in the basket ranges from ‘waged labour’

to what is called 'self-employment' and activities that constitute the means of livelihood for large sections of the population. Hart (1973) first invented the term 'informal sector'. Since these activities are difficult to enumerate they are ignored by the census and legal statutes do not cover the working conditions.

The above dualistic view is untenable (Bremen, 1994). Instead of applying the terms 'formal' and 'informal', Bremen proposes a distinction in terms of different articulated production relations that are found in the economic systems of the third world in varying degrees and gradations.

There are two views with respect to the relationship between the 'informal' sector and the 'formal' sector.

1. The informal sector is seen as performing the function of a buffer zone and that the fastest possible expansion of the formal sector will raise the standard of living of the poor.
2. The International Labour Organisation and the World Bank view the relationship as one of structural inequality. They subscribe to the belief that the flexibility, viability and adapted technology of viable activities are hamstrung by the favourable market conditions reinforced by political patronage and government protection that are available to the modern sector. They strongly advocate attunement and increased complementarity of the two sectors through ending discrimination against activities of the informal sector that are often seen as an offence. They also see active stimulation through credit, skill upgradation, managerial know-how, marketing promotion to improve the competitiveness of labour intensive small-scale activities as a means to reduce structural disparities. Ley has critiqued this argument which propagates the idea that structural inequality can be mitigated if not abolished with the aid of specially designed compensatory programmes.

The gradations and levels and the complexities of the interrelationships between them are of critical importance in the informal sector. It would be ludicrous to believe that a wage labourer or a self-employed person at the lowest level has anything in common with a trader or owner of a small enterprise apart from the fact that both are considered to be part of the informal sector. The benefits of higher levels of production and efficiency do not necessarily percolate to the lowest levels because of the appropriation of surplus that takes place at the higher levels.

Overview of scrap collection and scrap trade in the recycling sector

Scrap collection though an integral part of urban solid waste management is one of the lowest rungs of the informal sector. Scrap collection is undertaken by two categories of workers, wastepickers and itinerant buyers. The total population of such workers in Pune is estimated to be about 6000, sixty five per cent of whom are wastepickers. There exists no form of licensing in scrap collection and it requires no education or skill and very little capital if at all. Scrap collectors belong almost exclusively to the Matang, Mahar and Neo-Buddhist castes among Dalits. Most are migrants from the district of Solapur and the Marathwada region. The severe drought in 1972 marks a watershed in their migration.

Wastepickers usually enter the occupation as children and continue till physically incapacitated. Over 90 per cent of wastepickers are women. They retrieve paper, plastic, metal, glass, bones and rags from garbage bins and dumps. They move mostly on foot covering a distance of up to 12 kms a day with headloads of upto 40 kgs. Some travel by train or truck to the villages and industrial belts around the city. They leave their homes at sunrise and return at sunset after a 10 hour working day. The average daily earning is about Rs. 50.

Itinerant buyers purchase small quantities of scrap from residential areas and commercial establishments. Over two thirds of them are men (`bhangar feriwallas') with pushcarts and the rest are women ('dabba batliwallis'). The capital for purchasing the scrap is either their own or provided by the scrap trader. The commodities purchased by itinerant buyers are of relatively better quality and market value than those collected by wastepickers. They are unbroken bottles, metal scrap, newspaper, plastic cans and tins. Their earnings average at Rs.70-80 per day. Women itinerant buyers also barter peanuts and garlic in exchange for scrap in the villages.

The scrap trade

The scrap commodities collected by scrap collectors are sold to retail scrap traders by weight or unit, after rudimentary sorting into about thirteen broad categories of plastic, glass, white paper, mixed paper, milk bags, tin and iron. The scrap is further sorted and graded as it is traded progressively through various categories and levels of traders till it reaches the reprocessor or the end user. Value addition takes place with each successive transaction.

Scrap establishments are usually located in slums and registered under the Shops and Establishments Act. The retail trader often belongs to the same caste as the scrap collector and lives in the same locality. No receipts are issued for transactions with scrap collectors and it is doubtful whether any taxes are paid. The scrap trade is closely held and controlled by the trading castes and communities. The scrap commodities market is subject to seasonal price fluctuations and influenced by imports of scrap.

Role of wastepickers in the management of urban solid waste

The role played by wastepickers in environment protection and conservation apart from their contribution to economic productivity is very significant.

About 75 per cent of the total garbage generated (1000MT) in Pune and Pimpri Chinchwad is organic waste that decomposes. The cost incurred by the municipalities for collection and transport per tonne of garbage is Rs.300 (PMC, 1998). About 200 MT is paper, plastic, metal and glass scrap that is collected by wastepickers. The quantification of their contribution indicates its magnitude even at conservative estimates.

- The work of wastepickers actually saves the garbage disposal costs of the Pune and Pimpri Chinchwad Municipal Corporations.
- The collective earnings of scrap collectors are about Rs. 3,00,000 per day.

- The environmental benefits that are derived from the work done by wastepickers are self-evident and would be difficult to quantify in economic terms.

Scrap collectors conserve resources and are engaged in socially useful, economically productive and environmentally beneficial ***work*****.**

Critical issues in scrap collection

Occupational health
Wastepickers are subject to a number of health hazards because they rummage through putrefying garbage including toxic medical waste using bare hands. Tuberculosis, scabies, asthma, respiratory infections, cuts, animal bites and injuries are common.

Legitimacy, social security and worker benefits
Scrap collectors are considered to be self-employed. Consequently, they do not come within the purview of any labour legislation. They are variously subjected to abuse, unwarranted suspicion and harassment from the police, municipal workers and citizens. Scrap collection is not recognised as gainful work.

Exploitation by scrap traders
The relationship between the retail scrap traders and scrap collectors is exploitative and paternalistic in nature. Cheating in weights, issue of credit slips in lieu of cash, price fixation and verbal abuse are some of the common exploitative practices.

Threat to livelihood
The increasing dissatisfaction with garbage clearance by the civic bodies has created a lobby for privatisation of garbage collection. Environment engineering companies, both Indian and international, have been trying to market their technologies for garbage processing. Privatisation and those technologies that incorporate mechanical segregation of garbage are bound to displace wastepickers. The recognition of the worth of scrap will generate questions about the 'rights' to garbage.

Social aspects of marginalisation
Most wastepickers being women also have to shoulder domestic responsibilities. A significant proportion are heads of households. Over 97 per cent of wastepickers are illiterate. Child marriage is the norm. Marital discord, alcoholism and domestic violence are common. Caste linked practices such as 'wada zhadne' (sweeping courtyards in exchange for leftover food in the 'old' city) and 'jogva magne' (a 'divinely' ordained ritual seeking of alms) are still prevalent.

Status of organisation of scrap collectors
It is against the above backdrop that the Kagad Kach Patra Kashtakari Panchayat (association of scrap collectors) was registered in 1993. The SNDT Women's University has supported the process of organisation and continues to do so through its Project for the Empowerment of Wastepickers.

The interventions of the association have been rooted in the felt needs of scrap collectors as vocalised by them. There has been regular documentation of all the processes involved and baseline data too has been collected in the course of the organisation's history. Formal research, usually action based, has been undertaken whenever the necessity arose.

Establishing a collective identity
The association was registered as a trade union in order to establish the status of scrap collectors as 'workers'. Over four thousand adult scrap collectors are registered with the association.

Recognition by the Municipalities
The Pune and Pimpri Chinchwad Municipal Corporations have officially endorsed the photo-identity cards issued to scrap collectors (in recognition of their contribution) by the association. The endorsement authorises adult scrap collectors to collect recyclable scrap.

Following the Supreme Court directives on the disposal of hospital waste the PMC issued a notification regarding the segregation of hospital waste and its collection by authorised wastepickers. The responsibility for mutilation and disinfection of scrap (to prevent reuse and contamination) rests with the hospitals/doctors (generators of waste).

Campaign for doorstep collection of segregated garbage by wastepickers (GRASP)
This is essentially a doorstep garbage collection service initiated many years ago. Each wastepicker is allotted 100 households that directly pay her a monthly service charge. The scheme now covers 25,000 households and commercial establishments, benefiting about 300 wastepickers. The Pune and Pimpri Chinchwad Municipalities have lent their support to the endeavour.

Legislative protection for livelihoods
The association has been lobbying the government for extension of the Hamal Mathadi and other Unprotected Manual Workers (Regulation of Employment and Welfare) Act, 1969 to scrap collectors. The main difficulty is that scrap collectors do not have a legally tenable employer-worker relationship with the retail scrap traders.

Social security and credit schemes initiated by the association
1. The Scrap Collectors Association along with the Life Insurance Corporation of India operates a Group Insurance Scheme for its members. On payment of a nominal annual premium, members are insured against death and disability.

2. The Kagad Kach Patra Nagri Sahakari Pat Sanstha, a savings linked credit cooperative was registered in 1997. Members are entitled to credit of up to three times the amount saved at an interest rate of 18 percent per annum. A surcharge of 6 percent per annum is levied towards a Social Security Fund.

3. The Association assists members to avail of Government Schemes like the Sanjay Gandhi Niradhar Yojana and Compensation for Death of Earning Member Yojana.

Interventions in the scrap trade

The association operates a co-operative scrap store in 1998 in space provided gratis by the Pimpri Chinchwad Municipal Corporation. It functions on a no-profit no-loss basis. The members selling at the store receive an annual bonus that has progressively increased from 5 to 10 per cent.

Child Labour and Education

As early as 1995 the union took the position that the presence of child labour in the occupation is detrimental to the interests of the adult workers. And that compulsory education is the primary means to ensure that children do not start work. The association has been actively involved in lobbying for better standards in municipal schools and is part of the Campaign against child Labour. The association conducts annual enrolment drives at the start of the academic year and provides exercise books to children of members by raising donations. More importantly, adult scrap collectors conduct drives with the help of the municipality and the police for confiscating the scrap collected by children.

Creating platforms for cultural renewal

Child marriage among scrap collectors is very common. The association has not shied away from addressing this contentious cultural issue. The interventions include education of girl children, police action to prevent child marriages and the organisation of 'community weddings' or 'mass weddings'. Since 1998 the association has been organising community weddings wherein several marriages of couples who have reached the age of consent are solemnised at a common venue, the expenses being shared equally among the families. The association subsidises the costs by raising donations from friends and well wishers.

CHAPTER II

METHODOLOGY

Project Objectives

1. An assessment of the socio-economic conditions of scrap collectors, reasons for entry, conditions of work and living.

2. An insight into the trade margins and work details at subsequent levels of exchange in the scrap trade, viz. Retail scrap traders, wholesale scrap traders, reprocessors.

3. An understanding of the trade in a holistic manner in the context of the informal sector, to facilitate upward integration/mobility of the scrap collectors by identifying key variables-training, resources etc required for the same.

4. Examine the existing legislation, social security cover in order to explore the possibility of extending legislative protection to this group.

5. Identify action variables in order to improve the living and working conditions of scrap collectors.

Strategy Framework

The study was undertaken by an interdisciplinary team of three researchers, two of whom are actively involved in organising scrap collectors through the SNDT Women's University, since 1991. They were part of the group that initiated the Kagad, Kach, Patra Kashtakari Panchayat (the registered trade union of scrap collectors in Pune city). The association has been working since 1993 and offers various developmental, organisational and supportive services for scrap collectors. SNDT continues to offer infrastructure, staff and institutional support to the association through its action Programme for the Empowerment of Women Wastepickers, as does the Mahatma Phule Samata Pratisthan.

The above factors contributed to the conduct of the study in the following manner.

- The researchers' long and intensive contact and work with scrap collectors provided the base for authentic and detailed information.

- Familiarity with life style, work and cultural habits of the scrap collectors helped determine the interview schedule.

- Acquaintance with the trade helped to determine the interview schedule and precluded the high possibility of dishonesty on the part of the scrap traders vis a vis rates, quantum etc.

- The established credibility of the association with Government and Non-government bodies facilitated the initiation of a few interventions as part of this research project.

- The researchers themselves undertook data collection.

- The staff of SNDT and office bearers of the Union contributed as key informants in certain areas.

Sample Design for the Study of Scrap Collectors, Scrap Traders and Recycling Enterprises

The Sample Design

The scheme of stratified random sample design was adopted for the study of scrap collectors and scrap traders in Pune city.

The Sampling frame for Scrap collectors

The list of scrap collectors prepared by the Pune Sub-centre of the Department of Adult Education, SNDT Women's University was used as the frame for the selection of the sample for scrap collectors. After the formation of the Kagad Kach Patra Kashtakari Panchayat (association of scrap collectors) in August 1993 the Department initiated the process of registration of scrap collectors for the purpose of ascertaining their total population from 1995. For the purpose, a single page interview schedule with basic personal, family and occupational details was canvassed door to door in slums within the limits of the Pune and the Pimpri Chinchwad Municipal Corporations and the Pune and Khadki Cantonment Boards.

Since 1995, all those registered with the association are entitled to avail of a photo-identity card issued by the KKPKP and endorsed by the Pune and Pimpri Chinchwad Municipal Corporations, as applicable. The process of registration is ongoing. The process of registration is ongoing.

The list of scrap collectors available with the SNDT is the only source providing the number of scrap collectors in the region. It is the most comprehensive and provides latest information. The number of registered scrap collectors on 31 March 2000 was 4594.

Stratification.

The total population of scrap collectors was divided in two broad strata disaggregated according to gender depending on the type of scrap collection.

The geographical distribution of the scrap collectors according to their areas of residence is presented in the table below.

Table I: Distribution of Scrap Collectors by Area of Residence

		No. of Scrap Collectors		
Geographical Area	**Total**	**Wastepickers**	**Itinerant Buyers(M)**	**Itinerant Buyers(W)**
Shivajinagar	695 (100) (15)	378 (54) (12)	172 (25) (17)	145 (21) (26)
Yerawada	570 (12)	406 (71) (13)	114 (20) (11)	50 (9)
Dandekar Pool	520 (11)	446 (86) (15)	49	25
Kothrud	369 (8)	255 (69) (25)	58	56
Hadapsar	343 (7)	257 (75) (25)	84	2
Pimpri	301 (7)	229 (76) (22)	14	58
Gultekdi	293 (6)	138 (47)	132 (45) (13)	23
Chinchwad	243 (5)	187 (77)	19	37
Bhawani Peth	200 (4)	72	85	43
Satara Road	169 (4)	27	133 (79) (13)	9

Nagar Road	156 (3)	107 (69)	34	15
Bibwewadi	107 (2)	91	16	Nil
Ganj Peth	100 (2)	43	47	10
Alandi Road	96 (2)	96	Nil	Nil
Gokhale Nagar	86 (2)	41	26	19
Aundh	77 (2)	26	5	46
Karvenagar	59 (1)	47	12	Nil
Nigdi	56 (1)	55	Nil	1
Khadki	50 (1)	29	7	14
Bhosari	35	29	1	5
Mangalwar Peth	34	28	6	Nil
Assorted slums	35	27	4	4
Total	4594	3014 (66)	1018 (22)	562 (12)

Source: Department of Adult Education, SNDT Women's University

Table II: Gender distribution of scrap collectors in relation to type of scrap collection

	Total	**Type of Scrap Collector**	
Gender		**Wastepicker**	**Itinerant Buyer**
Men	1251 (100) (27)	233 (19) (8)	1018 (81) (64)
Women	3343 (100) (73)	2781 (83) (92)	562 (17) (36)
Total	**4594 (100) (100)**	**3014 (66) (100)**	**1580 (34) (100)**
Sample size	**253**	**166**	**87**

Source: Department of Adult Education, SNDT Women's University
Note: Figures in parentheses indicate percentages

The data in table 1 show that two thirds of scrap collectors are wastepickers while one third are itinerant buyers. There is gender-based segmentation among those engaged in scrap collection. Women comprise 92 percent of those engaged in wastepicking. Among the men, 81 percent are engaged in itinerant buying as compared to only 17 percent among women.

Table III

	Total	**Single shop in slum**	**Multiple shop in slum**

Wastepicker	3014	340	2674
Sample size	**166**	**19**	**147**
		Men	**Women**
Itinerant buyer	1580	1018	562
Sample size	**87**	**56**	**31**

The total number of wastepickers were further sub-divided on a ***geographical*** basis into those residing in slums with only one retail scrap store within a 1 km. radius and those residing in slums with more than one retail scrap store within the same radius. Consequently, the bargaining power of wastepickers is influenced by the limited choice of retail scrap traders to whom they can sell their scrap. Itinerant buyers on the other hand, often sell their scrap in larger scrap markets. The total sample size is 5.5 per cent of the total registered population of scrap collectors.

There were further variations among the wastepickers and itinerant buyers. This was not used as a basis for stratification because there was no numerical significance. These are listed below.

1. Scrap collection from landfill sites
2. Scrap collection through barter by itinerant buyers
3. Collection of ferrous metal scrap using magnets

Scrap Traders

The sample frame of scrap traders was determined as follows.

1. The name and address of the retail scrap trader to whom the scrap collector sold scrap was one of the questions asked on the registration form of the scrap collector. A list of retail scrap traders to whom the scrap collectors sold scrap was drawn from the registration forms of scrap collectors available with the SNDT. The total number of retail scrap traders thus listed was 207.

2. A baseline survey of scrap traders was undertaken as part of this study through the administration of a brief questionnaire. The total number of retail scrap traders thus listed was 195. In addition to this 30 retail scrap traders who declined to give any information were counted. The total of retail scrap traders was 225. The questionnaire included the name of the wholesale scrap trader to whom the retail scrap trader sold each scrap commodity. Some traders were reluctant to part with this information.

3. The total number of wholesale scrap traders listed from the data provided by the retail scrap traders during the base line survey was 83. Of these 5 were actually reprocessors. The total number of wholesale traders was 78.

The data available through the above methods were reconciled and corroborated using the following method. The names of retail scrap traders in each slum were corroborated with the help of scrap collector representatives from the respective slum at the monthly meeting of the association. Some traders had been listed twice because they had been listed separately according to their first name and last name. Names not featuring in the above two lists were also added based on the corroboration. Eleven names were deleted because their establishments had never been operational even though they had licenses.

The total sample frame for scrap traders that emerged as an outcome of this process was 368. The scrap traders were first classified according to the trading functions performed on the basis data available through the questionnaire. The classification of the traders listed was further corroborated with the help of key informants. The key informants were 16 wholesale scrap traders in different scrap items. The details are set out in the table below. The total sample size is 30 per cent of the total population of scrap traders.

Table: IV

Classes of scrap traders	**Number**	**Sample size**

Retail Scrap traders	122 (33)	22
Retail Scrap traders purchasing only non-bundle items	92 (25)	16
Retail Scrap traders and stockiest of scrap traders in the vicinity	22 (6)	6
Retail scrap trader buying only non bundle items and stockiest of non bundle scrap traders in the vicinity	6 (2)	2
Retail Scrap traders undertaking wholesale trade for some items	27 (7)	7
Retail scrap traders buying non bundle items undertaking wholesale trade for non bundle items	13 (3)	3
Wholesale Scrap traders	80 (22)	22
Wholesale traders and Reprocessors	1	
Retail traders and Reprocessors	4 (1)	1
Retail trader, Wholesale trader and Reprocessor	1 (1)	1
TOTAL	368 (100)	80

The wholesale scrap traders were further sub-divided on the basis of item specialization. This is important because the trade margins and the volumes traded vary according to the item. This is set out in the table below.

Item	Road Scrap paper	Pusta & White Paper	Mixed Mein & 1no. mein	Patra & Bhangar	Glass	Bottles	Phuga & Kadak	Rubber	Total
No.	3	12	2	20	8	16	18	1	80

Since the trade margins are item specific of the total sample of 23 in this class it was decided to sample all three dealing in road scrap paper, all two dealing in mixed mein, and 3 each from the rest of the items.

Geographic spread of Retail Scrap Traders seems to be associated with the geographic spread of residence of scrap collectors. The correlation coefficient between percentage concentration of wastepickers and retail traders in various areas is .76. The scatter of these two variables however shows four areas namely, Bhavani Peth, Gultekdi, Hadapsar and Chinchwad that fall outside the trend. Among these the first two areas are Market areas and the latter two are Industrial areas. If these areas are excluded the correlation coefficient goes up to .92.

Sample frame for Enterprises

The sample frame was determined as follows.

1. The Yellow pages in the telephone directory were used as the first reference point.

2. The Industrial and Commercial Directory brought out by the Mahratta Chamber of Commerce and Industries was the second reference point.

Statistics related to Pune industry 1994-95

The Paper and paper products 45
Plastic and plastic products 218
Glass and glass articles 28
Basic metal and alloy industry 186

3. The directory of the Plastic Association was the third reference point.

However, the product listing did not reveal whether the industries utilised scrap as raw material. Some attempt was made to ascertain use of scrap as raw material by telephone enquiries to each industry. The method was abandoned because it was very time consuming.

The sample frame was prepared from the data provided by the wholesale traders. The list was supplemented by information provided by the enterprises covered. The "snowball" method of sampling was used.

Definition of terms

Labour force participation *Persons who performed some work for pay or profit during a brief specified period (ILO, 1954).*

Scrap collectors Workers who engage in the manual collection various kinds of recyclable scrap for sale in the market.

Wastepickers scrap collectors who engage in free collection of recyclable scrap from garbage bins, roads, homes, offices, hotels, hospitals and land fill sites for sale in the market.

Itinerant buyers scrap collectors who collect small quantities of recyclable scrap from households and shops/offices/hospitals/hotels and other commercial establishments in exchange for cash or kind.

Trade is an act of purchase of goods and their disposal by way of sale without intermediate physical transformation of the goods. Activities of intermediaries, commission agents and brokers operating outside the scope of real estate and financial markets are also regarded as traders.

Wholesale trade is an act of procuring and sale of goods in bulk without intermediate physical transformation of the goods.

A scrap trader is one who purchases recyclable scrap from scrap collectors and/or other scrap traders and/or industry and commercial establishments for sale in the market.

A retail scrap trader is one who purchases recyclable scrap directly from scrap collectors.

A wholesale scrap trader **is one who purchases recyclable scrap in bulk from retail scrap traders, industry and commercial establishments for sale in the market.**

Manufacturing is any process for making, altering, ornamenting, finishing, packing, oiling, washing, cleaning, breaking up or demolishing or otherwise treating or adapting an article or substance with a view to its use, sale, transport, delivery or disposal.

A scrap reprocessor is a manufacturer who purchases recyclable scrap from wholesale scrap traders for processing of the scrap in such manner that it physically transforms the scrap into intermediate or final products.

CHAPTER III

3.0.0.0 Introduction

In this chapter we explore the socio-economic status of the chief players in the scrap trade. We highlight the factors such as caste and gender that determine the entry of certain people in scrap collection; likewise we describe their culture, lifestyle and living conditions. We have also attempted to compare the similarities and differences in the trade related, pre-entry and post-entry factors, between scrap collectors and scrap traders.

The Structure of the Recycling Sector

The recycling sector is structured in the form of a pyramid, with the scrap collectors at the base and the reprocessors perched at the apex. At the bottom of the heap are the waste-pickers that engage in the "free" collection of scrap from municipal garbage bins and dumps. Marginally above them are the itinerant buyers who purchase small quantities of scrap from households. Between the scrap collectors and the reprocessors are various levels of traders including retailers, stockists and wholesalers, most of who are registered under the Shops and Establishments Act. The crème de la crème among them are the Registered Dealers. The reprocessors are in a class by themselves.

The activity levels of this pyramid differ in terms of the factors mediating entry, socio-economic backgrounds, work conditions, market environment and levels of income.

Categories of Scrap Collectors

Scrap collection is the first stage in the recycling sector. It is undertaken by two categories of workers, the waste-pickers and the itinerant buyers. Waste-pickers retrieve paper, plastic, metal and glass scrap from garbage bins or receptacles that are provided by the municipalities for the disposal of garbage on the street, and from landfill sites where the collected garbage is transported and dumped. Itinerant buyers purchase small quantities of scrap from households, offices, shops and other small commercial establishments. There are two types of itinerant buyers differentiated on the basis of gender and their tools of trade. All categories of scrap collectors rudimentarily sort and then sell the collected scrap commodities to retail scrap establishments by weight or unit.

Categories of Scrap Traders

The retail traders form the cutting edge level of the scrap trade. Most often they are located in slums with significant populations of scrap collectors. They have a direct relationship with the scrap collectors from whom they purchase scrap. Stocking is the first level of wholesale trade. Stockists are always also retail traders. Then there are the wholesale traders who specialise in certain commodities.

SECTION I

SOCIO-ECONOMIC PROFILE OF SCRAP COLLECTORS

3.1.0.0 Introduction

Surprisingly little is known about the relationship between the informal sector and social stratification. It is often assumed that the formal sector is drawn from higher social strata with higher education. How this originates is usually left unanswered (Bremen 1994). The authors believe that it is important to examine the social dynamics of occupational entry.

3.1.1.0 Profile of Scrap Collectors

The study sample consists of 252 scrap collectors from the Pune urban agglomeration[1]. These scrap collectors belong to 252 households which house 1439 members. Of these, another 107 members are engaged in scrap collection making the total number of scrap collectors equal to 359 from the sample households. The estimates of the total number of scrap collector households and the total population of the households in Pune in the year 2000 are 3225 and 18415 respectively. The population in scrap collector households is half per cent of the city's population and about two and half per cent of the Scheduled Caste population in the city (Table 3.1.1). The following analysis is based on the information collected from the 252 respondents, supplemented by our insights.

Scrap collectors are most likely to be illiterate, landless, Dalit[2] women migrants from the Marathwada region of Maharashtra state aged between 36 and 50 years who have been resident in the slums of Pune for at least two decades.

3.1.2.0 Caste as a Determinant of Occupational 'Choice'

Scrap collectors are Hindus, Muslims or Neo-Buddhists (Table 3.1.2). No other religious denomination is represented among them. Those who identify themselves as Hindus are drawn almost exclusively from the Matang and the Mahar castes (Table 3.1.3). Every scrap collector (99 per cent) is a Matang, Mahar or Neo-Buddhist[3]. These are the numerically significant caste groupings in the state of Maharashtra. The matangs constitute the majority among all categories of scrap collectors. The Muslims are mostly

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[1] Pune Urban Agglomeration as defined in the District Census Handbook, 1991.

[2] The term Dalit meaning oppressed was used by Dr Babasaheb Ambedkar for the collective of all the erstwhile untouchable castes. It has been imbued with political meaning ever since and will be used henceforth in this report.

[3] Neo-Buddhists are the Mahars who embraced Buddhism after the Dalit leader, Dr Babasaheb Ambedkar propagated that conversion to Buddhism was the only avenue open for the 'untouchables' to liberate themselves from the oppressive clutches of caste ridden Hindu society.

'bhangar feriwallas' whereas the mahars and the Neo-Buddhists are most likely to be waste-pickers .

The three main castes in the state are the Brahmins, Marathas and the Mahars. There are no indigenous trading castes. The trading castes are mostly migrants from the states of Gujarat and Rajasthan.

The hierarchy among the scheduled castes in the state is as follows (Kulkarni 2000)

1. Chambhar : Trade in leather goods. Economically better off and better educated as compared to the other castes.
2. Dhor: Tanning of leather. Not numerically significant.
3. Mahars : Numerically, the largest. Found in every village. Mostly agricultural labourers. In each village, one member of one family was hereditarily a balutedar and had a ritual role to play on ceremonial occasions.
4. Mangs/Matangs: Numerically, almost as high as the mahars. Rank lowest among the untouchable castes. Their touch polluted other untouchable castes. Supplied cords to farmers, made ropes and brooms, played the dholki (drum) and daph (tamborine) on ceremonial occasions. Performed non-sanskritic rites and considered themselves as 'religious people'.

It must be mentioned here that there is degree of fungibility in the way in which the Mahars describe their religious leanings. That not all those who identify themselves as Neo-Buddhists have actually embraced Buddhism became evident during the process of data collection. Vatsala Gaikwad told the interviewers that she was a mahar. Her daughter admonished her saying, "these days you do not say mahar. You have to say you are a Neo-Buddhist". Vatsala agreed and asked the interviewer to make the appropriate change in the schedule. On the other hand, another respondent said, "why should I hide my caste? You write that I am a Hindu mahar, otherwise my children will not get benefits"[4]. Sometimes older members of the same household choose to identify themselves as Hindu mahars while the younger members identify themselves as Neo-Buddhist.

3.1.2.1 Migration history

Almost all the scrap collectors in Pune are natives of Maharashtra. They belong to the districts of Solapur, Latur, Osmanabad and Beed (Table 3.1.4). The three latter districts are in the Marathwada region that used to be part of the dominion of the Nizam of Hyderabad in pre-independence India. The four districts mentioned above form a contiguous belt and are known to be chronically drought-prone, agriculturally unproductive and industrially under-developed. The presence of inter-state migrants in this occupation is negligible.

[4] The word 'benefits' alludes to caste based reservations that were extended to include the Neo-Buddhists only in 1972. A fact that is unknown to many women waste-pickers.

Half the scrap collectors are first generation migrants and are more likely to be in the age group of 36-50 years (Table 3.1.5). The majority of those who migrated over 40 years ago are from the districts of Solapur and Ahmednagar (Table 3.1.4). Most scrap collectors did not own any land in their native villages (Table 3.1.6). Those that did mostly belonged to Latur and Ahmednagar districts. The primary full time occupation of first generation migrants was agricultural wage labour (shetgadi) or bonded labour (salgadi) (Table 3.1.7). Migration was a consequence of their inability to secure wage labour during the widespread drought. There were two severe droughts in Maharashtra in 1965-1966 and 1972-73. The drought of 1972 marks a watershed in the migration of scrap collectors (3.1.9). Drought and poverty account for the rural-urban migration of three fourths of the scrap collectors. The scrap collectors from Solapur, Beed, Osmanabad and Latur (Table 3.1.8) have cited drought as the primary reason for migration. While poverty has been cited by those from Ahmednagar. The data show that migration on account of the drought was higher among the agricultural wage labourers than among the cultivators (Table 3.1.7). The push factor is therefore more significant for the rural-urban migration of scrap collectors. The data show that the phenomenon of out-migration from Pune for economic purposes is almost non-existent.

First generation migrant scrap collectors also speak of the caste oppression that they had to suffer in their native villages prior to their migration. Forty per cent had to perform oppressive culturally prescribed caste determined services in their native villages. The reported incidence of such oppression is the highest among the mahars and the Neo-Buddhists (Table 3.1.10). This difference can perhaps explain why some mahars[5] converted to Buddhism while others did not. Since most matangs[6] believed that Dr Ambedkar was the leader of the mahars they did not follow his example and renounce Hinduism. The caste compositions and the dynamics of caste vary from district to district.

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[5] Grant Duff highlights the position of Mahars as "one of the most important and useful of all the village establishment. He acts as scout, as guide, frequently as watchman he cleans the travellers' horses and is obliged to carry the travellers' baggage: he is the principal guardian of the village boundaries and in Maharashtra, the Mahars are a very active, useful and intelligent race of people".

The Mahar was entitled to carry all the dead bodies of animals, cows and buffaloes in his village, but was obliged to give the skin of the buffalo to its owner. In a village with a large Mahar population, a senior person was selected as Mehtar Mahar who was in charge of the general management duties of the Mahars. For this service he was entitled to 1/9th of the entire watan (land entitlement) including grain, perquisites and donations.

[6] Mang was one of the 12 balutedars (village service providers), and his main job was to make the leather ropes from the skins of cattle and several other things like leather bag for fetching water from the well for irrigating the land, thongs, whips used by the cultivator. He also acted as the village watchman. Though Grant Duff does not speak very highly of these people, it seems that before they were admitted into the group of village servants, they were rulers of Kishkindha State situated on the banks of the Tungabhadra in ancient times. Mang is the corruption of the Sanskrit word Matang, meaning thereby the most powerful person. Matang rishi of Varanasi, it is believed, was born in a Mang family. The Brahminical dominance reduced them to poverty and eventually they became nomadic tribes. Mangs were different from Mahars and lived separately in the village. Their habitation was called Mangwada. Mangs though assimilated in the village from time immemorial, and were participating in all the festivities and activities of the village, they were not entitled to any Haqs and were not regarded as Balichabhau i.e. Brother of Bali, the cultivator.

- Grant Duff, A History of the Maharattas, Oxford University Press, 1921 Vol.1

The data show that caste oppression was much higher in the districts of Solapur and Osmanabad (Table 3.1.11). The variety of caste based practices that had to be performed by the Dalits in their native villages have been described by the scrap collectors. They told the interviewers that they had to drag animal carcasses outside the village

boundaries and skin them; perform guard duties in the village; perform menial tasks such as cleaning cowsheds and smearing cow-dung on the floors of the houses of the land-owners; beat the drum to make village announcements and dance on ceremonial occasions.

3.1.2.2 Spatial distribution of scrap collectors in Pune

Recalling the period immediately after their migration, scrap collectors graphically describe how "we came to the city in hordes with nothing but the clothes on our backs and the hope of securing some work". Forty six per cent of the scrap collectors stayed with relatives, 13 per cent with known people from their villages and 31 per cent squatted in public places. This was not influenced by the period of migration. Some squatted on the banks of the Mutha near where the Pune Municipal Corporation building stands today. A few recalled labouring at the construction site while that building was being built. Many of those who migrated during the drought years said they "took their stomuchs and ran". Some remember spending their days moving from 'wada' (large house in the 'old' city) to 'wada' begging for scraps of leftover food. The food thus collected was shared by the entire household. They squatted at the foot of the Parvati Hill (a historic landmark in Pune) that was then on the outskirts of the city, on the banks of the Ambilodha rivulet. The low-lying area was forested with thorny 'babool' (prosopis juliflora) trees. The settlers levelled the land and erected their meagre homes and shanty-towns came up overnight. Now the entire area is a contiguous belt of slums housing large numbers of waste-pickers. Even today the locals refer to it as 'dushkal vasti' (drought settlement).

Today there are 425 slum areas within the limits of the Pune Municipal Corporation. While there are scrap collectors in many slums, the data show relatively higher populations (38 per cent) of scrap collectors in three blocks of contiguous slums, namely Shivajinagar, Yerawada and Dandekar Pool (Parvati)(Table 3.1.13).

It is the authors' submission that this kind of occupational concentration is not incidental but is linked to the geographical area of residence of Dalit communities in the old Pune habitation and the historical growth of the city. As the ensuing paragraphs indicate, the slums that developed around the old Dalit settlements continue to house the largest populations of scrap collectors. This reflects that spatial mobility in terms of better housing and shift to more cosmopolitan habitations has been very limited among scrap collectors.

Traditionally, caste based residential segregation was the norm. The homes of the 'untouchable' castes were always located on the eastern side of the village and so it was in Pune. The Maharwada in Pune village in 1663 was located in Mangalwar Peth, to the east of Kasba Peth that developed in the early 1600s. Mahar *watan* lands extended to the area now known as Tadiwalla Road. A *watan* is a perpetual or hereditary land grant made to a permanent village resident in lieu of the services he is expected to render to the village community. He holds it along with its perquisites called Haq-lajimas (entitlements) that accrue to his family as long as he enjoys the confidence of the village

community. The census undertaken by the British during the Peshwa regime in 1822 revealed that there were 288 mahar and 26 mang families residing in the area. They were not involved in the lifting of 'night soil, a need that arose as the village grew into a township. For this purpose the Peshwa rulers brought in 'untouchable Hallalkhor' families (referred to as 'bhangis' in the 20th century) from Gujarat. Hallalkhorpura where they resided in Pune was on the periphery of the maharwada (Zelliot 2000).

With increasing urbanisation, Dalit migrants from the rural hinterland set up their homes in Bhawani Peth along the banks of the Nagzhari. The matang caste used to make ropes and also performed the duties of hangmen. The mahars had rights to animal carcasses and the alms given during festivals. They also performed guard duties. It is said that during the reign of the Peshwas, the mahars had to tie an earthen pot around their necks for their spittle and a broom around their waists to sweep their 'polluting' footprints. They were permitted to venture into the city only after noon when the 'polluting' shadow cast by them was the shortest. These were among the many indignities that they had to suffer. The mahars are also known to have been inducted into the army by the Peshwas (Zelliot 2000).

The establishment of the Pune Cantonment by the British in 1818 is considered a watershed in the lives of the Dalits in Pune. They secured menial employment in the homes of the British, Parsi and Christian residents of the area. Guarding, domestic work, care of horses and other animals were some of the jobs assigned to them. Consequently, settlements of the Dalits grew in the areas of Bhawani and Nana Peths close to the cantonment (Zelliot 2000).

In 1920, the village of Bhamburda, to the west of the city, now called Shivajinagar became part of the city as did the Maharwada of that village, near the confluence of the rivers Mutha and Mula. The municipal offices were located at the periphery of the Maharwada. A map of the city in 1945 indicates that there was a municipal mang colony on the western bank of the Mutha river where the Bal Gandharva Rangmandir stands today. Rope weaving was the main occupation in this colony (Zelliot 2000). According to the socio-economic survey of Pune done by Prof. D.R. Gadgil in 1936 nearly 62 Mang families were engaged in rope making (Gadgil 1945).

Dalit settlements came up around the Range Hills area in Khadki around the year 1869 during the colonial period. Primarily Dalits secured the employment generated by the establishment of the Ammunition Factory at Khadki because other castes were wary of the hazardous nature of the work.

There is evidence to show that a Maharwada existed at Yerawada around which a larger Dalit settlement of new migrants grew. British agricultural researcher Harold Mann in his study of 1400 Dalit families in Pune in 1912 found that 25 per cent of the Mahar families in his study were watandars of the villages that merged with the city while 75 per cent were rural migrants who had come to the city in search of a livelihood. The living conditions of the watandars were better than that of the migrants because they owned

land. Less than 50 per cent of the 2066 mahars were working. Out of 574 men, 117 women and 71 children, 144 were employed as conservancy staff and hamals in the municipality, 69 in the cotton mill and ammunition factory, 145 in the railways, 138 as domestic servants, 326 as hamals and 120 in other menial occupations such as masons, ward boys and coal makers (Mann 1967).

Mann found that the 526 mangs interviewed by him were relatively worse off than the Mahars. " They had no social standing and consequently low self image….". Only half were employed, mostly in the municipality. Very few were employed either at the ammunition factory or the mill. Rope making was the primary occupation (Mann 1967).

Post 1947 saw a large number of industries being set up in Pune along the Bombay-Pune Road. In a study done by Richard Lambert in 1963, he found that while some Dalits were employed as labour in the factories, not a single Dalit was employed in the clerical cadre. It was only in the paper factory that they had managed to reach the supervisory level.

Pune city witnessed a large influx of rural migrants during the famines of 1966-67 and 1972-73. 5.6 per cent of the city's population lived in slums in 1951. This rose to 11.6 per cent in 1968, 27 per cent in 1976, 33 per cent in 1984 and 40 per cent in 2000. Most of the famine affected settled in the then wooded low-lying area around the Parvati slopes and Ambilodha (Bapat 2000).

Some of the slums that house large populations of scrap collectors are located along highways i.e. Pune Satara Road, Pune Ahmednagar Road, Bombay Pune Road, Pune Paud Road and Pune Solapur Road. These are of relatively recent origin having developed in the last 10-15 years. Some house the second and third generations of those already living in the slums of earlier origin. This growth has also been fuelled by the spurt in construction activity in these areas during the last two decades. Residents of one such slum along the Pune Paud Road recall that the slum grew around the Maharwada of the Kothrud village.

3.1.2.3 Social relations between the castes

A dispute between the Mahars and Mangs of Indapur over the issue of Haqs of each community, was referred by the Peshwa to the Bharma Sabha of Paithan for decision. It was decided that the mangs should maintain themselves only on making ropes of the skins, whereas the mahars should lift all that they could find on the roads i.e. Dead animals, cloth covering the corpse and the amount placed before the dead body as their property. The mahar women participated in the procession of Mahalaxmi with the holy vessel on their heads. In the Marathwada region one finds rich folklore about the mangs signifying their association with the social, religious and economic life of the village (Kulkarni, 2000).

Although the mahars, the Neo-Buddhists and the matangs are all former 'untouchables', there is a long history of friction between them. Part of this relates to their perceived ranking in the caste hierarchy. Their settlements although outside the village boundary were separate from each other. The mahar settlement was called the maharwada while the

matang settlement was called the mangwada. Disputes such as the one mentioned above were common and they generally had an economic basis because they claimed the share of the same limited pie in the caste Hindu structure. A matang leader shared the following with the interviewers to illustrate the ways in which the caste structure and practices served to maintain the divide between the 'untouchable' castes. He said, "the mangs were supposed to be the harbingers of good tidings because they had to beat the drum and announce the birth of a boy child in the village. The mahars on the other hand had to announce deaths in the village".

Although Dr Babasaheb Ambedkar's struggle against the caste system was inclusive of all the 'lower' castes, it had a greater influence on the mahar community than on the matangs. The matangs never really considered him to be their leader but rather the leader of the mahar community. Babasaheb exhorted the Dalits eschew their traditional demeaning occupations and to leave the villages that were the sites of their oppression and move to the cities to join the industrial labour force. His famous dictum, "educate and organise yourselves and struggle for your rights", were adopted by the Neo-Buddhists but not by the matangs. Consequently, the levels of education are higher among the Neo-Buddhists. Although the data show that the levels of education among scrap collectors are not significantly influenced by caste, the presence of mahars and Neo-Buddhists in the occupation is significantly lower. The difference is even more marked when we see the relatively low presence of mahar and Neo-Buddhist men even in itinerant buying (Table 3.14). Ambedkar also believed that the political participation of Dalits in the electoral process was necessary. Consequently, representation of the Neo-Buddhists in the political arena through various national political parties is significant as compared to the matangs.

This traditional 'enmity' still continues. Although inter-dining is permissible, marriage is generally endogamous and arranged by the family. Marriages between matangs, the Neo-Buddhists and the mahars are socially unacceptable. Marriage practices and rituals are also different. The mahars and the matangs follow Hindu rituals, visit Hindu temples and celebrate Hindu festivals. The Neo-Buddhists have their own marriage rituals as prescribed by Dr Ambedkar, visit the Buddha Vihars and observe Dr Ambedkar's birth and death anniversaries and Buddha Poornima.

3.1.3.0 The Gender Dimensions of Scrap Collection as an Occupation

The most striking feature about the social composition of scrap collectors is the overwhelming predominance of Dalit women. In this section we will explore the location of men and women within the hierarchy in scrap collection and the reasons for it; the different factors that facilitate or impede their entry into this occupation; the ways in which the established practices in the occupation privilege men and women and the differential impact of recent developments in the sector on their livelihoods.

There is a sharp division in the methods of scrap collection adopted by men and women (Table 3.1.14). Waste-pickers are almost always women. This is so because retrieving scrap from putrefying garbage is considered to be dirty and demeaning. As a matter of fact in the early years of our interaction with waste-pickers, they themselves did not necessarily view scrap collection as 'work', even though they earned an income from it. "Kachra chivadte" (we rummage through garbage) is the derogatory term they would use to describe their work.

The few men that do waste pick, are mostly very old and either unable to get other work or are physically incapable of doing other work after a lifetime of manual wage labour. Mahesh Arne, one of the rare young male waste pickers told the interviewer, "the shame of collecting garbage kills me but I have no other option." The occupational data for 1439 members show that there are 45 male waste pickers and 192 female waste pickers. Thus males constitute 20% of total waste pickers. Nearly 46% of male waste pickers are below 35 years of age. The data also show that 5 out of 10 male respondents have joined waste picking after working in other occupation for less than 3 years.

As children, both girls and boys engage in waste picking. Boys are usually seen when they are very young. Thereafter they discontinue and graduate to itinerant buying or other work at the age of 13-14 years. Girls are also withdrawn from the occupation after the onset of puberty because it is believed to be unsafe for them to be out on the streets. They however, return to the same occupation after marriage and usually after they have children. This has been substantiated by an earlier study of child waste-pickers (UNICEF, 1995).

Itinerant buyers on the other hand are mostly men. Waste-picking is seen as a form of scavenging while itinerant buying is seen as a form of petty trading. Itinerant buyers purchase small quantities of scrap from homes and commercial establishments. Consequently they enjoy better working conditions and a higher status in the scrap collection hierarchy.

Itinerant buying is not exclusively a male preserve, although there is evidence of the decline in the entry of women (Table 3.1.15). The proportion of female itinerant buyers in the younger age group is much less than that of male itinerant buyers. Female itinerant buyers are called dabbabatlivallis (tin and bottle women). They do not use weighing scales or push carts but bid for scrap after viewing it and placing an appropriate value. They load the scrap into a basket that they carry on their heads. This limits the quantum of scrap that they are able to carry. Male itinerant buyers are called "bhangar feriwallas" (itinerant iron-mongers). They use push-carts and carry a pair of weighing scales. The weighing scales are intended to inspire the confidence of their clients and the push-carts enable them to carry greater loads over longer distances. Both waste-pickers and "dabbabatlivallis" routinely complain about the increasing numbers of "bhangar feriwallas" who are seen to encroach on their rights. They bid for scrap that the waste-pickers used to collect free of cost and outbid the 'dabbabatliwallis'.

Although there is homogeneity in the caste composition of scrap collectors, men and women enter the occupation as bearers of their gender, on different terms and with differing skills and resources.

3.1.3.1 Age and marital status

The age of waste-pickers has always been a contentious issue. Born in the house, and with no education there is no documented evidence of their age. Existing government documents like ration cards or election voter's cards are usually rather inaccurate.

In fact in the early years after the Trade Union was registered, there was an incident that brought the issue to light. One waste-picker from a slum in Yerwada, Ratan Sable, who looked middle aged was getting her eldest daughter married. A young unmarried woman activist, 22, of the organization, had always perceived Ratanbai to be close to her own mother in age. At the time of the wedding Ratanbai handed over a saree to the activist saying "I never met my mother. She died when I was very small. I have always looked upon you as my mother. Please accept this saree."

This had prompted a closer examination of peoples' ages, as it was virtually impossible to determine it based on appearances of members. At the time of the launch of the Group Insurance Scheme, the problem was faced again, and many members were denied access to the programme because they seemed to be over 60 years of age. Poor nutrition, harsh work conditions, exposure to natural elements and the double burdens of production and reproduction age these women.

For the purposes of this study an attempt was made to calculate the age of the respondents based on the biological norms like year of menarche, their presumed age at menarche and that of their female children and in some cases of their female grandchildren. The data appear to corroborate the fact that most of the women are much younger than they look.

The normal working age of scrap collectors is between 19 and 50 years. There are more itinerant buyers in the younger age group than in the middle age range. Almost half the adult waste-pickers are less than 35 years old as compared to two thirds of the male itinerant buyers. Female itinerant buyers on the other hand are more likely to be between the ages of 36 and 50 years. This indicates that the entry of young men in scrap collection and more particularly itinerant buying is far greater than that of the women. More waste-pickers are likely to continue work after the age of 60 years as compared to itinerant buyers (Table 3.1.16).

There is not a single unmarried woman in the sample (Table 3.1.17). There is a relatively high proportion of desertion or widowhood (36 per cent) among women scrap collectors as compared to 17 per cent in Maharashtra among the women in the age group 20 plus[7]. (The proportion of desertion and widowhood in the total female population from the

[7] The figure for Maharashtra is from NFHS I, and refers to 1992-93

study sample is 14.3%. The proportion of desertion and widowhood among women is high as compared to the men in the sample. This is the trend in the general population also. Twenty seven per cent of the women in the age group 19-35 years and 33 per cent in the age group 36-50 years have been deserted, separated or widowed. The significant presence of single women who have been deserted, widowed or separated substantiates the authors' argument that scrap collection is the last resort of the resource poor, those pushed to the very fringes of the urban informal sector.

3.1.3.2 Education

The level of literacy among women scrap collectors is abysmally low (8 percent) (Table 3.1.18, 3.1.19). This is particularly striking when compared to the census figure of 53 per cent[8] for the scheduled caste (specific castes that are enlisted as socially backward in the schedule of the Indian constitution) women in the city. Literacy among male scrap collectors is 49 per cent as compared to that of 71 per cent among scheduled caste males in the city. The NFHS II data show that the literacy levels for urban women and men in the country were 75% and 89% respectively during 1998-99. Although the literacy of both men and women scrap collectors is lower than that of the Scheduled Caste men and women in the city, that for women is less favourable.

Literacy is not a pre-requisite for scrap collection. Nonetheless, it does contribute to the general level of confidence among individuals. That household child rearing practices encourage independence and confidence in boy children while valuing submissiveness among girl children is taken as a given. It holds true in this social group as well.

3.1.3.3 Access to resources

Half the scrap collectors did not engage in other work prior to their entry into scrap collection. Scrap collection was the first occupation of relatively larger number of men than women. Nearly 74% of men who shifted from other occupations to scrap collection were engaged as wage labour in construction activity prior to the shift. About 68% of them were engaged in this activity for more than 3 years. Half of the women for whom scrap collection was not the first occupation were engaged as wage labour in construction activity and about 69% of them worked in that occupation for more than 3 years. Some of them reported non-availability of work or non-flexible timings of work as the reason for the shift. (Table 3.1.20). Garbage lay on the streets and was more accessible daily. An interesting response even from those who had never done other work was, "who wants to work like the wife of the mukadam (building supervisor)," implying thereby that sexual harassment of women worker is a common occurrence at construction sites. "The first day I went to work for a Mukadam, he took off his shirt and told me to hang it on the clothes peg. I refused, saying I am not your wife. I never went back to work there. I did not even claim my days wages" recalls Sojar Chaudhari, who subsequently opted for waste-picking as a "freer" occupation.

[8] Census of India, Pune Urban, 2000

Access to capital and the ability to manage it is an important determinant in the method of scrap collection. Men have relatively better access to capital, from scrap traders. Nevertheless, very few waste-pickers said that the lack of capital was the reason for their entry into the occupation. This could be taken to mean that for women the availability of capital is not a major determinant in occupational entry. While 'dabbabatliwalis' also use capital, 'bhangar feriwallas' are able to access larger amounts more easily. This is substantiated by data. Sixty nine percent of the 'dabbabatliwalis used working capital of less than Rs.100 per day while 89 percent of the 'bhangarwallas' used more than Rs.100/- per day. This could be because their requirements of capital depend upon the quantum they are able to collect and therefore vary accordingly.

If mobility is considered to be a resource, there is relatively less disparity in the mobility of men and women scrap collectors. Both are highly mobile and there are no social restrictions on women's mobility in this social group as there are among the upper castes primarily due to economic imperatives. However, there have been an increasing number of complaints from women in certain geographical areas that young men on bicycles waste-pick at night and denude all the garbage bins of scrap. This highlights the fact that whereas mobility per se may not be a problem for women, that young male waste-pickers on bicycles are able to traverse larger distances in shorter periods of time, transport greater loads and work during the night hours, is of material importance.

More than half of the waste-pickers continue to transport scrap on their heads. They also rely on bullock-carts, hand carts and rickshaw-tempos (motorised three wheeled goods transport vehicles). It must be mentioned here that the additional costs of transport are almost always borne by the scrap collectors and not by the scrap traders.

Notwithstanding the fact that women are pushed into waste-picking in a segmented labour market, it cannot be denied that it is also seen to be a convenient occupation despite the very obvious hardships and the indignities that they are subjected to.

By its very open nature, waste-picking lends itself to a relatively flexible work-style. It allows for relatively easy entry, exit and re-entry subject to the domestic imperatives of child bearing, child rearing and household responsibilities that women have to cope with. Depending on their economic condition, women have been known to take a break of a year or two after child-birth. The interviewer found that Sakhu Bhise, a young widow, however, started work two days after her baby was born. She made several short trips so that she could nurse the baby and earn a living at the same time. Waste-picking also allows for periodic absences from work when in the event of domestic crises. Majority of the 15 per cent who said flexibility in work timings was the prime reason for their entry are women (Table 3.1.20). At the same time it must be mentioned that waste-pickers work the longest hours and half leave before 8 am. Nonetheless, women are able to schedule their work timings to allow for domestic responsibilities. This is often determined by the stage in the life cycle of the woman. Middle aged women are able to leave their homes early in the morning and work longer hours because their daughters or daughters-in-law share the responsibility for household work. Alka Waghmare told the

interviewer that she used to waste-pick as a child and gave it up after her marriage to a man with a steady job. She restarted when she was widowed at the age of 38 years.

The fact that women earn a daily income that they can control is also immensely important (Table 3.1.20). Women constitute the majority among a third of the scrap collectors who said daily income was the reason for their entry. Women waste-pickers generally are not known to hand over their earnings to their husbands. Although they are often forced to give some money to their husbands to indulge the latter's vices. More often than not, they buy the daily provisions and incur other household expenditure. This according to them offers them some measure of independence.

A few years ago an activist was discussing the modality of the Mathadi Act with a group of waste pickers. The daily earning of workers are deposited with the statutory Mathadi Board set up under the Act. The Board then disburses monthly salaries. The women had several reservations on this count. The primary concern was that at present their husbands have no clear conception of their actual daily earnings. This according to them, allowed for greater freedom, particularly in cases where the husbands are alcoholics, believed that if monthly earnings were given, their husbands would be at liberty to visit the Mathadi Board to ascertain the actual amount, thereby making it difficult for them to exercise independent control over their own earnings.

The gender disparity in scrap collection exists not only in conditions of work and status but also extends to earnings. The mean daily earnings of male itinerant buyers are much higher (Rs.75) than those of waste-pickers (Rs.60) and female itinerant buyers (Rs. 49), despite the more laborious nature of waste-picking. Male itinerant buyers are able to procure larger quantities of scrap of better quality and market value because of the method of scrap collection. The mean daily weight of the scrap collected by the 'bhangarwallas' is 53 kg. while that collected by waste-pickers and 'dabbabatliwalis' is 28 kg. and 23 kg., respectively.

Allied Work

One in every five of the scrap collectors is forced to augment their earnings from scrap collection by doing some other work as well. Ninety per cent of them are female wastepickers. Almost half the wastepickers engaged in allied work are in the younger age group between the ages of 19 and 35 years. Of the wastepickers who have taken up allied work, two in three have done so only in the last five years (Table 3.1.21).

The allied work continues to be garbage or scrap related for a third of the wastepickers. Another one third of those engaged in allied work are domestic workers. Domestic work though also in the 'informal' sector is a step up from wastepicking. This however, is not to be taken as any indication of 'upward' mobility because only 8 per cent of all female wastepickers also engage in domestic work. The other categories of scrap collectors engage in allied work that is casual and temporary.

Incomes in allied work are usually only as much as those from scrap collection. However, these are not regular and never manage to be a full-time, permanent substitute for scrap collection. Analysis of the data on participation of scrap collectors in allied occupations substantiates the above argument.

Occupational mobility

Upward occupational mobility even within the sector is another issue that needs consideration. Young male waste-pickers (27 per cent) graduate to itinerant buying at the first opportunity. This is not so in the case of female waste-pickers (10 per cent). There is little scope for movement into itinerant buying given the present structure of the sector.

Over the years we have also observed the progressive increase in the number of men willing to enter the sector, even at the level of waste-picking. This we see as the direct outcome of our attempts to improve the conditions of work of women waste-pickers through the promotion of garbage segregation at source and its collection at doorstep by waste pickers. Segregation of medical waste at source was made mandatory by Pune Municipal Corporation in 1998 in response to Supreme Court directives to all municipalities. At the behest of the Pune Municipal Corporation, women waste-pickers with identity cards were attached to hospitals and clinics for free collection of glass, plastic, paper and metal scrap generated in these establishments, by the union of scrap collectors. Upon hearing of this 'scheme', several 'bhangar feriwallas' contacted the establishments independently flashed their identity cards and offered to purchase the scrap. Enthused with the idea of generating additional revenue, the hospitals gleefully agreed.

Despite arguing the case of waste-pickers, there was little that either the municipality or the union could do to force the hospitals to give the scrap to waste-pickers. In many hospitals, male itinerant buyers displaced female waste-pickers. Further, male garbage workers employed by the conservancy department of the municipality also made a bid for hospital scrap while collecting contaminated hospital waste for incineration.

The saga does not end here. Collection of contaminated medical waste has been privatised by the Pune Municipal Corporation since December 15, 2000. The cost of collection and transport to the municipal incinerator is recovered from the establishments. The contract was awarded to IMAGE India, a private company. The company started with the collection of contaminated waste but later negotiated with the hospitals to collect recyclable scrap as well and to proportionately defray the collection charges against the value of the recyclable scrap.

The sequence of events clearly illustrate that any improvement in the working conditions of women waste-pickers leads to the displacement of women by men in the same sector; then by men working in garbage related occupations in the formal sector and finally by a corporate entity.

The improvement of conditions of work of the most marginalised within the sector and whilst precluding the entry of those who would otherwise not soil their hands with garbage is a critical issue.

3.1.4.0 Profile of Households of Scrap Collectors

What constitutes a household has been the subject of many debates in the academic arena. For the purposes of this study, we have adopted the census definition of the household. It says that, all, irrespective of blood relations, staying under one roof and sharing common kitchen make the household. Thus, there may be more than one household living under the same roof.

The household characteristics like its size, dependency load occupational and income profile are the pointers of the socio-economic strata to which the scrap collector households belong. As we have already mentioned above that almost all scrap collectors in Pune are migrants from the rural areas of few drought prone districts in the state of Maharashtra due to push factors. Most of them are residents of Pune for more than two decades and continue to work in one of the least remunerative economic activity in urban informal economy. Following analysis of the demographic and economic characteristics would reveal their comparative socio-economic status and the urban socio-economic divide[9].

3.1.4.1 Demographic profile of households of scrap collectors

3.1.4.1.0 Age-Sex Composition of Households of Scrap Collectors

The estimated total number of scrap collector households and the population in the year 2000 is 3225 and 18415 respectively. The population in scrap collector households is half percent of Pune's population and two and half percent of Pune's scheduled caste population.

Scrap collectors' households have relatively higher number of females than males (1071) implying a female favourable sex ratio. This holds true across all age groups. This is in contrast with the macro level picture. The sex ratio in Pune is female adverse being 903 for the total population and 935 for the scheduled caste population. This particular characteristic of the households reflects relatively larger number of widows separated and deserted women in these households. The proportion of this group of women is as high as fourteen percent in these households in comparison to 10 percent in general urban population in the state of Maharashtra[10].

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[9]In the analysis various characteristics of the scrap collector population/households are compared with the corresponding characteristics in urban population in Pune, Maharashtra State to which Pune belongs and depending upon the availability of the data. The data used for this purpose are from census. National Fertility Health Survey 1 and 2 and 50th round of National Sample Survey Organisation.

[10] NFHS I 1992-93.

3.1.4.1.1 Average Household Size and the Dependency Load

The scrap collector household on an average houses more family members than an average household in Pune (Table 3.1.22). Their family size is also larger in comparison to the family size of the schedule caste households and the slum dwellers. We note (from Table 3.1.24) that the average household size shows distinct patterns across categories of scrap collectors. The household size of the Muslims is higher than that for Hindus.[11] The Neo-Buddhists exhibit the least household size among scrap collectors. Between different categories of scrap collectors male itinerant buyers have the largest family size.

The different sizes of households size embody the effect of fertility behaviour and the nature of the family. The low levels of women's educational attainments and the prevalent practice of child marriages in the scrap collector households are expected to result in higher fertility levels for these households[12]. The empirical evidence from our study indicates higher levels of fertility in these households. The proportion of children under fourteen years in these households is significantly higher (40%) as compared to the general population in urban Maharashtra (33%).[13] The non-nuclear family type (extended family) of these households also contributes to their higher household size.[14] Another consequence of high proportion of the population under fourteen years is the high demographic dependency load measured, as a proportion of potential non-earners to potential earners is on the higher side in these families.[15] It is 0.73 and is higher than that for the general urban population at the state level (0.64)[16]. Due to low levels of income children of these households from the lower echelons of the urban informal economy are kept outside school particularly at higher standards.

3.1.4.2 Socio-cultural profile of scrap collectors' households

The incidence of men having more than one wife or mistress is fairly common among scrap collectors. Two wives living under the same roof often display remarkable bonding and there is an implicit recognition that it is the male who is violating the norm. Women too have been known to have more than one relationship with a man, sometimes simultaneously, sometimes after death of or desertion by one. The likelihood of a woman

[11] It needs to be noted that there were only eleven Muslim households in our sample.

[12] Women's education, health and general decision making capacity as the key factors behind fertility behaviour have been highlighted in many demographic studies (Sadik, 1989.)

[13] The estimate of the proportion of under fourteen population for Maharashtra refers to the year 1992-93 and is obtained from NFHSI.

[14] We may note that the non-nuclear family type in case of these households is not a matter of choice but is due to the shortage of living space and consequent high prices/rents for the residential houses in urban areas.

[15] The demographic dependency load is calculated as a ratio of the sum of the children below fourteen years and those above sixty years, to total persons in the age group of 15-59 years.

[16] The dependency load for the Maharashtra state is taken from NFHS1, the figure refers to 1992-93.

maintaining two such relationships within the same four walls is quite low. Nonetheless the regularly used expression "She is not his 'keep', but he is hers", indicates a slightly stronger position for women in this community as compared to the middle or upper castes.

These relationships are usually accepted by the family and by the immediate neighbours. Marriages outside the caste or religion are not infrequent. Often the woman changes her religion and accepts that of her husband. Almost always she is accepted in both families and in the immediate neighbourhood. Pragmatic considerations normally predominate in such matters and sheer economic pressures force the family to hold together. If a 'low' caste woman marries an 'upper' caste Brahmin male, the family of the groom is unwilling to accept the bride and there have been cases of such women being forced to live in a slum and be treated like a 'mistress' even if she is married. In one such case, Champa Dixit married a Brahmin fifteen years ago. Champa told the interviewer that she has to bear the brunt of bringing up the children while her husband is an infrequent visitor.

Child marriage is norm among scrap collectors. Girls are generally married soon after the onset of menarche and the boys when they are a few years older. The data show that 23 per cent of the households of scrap had minor married children 91 per cent of who were girls. Almost three fourths of the households that had minor married children were those of waste-pickers.

The proportion of single women, either widowed or deserted in the households of scrap collectors is as high as fourteen per cent in comparison to 5.2 per cent in general urban population in the state of Maharashtra[17]. The data show that 45 per cent of the households of scrap collectors are women headed. Further, irrespective of their marital status 59 per cent of the women scrap collectors themselves are the *de facto* heads of their households as compared to 83 per cent of the men. It is as high as 64 per cent in the case of female scrap collectors. For the purposes of this study the highest income earner has been considered the head of the household.

Old, single women with no living relative in the city find shelter and refuge quite easily in the houses of other women. One such case formed part of the sample. The women usually maintain separate work routines and kitchens but live under one roof. Very often the refugee starts paying a small rent, as soon as she can afford it.

Due to the pressures of housing many waste-picking families are joint families. Married sons' families share a common house with the parents, with common or

[17] This figure pertains to National Fertility Health Survey (1992-93). The NFHS II (1998-99) is not yet available for states.
In the analysis various characteristics of the scrap collector population/households are compared with the corresponding characteristics in urban population in Pune, Maharashtra state to which Pune belongs and the country depending upon the availability of the data. The data used for this purpose are from census. National Fertility Health Survey 1 and 2 and 50th round of National Sample Survey Organisation.

separate kitchens. When either parent dies the other invariably starts eating off one of the kitchens. Invariably the common kitchen splits when arguments about income and expenditure become very difficult to resolve. Wherever it is possible families prefer to live separately. Very often the children move from their parents house in a recognised slum, to a shanty in a slum on the outskirts of the city and gradually upgrade their own establishments.

Kinship networks are very strong as are the support systems for one another in times of crises. Orphaned or deserted children are almost never put into institutions. Rather, they are brought up
by the grand-parents or other relatives. As mentioned earlier most scrap collectors do not own any land in their native villages. More than half, do not even have a house in the village. Even those that do, have only 'katcha' houses. Despite this, they have close contact with relatives in their native villages. Less than a third never visit the native village. Of those who do visit the village, one in every two does so at least once a year. This is irrespective of their years of residence in the city and the district of migration.

Contemporary caste based cultural practices

It is interesting that despite having lived in the city for over three decades, scrap collectors continue to observe caste based cultural practices. Today one in every three households of the scrap collectors has at least one member who is engaged in caste determined cultural roles. Three out of four Matang households follow the practice in comparison with only one out of four Mahar or Neo-Buddhist households. Those who have converted to Buddhism generally do not subscribe to caste determined cultural practices.

The prevalence of such practices among scrap collectors is not significantly influenced by whether the first generation migrant did or did not have to perform caste related services prior to migration. Rather, it is mediated by caste, gender and geographical region. Of those who are involved in caste determined cultural practices, every two out of three are the scrap collectors themselves. Majority are Matang women.

The most common cultural role is that called 'jogwa magne' and is performed by 9 out of every 10 women involved. The other cultural roles are 'waghya'-'murali', 'pothraj' and 'aradhi'. Other than this Matangs were also known to roam the streets seeking alms during the lunar eclipse. The giving of alms is believed to ward off the evil effects of the eclipse. This practice no longer exists in Pune. The practice of 'pothraj' is also not much in evidence. These changes can be attributed to the concerted campaigns against these practices that were carried out by the Dalit Swayamsevak Sangh about two decades ago.

The story of Ambabai

Ambabai along with her 'daitya' resides on the mastak (forehead) of Matangi. Ambabai had four strapping young sons. They were named Parshuram, Balaram, Baan and Jogwa. One day Jogwa quarrelled bitterly with his mother. He left the house and went into the 'aranya' (forest). The other three sons still reside with her. Ever since Ambabai, goes from door to door seeking her lost son. She visits women in their dreams and tells them to look for her missing son. These are the women who seek alms moving from door to door on Tuesdays,

Fridays, full moon days (Poornima) and new moon days (Amavasya) (Ambabais days). This is called 'Jogwa magne' (seeking Jogwa). The 'tatli' (plate) filled with 'kumkum' (vermillion) is the symbol of Ambabai.

Ambabai is also called Bhawani. When Bhawani gets angry people get scabies, eczema and other skin ailments. They may also get eye infections.

Offerings to Ambabai: puran polis.

Boy children are dedicated to Mariaai. They are called Pothraj. One type of Pothraj whips himself and carries the Goddess in a box. The other type of Pothraj wears a garland of shells and a turban on his head.

As related by Laxmibai Kadam aged 68 years

Household division of labour

Two in every three scrap collectors has to combine long, arduous working hours with domestic responsibilities. She returns after 9 hours of work to another couple of hours of cooking, cleaning and related household chores that she undertakes without the assistance of ant labour saving equipment. Alternatively she wakes up a couple of hours before dawn to finish the housework before embarking on her income earning work. In either case half the middle aged women are spending upto 2 hours on cooking, an hour in cleaning, washing clothes or vessels and around half an hour per day on an average on child care. This is usually a grandchild or a neighbour's grandchild.

Only one in five women can legitimately claim they get time for leisure, the odd hour they spend chatting with friends and neighbours, making sure their hands are simultaneously occupied cleaning rice or cutting vegetables. The same proportion can boast of the benefit of an adult male in the house shouldering some household responsibility, usually marketing or filling water.

3.1.4.3 Educational Profile of Scrap Collectors' Households

Scrap collectors' households are characterised by low levels of literacy, particularly among adults. The data show that 45 per cent of the adult males are literate in comparison with only 15 per cent of the adult females (Table 3.1.24). Nevertheless, there is an increasing trend towards the education of children. Only 10 per cent of the boys in the age group 6-14 years and 14 per cent of girls in the same age group are not schooling. There is marked gender disparity in the levels of education of young adults. Ten per cent of the boys in the age group 15-18 years are not schooling but in the case of girls this figure is as high as 48 per cent.

The trend in the increasing levels of literacy has been plotted in a graph (Figure 4). There is no significant difference between the educational profile of matangs, mahars and Neo-Buddhists. This shows a jump in the levels of literacy of both men and women in the last two decades. The highest increase in the case of women has been in the last decade so much so that the disparity has reduced to 4 per cent. The high enrolment of both boys and

girls in pre-schools is also encouraging. Part of the reason could be the union's attempt to promote education among girl children. 551 (11 per cent) children in age group of 6-14 years are out of school.

Nonetheless, the levels of education are still dismal with only one graduate and three technical diploma holders among the men and none among the women. High school is the highest level of education among women. There is no significant variation in the levels of education in the households of categories of scrap collectors. Equipped with such a low level of human capital men and women in these households gain access to work in low productive economic activities. We will discuss this point in the following sections.

3.1.4.3. Work Effort and Economic Dependency Load of scrap collectors' households

The members of the household exhibit greater propensity to engage in some economic activity in poor households. This is established in the case of scrap collectors. Forty three percent of the members from these households are working to earn their livelihood. The worker population ratio is significantly higher than the corresponding ratios for general urban population (32.1) and the schedule caste population (30.8) in Pune. We note that work efforts of women in these households are significantly higher than their urban counterparts. *Whereas men from these households equally as the men from the surrounding general population.* Consequently the economic dependency load, measured as the ratio of non-earners to earners, in these households is lower (1.32) compared to the general urban population (2.11) and the schedule caste households in Pune (2.24). The worker population ratios are higher particularly in the younger age groups (Table 3.1.26) Both men and women exhibit greater work efforts than their urban counterparts in the state up to age of 35 years[18]. Up to this age economic visibility of women's work as reflected in the WPR is lower than that for men in the families, but higher than that for urban women in the state. It is significantly lower (18 per cent) in the case of women in the age group 15-18 years as compared to 48 per cent in men of the same age group. This is primarily because most girls in this age group are newly married and enter or re-enter the work force after childbirth. The gap between men-women worker participation ratios narrows in the age group 19-35.After this age men start withdrawing from work but larger proportion of women continue to work. Thus the level of participation in economic activity of men drops below the comparable level of economic participation rates of the urban men in the age group 35 to 50 years. The continued tendency of men to withdraw from work and of women to work after the old age (50 plus) is reflected in the lower WPR for men than the WPR for women in this age group in these households.

Thus women in these households show greater propensity to work throughout their life. The WPR is significantly higher for women in these households at all ages in comparison to the WPR for urban women at the state level (Table 3.1.27). At younger ages women work hard at home and outside to support their children and continue to work and earn at

[18] The study reveals that twelve children from these households are working in some economic activity. This issue of the child labour is discussed in the separate section in this chapter.

old age to support themselves and their family[19]. The earnings from multiple sources, though low contribute to the pool of household income and push the family above the poverty line. The data highlight the negative association between economic dependency load (measured as the ratio of non-earners to earners and per capita income of the households ( )[20]. Almost all the households with larger number of dependants (4 or more) have monthly per capita income below the planning commission's present urban poverty line (Rs 420 per month.) On the other hand majority of the households who have all working members have per capita monthly income double than the poverty line[21]. Although higher worker population ratios are expected to increase the levels of earnings of the scrap collector households these earnings are derived from
low productive activities. The engagement of these workers in low productive activities perpetuates the low levels of earnings, production of unskilled labour force. As a result very few from these families manage their way up the occupational ladder and raise their incomes substantially as we shall see in the following section.

3.1.4.4 Occupational Profile of Scrap Collectors' Households

The total estimated number of the workers in scrap collector households is 7896. This is little *less than total workers* and around 3.4 percent of the scheduled caste workers in Pune in 2000[22]. There is a propensity for adult members of the household to engage in some economic activity in poor households. This is established in the case of scrap collectors. Eighty seven per cent of the adult males and 70 per cent of the adult females work. Entry into the sphere of work takes place between 15 and 18 years for 48 per cent of the men. The proportion is considerably less (18 per cent) in the case of women in the same age group. This is primarily because most girls in this age group are newly married and enter or re-enter the work-force after child-birth.

Ninety four per cent of the working men work in the informal sector[23]. Forty two per cent of the men in the informal sector are in scrap related work. For the remaining half men casual labour in construction and other semiskilled and skilled activities like plumbing, welding, painting, wiring, and polishing provide equal employment opportunities. Very

[19] Few women described their daily earnings as 'taji-bhakari' (fresh bread) for their children. Few have complained that their husbands are not working and they have to provide money for drinking alcohol.

[20] The correlation coefficient between these two variables is - 0.48 and significant at one percent.

[21] However, whether the higher levels of earnings result into higher welfare levels of the family as a whole depends upon the proportion contributed to household income by the individual earners.

[22] The estimate of schedule caste workers in Pune is estimated by carrying forward the 1991 census figure of these workers in Pune using their annual compound growth rate between 1981-91.

[23] We may note that the age wise cross-sectional data on occupational pattern has implicit historical profile of the occupation of the workers. We noted shifts in occupation of the respondents from non-garbage related activities to garbage related activities in case of nearly 60 percent of the men and 45 percent of the women. In both the cases the shift is observed from unskilled wage labour in non-garbage related activities like construction. No information on previous occupation of other workers in the households was collected in the study.

few are able to make their way to skilled and better paid work in the formal sector. A third of those in formal employment do garbage related work. In the case of women, all except one work in the informal sector and 81 per cent are in scrap related work. We note that among different categories of scrap collectors relatively larger number of women from 'bhangarwallas' households are engaged in non- garbage related activities. Most are found working as the domestic workers. Comparatively larger dependence of men on non -garbage related activities is observed in the waste picker and dababatlivali's households.

The age profile of the occupational pattern indicates that in early years of age (15 to 18) both boys and girls tend to work in non-garbage related informal sector activities. Majority of the boys in this age group gain access to the unskilled wage labour in construction and self -employment in the activities mentioned above. Most of the girls on the other hand end up working as domestic workers. These are the new entrants in to the labour market and have shown inclination to work in non-garbage related activities. This tendency of relatively larger dependence of men on non- garbage related activities for earning the livelihood seem to have continued up to the age of 35. After this age equal number of men are found working in garbage and non-garbage related activities. On the other hand most of the women after the age of 35 are working in scrap collection. After the age of 50 hardly two women seem to draw their earnings from non-garbage related activities.

The employment of the workers from the scrap collector households in the wide range of informal sector activities fetches daily or weekly earnings except probably for the domestic work. The scrap is generated every day and available for collection. However, the daily earnings from scrap depend on many factors like what time they start work and the composition of their collect which are discussed in the next chapter. The quantum available for collection varies daily in case of itinerant buyers. On some days they nothing. A young itinerant buyer Ganesh Bhise from Taljai who collects craft from the shops reported that thou he goes cycling twenty to twenty five Kilo Meters every day he succeeds in getting the craft only half of the days. The availability of wage employment in casual labour in construction is also not regular and on an average work is available for two weeks in a month. Similarly, the availability of repair jobs like welding, wiring, plumbing etc. are not regularly available: there is a geographic segmentation in the market for labour of this type. Information regarding existence of the demand does not flow across the regions and this results in the structural unemployment on daily basis. The days of unemployment in a month bring down monthly earnings from non-scrap activities.

All this is reflected in the per worker monthly earnings from scrap and non-scrap activities. We note from the data presented in table 3.1 that the per worker earnings from both these activities are low, though per worker earnings from scrap collection are one and half times higher than per worker earnings from non-scrap activities. The per worker earnings from the scrap collection are around Rs.1600 per month while from non scrap activities are around Rs. 1050.

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Before turning to the discussion of the next issue we would like to emphasize the following points regarding the work pattern of the scrap collector households.

First, almost two thirds of the adult working population (62 per cent) in the households of scrap collectors is engaged in scrap collection (Table). Almost a third (31 per cent) of the households have more than one scrap collector in the household. All the earning members in 40 per cent of the households are engaged in scrap collection. This means that all the household income is derived from scrap collection. Half of these households have only a single earning member who is a scrap collector.

Second, many male adults in waste-picking households do not work at all, or 'get work' only some days in the month when it is available. They consider sitting at home and living off their wives earnings as respectable adult behaviour, but going for scrap collection at lean times is below their dignity.

It is fairly common to hear women like Sojar Chaudhari say, "Ï worked like a man and brought up my family". Ranubai Kamble echoes a similar line. "You want to know what work my husband does?" she says sarcastically. "He presides over the Buddh Mandir (the local community hall) along with his cronies and spends the day fighting about the appropriate place to build a platform where they can sit and gamble!" We have also heard women say, "his death was almost a relief. In any case he never worked, just sat at home and gambled".

3.1.4.4.1 Declining child labour in scrap collector's households

The incidence of child labour in waste-picking is usually quite high in most Indian cities. Apart from not being recognised as hazardous in the schedule of hazardous activities specified under the Child Labour Prohibition and Regulation Act, 1986, there is no employer, government servant or office that is empowered to take action against child labour in this sector. The data show that 2 per cent boy children and 4 per cent of girl children in the age group of 6-14 years are child labourers. The total number of child labourers in the population is 150 (3 per cent of children in the age group 6-14 years). Six of the twelve child labourers in the sample households are engaged in scrap collection and five of them are girls. The others are engaged in other informal sector activities. Seven child labourers belong to the households of waste-pickers and five to the households of 'bhangarwallas'. There is no incidence of child labour in the households of 'dabbabatliwalis'

A study of child waste-pickers that was conducted in 1995 (SNDT-UNICEF 1995) revealed their number to be 616. The data generated by the present study reflect that there has been a significant reduction (76 per cent) in the number of child waste-pickers, presumably due to the overall efforts of the union. This decline is the result of a combination of factors that are elaborated below because they have implications for strategic interventions leading to the elimination of child labour in any sector. The unionisation of adult scrap collectors in 1993 is a critical factor. The unions' own attempts at reducing the incidence of child labour have moved from gradual persuasion to coercion.

As early as 1995 the union took the position that the presence of child labour in the occupation is detrimental to the interests of the adult workers. And that compulsory education is the primary means to ensure that children do not start work.

In the initial stages, children of waste-pickers were encouraged to continue in school by providing them incentives like prizes and notebooks. Procedural requirements like age certificates that cost time, money and energy were done away with after negotiation and agitation against the concerned government departments. The fact that 3 kg of rice per month per child is distributed by the government to children with 80 per cent attendance in municipal schools has also helped.

Between 1989 and 1996, non-formal education classes were conducted for children who believed they were too old to enter formal school. After a couple of years, primary school enrolment became an annual programme of the Union. Every June, out-of-school children were identified and encouraged to register in schools. Street plays, Jathas, folk songs and other cultural activities are used to promote enrolment. The enrolment drive is followed by closely monitoring the system to ensure it does not push out these children. In the early days, first generation children were often sent back home for not being neatly dressed or for wearing torn clothes. They were the first to be shouted at and the last to receive the textbooks and uniforms.
Invariably they dropped out by August. The union focused its efforts on sensitising the school system to these issues to prevent such drop-outs. Gradually the NFE centres were closed down and children who did not fit in formal school were sent to classes run by other Non-Government Organisations.

Subsequently pressure was exerted on parents who continued to send their children to waste-pick. They were not issued photo-identity cards endorsed by the Pune and Pimpri Chinchwad Municipalities. The card itself clearly states that no one under the age of 18 years may be issued a card. Special drives were conducted with the help of the police who detained child waste-pickers for a few hours and confiscated the scrap that they collected. The Pimpri Chinchwad Municipal Commissioner held discussions with scrap traders warning them of stern action if they bought scrap material from children. The local media too generated an active interest in the issue.

A regularly voiced opinion of the waste-pickers at the time of the inception of the union was that educating children was not a viable proposition because educated adolescents would not even waste-pick and ended up becoming educated adult dependants. “At least they can collect waste and fend for themselves if they are uneducated. Who will give them jobs if they become graduates?” they asked. Today there is a distinct change in the attitude towards education. It is visible in the collective strength that they assert against children who are found waste-picking. In fact most of the respondents of the study categorically stated that they would not let their children enter this occupation. “We have not spent our lives in garbage for them to do the same. We have done it to educate them”, they said proudly. Only 3 of 252 said their oldest children were already doing this work and they did not foresee that they could change it. Even older women said their married daughters were engaged in other work and had improved their lot. There is a tendency for

future generations of families not to engage in scrap collection particularly waste-picking, once it is given up by the older generation. Some women conceal the true nature of their work from their relatives in the native place, sometimes even from their husbands, and give them to understand that they are doing well in the city. There has been more than one occasion when a member has complained because her photograph has appeared in the local daily as a waste-picker.

3.1.4.5 Economic profile of scrap collectors' households

An average scrap collector household earns Rs.3375 per month from employment in various types of activities throughout the month. The data reveal that all categories of scrap collectors, households end up earning the same amount per month though the proportions of earnings from scrap related and non-scrap related activities differ across these categories of households. The male itinerant buyer households derive major proportion of income (80%) from scrap related activities. On the other hand the waste-picker households and the female itinerant buyer households earn relatively less proportion (65% and 60% respectively) of their income from scrap collection. We may make that share of earnings of all categories of households from scrap collection are higher than their respective shares in employment in this activity. This is because of the fact already noted that the monthly per worker earnings from scrap collection exceed the per worker earnings from non-scrap related activities.

Though the monthly earnings of three categories of the scrap collector households per capita monthly income because of their different household. The mean monthly per capita income for all categories of scrap collector households is Rs.591 (nearly 40% higher than the present urban poverty line of Rs.420). In comparison to this the waste picker households have relatively higher (Rs.614) per capita income per month. The male itinerant buyer households have the lowest mean monthly per capita income of Rs.533; just 25 percent above the poverty line.

The dependence of these households on various kinds of informal sector activities for earning their livelihood and the varying extent of participation in economic activities results into considerable variation in the mean monthly per capita earnings of these households.[24] The per month earnings range from as low Rs.126 to Rs.2200.[25]

Dependency load

[24] The coefficients of variation for waste-picker, waste itinerant buyers and the female itinerant buyers are 51%, (1% and 61% and 66% respectively).

[25] The variability is the highest in case of the female itinerant buyer households while it is the lowest for the waste-picker households. We have already noted that the correlation coefficient between per capita monthly income and economic dependency load is -0.48. This means than nearly 24 percent of the variation in monthly per capita earnings is due to this factor.

The demographic dependency load measured as a proportion of potential non-earners to potential earners is on the higher side in these families.[26] It is 0.73 higher than that for the general urban population at the state level (0.64).[27] With inadequate human resources they find work for survival nowhere else but in low productive activities in the informal sector. This is reflected in the higher worker population ratios in the younger age group (15-18) for both the sexes.[28] Women in these households show greater propensity to work throughout their life. The WPR is significantly higher for women in these households at all ages in comparison to the WPR for urban women at the country level. As men tend to withdraw from economic participation in the old age (50 plus)[29] and women continue to work, the WPR for women at this age group (76 percent) is higher than the WPR for men in the same age group (60 percent). Thus, at younger ages women work hard at home and outside to support their children. They continue to work and earn during old age to support themselves and their families.[30]

Estimation of poverty of scrap collectors' households

The distribution of income presented in graphs indicate that out of total household income the bottom ten percent of households account for barely three percent of the household income and the top ten percent account for twenty percent. The modal income group is Rs.421-670 for all categories of households. The income of majority of the households is below Rs.670 per month. The incidence of poverty is the highest (34%) in the male itinerant buyer households and the lowest (17%) in the female itinerant buyer households. The incidence of poverty for all scrap collector households put together indicate that one in four scrap collector households is below the poverty line.

3.1.4.6. Consumption pattern of the scrap collectors' households

The scrap collectors' households on an average spend Rs. 454 on consumption of food and non-food items per month[31]. This implies per capita expenditure of Rs. 15 per day. The poor households spend a very low amount of Rs. 8 per day per person.

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[26] The demographic dependency load is calculated as a ratio of the sum of the children below fourteen years and those above sixty years, to total persons in the age group of 15-59 years.

[27] The dependency load for the Maharashtra state is taken from NFHS1, the figure refers to 1992-93.

[28] The WPR for urban India for this age group reported in 50th round of NSS are 31.2 and 11.4 percent for the year 1993-94. The corresponding ratios for scrap collector households are 48 percent and 18 percent respectively.

[29] While collecting the data we made an attempt to record accurate age of the respondent women on the basis of biological norms like the year of menarche. We observed that their physical appearance showed higher age than their actual age because of their continuous hardships.

[30] Few women described their daily earnings as 'baji-bhakari' (fresh bread) for their children. Few have complained that their husbands are not working and they have to provide money for drinking alcohol.

[31] The detailed information on monthly consumption expenditure of the scrap collectors' households was collected during the survey. Many male respondents and elderly women respondents staying with their son and daughter-in laws could not report this information. . A careful scanning of the data revealed that only

The households having per capita income more than three times the poverty line spend also spend three times more than the poor households: per capita daily consumption expenditure of this income group is Rs. 25. The level of per capita spending increases with the level of per capita income (see scatter 2)[32].

Out of the total consumption expenditure food and fuel constitute 80 per cent in case of poor households and 66 per cent in case of top income group[33]. The daily per capita spending of the poor households on food is as low as Rs. 6. One can imagine what kind of food basket for the day can be purchased with this amount. Most of the respondents reported that their day begins with the purchase of tea-leaves, sugar and small quantity of milk, sometimes biscuits and in the evening they purchase cereals, pulses and vegetables for preparing meals. Consumption of meat and eggs is not frequent. Thus daily consumption basket mainly consists of cereals (many times coarse cereals like jowar), pulses and little quantity of vegetables. The noted food consumption pattern is amazingly similar across the income groups. The households at higher levels of income do not show propensity to shift to non- cereals items like milk and eggs. Engel's law seem to hold at this lower level of incomes. The proportion of expenditure on food declines with increase in the level of per capita income.

3.1.4.7 Assets and Liabilities of scrap collectors' households.

Liabilities and access to credit

Every other scrap collector prefers not to be 'indebted' to anyone and relies on small advances from scrap dealers or neighbours to tide over immediate needs and family crises. Urban poor across the city are known to meet their credit needs by accessing loans from malwaris (moneylenders) at rates of interest that can reach 25% per month. Occasionally women complain of interest rates as high as 10% per day. However malwaris offer a guarantee of credit at times of need. Repayment is effectively organised. Poorly paid workers of the moneylenders visit every debtor's house every morning and evening before or after their work hours. They ensure repayment by regularly chasing the loan defaulters.

However, the practice of making credit purchases particularly of consumer products like electric fans, vessels, sewing machines is quite prevalent. Savvy entrepreneurs, who make a hefty margin on the deals, sell these wares at the doorstep. Most products work out to 1.5 times the market cost and though the consumers are aware of this, the immediate availability of the item is a big temptation.

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156 households have reported the information with reasonable accuracy. We also noticed that personal consumption expenditure like eating out, entertainment, purchase of clothing, expenditure on vices was not reported.

[32] The correlation between per capita income and per capita consumption expenditure is 0.77. Thus the per capita income explains about 60 per cent variation in per capita consumption.

[33]

Asset Ownership

Many scrap collectors have electric fans and Black and White televisions in their houses. One fourth have tape recorders and another fourth bicycles. Less than one in hundred scrap collectors own mopeds, colour television sets or gas stoves. Only 5 percent of scrap collectors own goats or chickens, which almost never prove to be economic assets because they are rarely reared with a very serious intention to profit. The total cumulative value of such livestock per household never exceeds Rs.100/-.

Only 38 percent of scrap collectors hold financial assets. Of these 65 percent hold accounts in the scrap collectors credit co-operative where they save a regular Rs.50/- per month. Only one in ten is likely to save in a Bank.

Many save in a 'Bhishi', a locally created an managed kitty fund, where an average amount of Rs.250/- per month is put in equally by all members, each one drawing turns to utilise the total amount. The 'Bhishi' and the scrap collector's credit co-operative are the most popular saving facilities essentially because they offer low or interest free credit and easy access to savings.

3.1.4.6 Living conditions of scrap collectors' households

The houses scrap collectors live in range from shanties, tin shed, mud /brick to RCC constructions. Similarly sizes of houses range from 8x10 ft to 2 rooms of 10x12 ft each. Such two rooms are split at times of crisis and one is rented out to someone. In fact almost one in ten has acquired two houses, while another one in ten lives in rented accommodation. Their houses are usually single room tenements of less than a 100 square feet and house on an average 6 to 10 members. They are almost always semi-pucca structures made of corrugated tin, that get heated in summer and leak in the monsoons and lack any ventilation. The bathing area is usually a 2 feet square enclosure of sackcloth that is as likely to be inside the house as outside. A few scrap collectors do not have even such a defined bathing area. The kind and the size of houses are usually determined by the number years of residence in Pune. Older domiciles manage to upgrade their housing and gradually increase their amenities.

They start with procuring their own electric connection and almost immediately start lending it out to their neighbours. They save the money they used to spend on hiring out electricity and earn an additional amount to pay off the meter charges. Most of the houses are electrified, half of them have their own private connection, the other half rent electricity for a single light bulb from their neighbours for Rs 50- 100 per month. Almost everyone borrows or lends electricity. One in fifty however makes do with a mere kerosene wick lamp for lighting in the house. Private water connections feature next in their list of priorities, however this is not very practical in slums where the water problem is very severe. More than half the scrap collectors have their own water connection. Only 1 percent of those who do not, need to walk more than 10 minutes to reach the water source. The same women are the ones who need to buy water by the tanker. One in four scrap collectors, faces a water shortage, particularly during the summer months. Like all slum dwellers, most scrap collectors use municipal public toilets. Those from undeclared

new slum pockets are forced to defecate in the early morning or late night hours in open areas near the slum.

A metal cot, trunks to keep clothes in, a kerosene stove, grinding stone and essential vessels for cooking constitute the essentials of most houses. Metal racks for storage, electric fans, radio tape recorders and televisions are bought as the family improves in economic status. Very few families have electric grinders or cycles. Usually families own cycles with a male adolescent in school or college or an adult in some form of permanent employment. The exceptions are cycle feriwalas most of whom have their own bicycles. These consumer durables are bought at the doorstep on easy daily instalments paid over 3 months, pushing the cost up to nearly double the original cost.

The slums housing them are sometimes older habitations predating 1972, and such slums are recognised or declared slums. These slums offer inhabitants basic amenities such as water connections, toilets, lights and paved roads. Most of the slums that house scrap collectors are reasonably well lit. A few are also paved and have open constructed drainage channels. Inhabitants also have a photo-pass for their house issued by the municipal authorities that entitles them to alternate place in case of eviction. Almost half the scrap collectors have photopasses for the houses they live in, since they have been resident in the city for many years. Photo-passes are regularly misused and sold along with the house. A house with a photo-pass is almost never likely to be demolished or shifted. In older rehabilitation schemes, slum dwellers have moved to new places and sold the houses they occupied earlier to newer inhabitants. No new photo-passes have been issued in Pune since 1980. Newer migrants (post 1980) have continued to occupy private and public spaces that are initially considered undeclared slums and enjoy no benefits. Ten per cent of scrap collectors live in unrecognised slums where the municipal corporation provides absolutely no civic amenities. Every few years the number of such slums goes up and elected representatives and political leaders convert illegal slums in their constituencies into declared slums. The declaration of slums is a legal process initiated by the municipality. Once this is done, basic amenities are provided in the slum by the municipality. Except in the case of very large development projects such as road widening and the construction of national highways, slums are not threatened and are usually regularised sooner or later. Even the slums that have come up as late as 1997 have already got basic amenities.

3.1.5.0 Dynamics of Labour in Scrap Collection

The fact that caste and gender mediate entry into the occupation has been established in the previous sections. Some propositions are put forth for consideration.

A historical review of the commodities collected by scrap collectors and for which there was a market suggests that bone, rags and paper were among the first commodities to be collected. As a matter of fact one in every five of present day scrap collectors have collected bones at some time in their working lives and a few (5 per cent) continue to do so. The practice of collecting bones has steadily declined over the years. All those who still collect them live in a geographical slum pocket where a wholesaler trades in bones.

Most of the others stopped because their regular retail traders stopped buying bones because of space and hygiene problems. In caste Hindu society there is a historical and cultural association between the Mahars and Matangs and 'bones', that is best illustrated by the following narratives.

The Bone Merchant

Shankarrao Kharat

When I was at school in the village I was always short of money. I had been getting a scholarship of one rupee a month since class four. But that was spent daily on salt and spice and I could never save even a copper coin from it. Then I would collect gum from the jungle and sell it to a vendor. In summer I picked the fruit of the Karanja tree and sold it in the market or hunted our honeycombs and sold the honey. Sometimes I worked on daily wages anything to get some money. Or there would not have been a single coin in my hand.

After my mid-day meal, I went to the meeting place of the Maharwada and sat on the platform under the peepul tree. It was well past eleven and the sun was hot. My classmates from school had laid out a game of marbles under the shade of the neem tree nearby, "Here comes the bone-man! The bone-man's here!" At the sound of these words everyone looked around sharply. I looked, puzzled, from one side to another. By that time all the children of the Mahars and Mangs had started searching for bones by the side of the stream near the platform. They ran around picking up whatever bones they could find. I became alert; so did my schoolmates.

The bone merchant used to visit our village to buy the bones of dead animals. He used to halt under the lime tree near the meeting place. If you wandered around and collected a bagful of bones, he would weigh them and pay you a few small coins. But in those days even those small
coins went a long way. And the bone merchant was honest in his dealings. He would weigh the bones and pay for them immediately. All the Mahar and Mang men, women and children of the village used to jump at the call, "The bone-man's here" and start looking for bones far and wide to sell them to the bone merchant. The Mahars of my village had stopped eating meat from carcasses. So entire skeletons of dead animals were left lying around by the side of the stream. And when the bone merchant came, once in a while, the search for bones would begin. Some old Mahars who were aware of this would collect and store bones in the backyards of their houses. On these rare moments, they got a chance to sell them. They would earn and easy rupee or two which would see them through another week.

Hope flared in me when I heard the bone merchant announced. Dagdu and I moved immediately to search for bones. We decided to bring in the skeletons lying near the stream. As we started, old Sawala shouted at us, 'You brats! Don't go near my backyard! And do not pick up the bones I have collected, I know those bones well! Sawala Mahar was right. There was a heap of bones in his backyard. Sometimes crows used to sit on fresh bones and peck at the flesh. Kites glided above them. Sometimes the rotting bones gave off a foul smell, and people would hold their noses as they passed. The bones dried in the

hot sun and as they dried, the foul smell would go away. Sometimes a hungry stray dog would sit there chewing contentedly at the bones.

Sawala Mahar was always on the lookout for bones. If he found any lying around he would bring them home and store them in his backyard. Shiva Mahar did the same. Bones lay in heaps behind their houses. For Sawala, this was a regular business. Once every few months when
the bone merchant came he would get two rupees in exchange for two or three gunnybags of bones - any easy income for him. With those two rupees he could buy a new shirt, and a single rough dhoti. He would discard the rags he had been wearing. The bone merchant's visit gave him new clothes. That's why he looked out for bones and warned us off when he saw us moving to collect them.

The moment they heard that the bone merchant had come Sawala and Shiva Mahar looked radiant. Sawala moved quickly, climbed down the steps and ran towards his house like a hound on the scent. And Shiva Mahar, with a smiling face, hurried to his house at a brisk trot.

Panda and I ran through the by-lanes of the Maharwada. But we met on our way some women and children coming towards us with baskets full of bones. Now it would be difficult to lay our hands on any bones in the Maharwada. So, along with Dagdu, I ran towards the stream. I knew where the skeletons were lying because I used to take the goats out to graze there. As we went along, Panda said.

"Shankar! there is a skeleton near the slope!"

"Yes, I know that!" I said and broke some further news to him. "I saw a buffalo skeleton under the karanja tree".

"I do not know about that".

But I did. "Panda! There are skeletons in the cemetery as well"

He was doubtful, 'Whose skeletons? Animals' or dead people's?

'Who the hell knows?' I replied, 'But there are a lot of bones in the cemetery!'

They must be human bones!

'So what? Bones are bones! As long as we get some money for it.'

'True,' agreed Panda.

As we talked, we were scampering towards the stream. Dagdu also came running behind us.

'Wait! Let me come with you!' He came right up to us and said, 'Hey pals! Let's all three collect bones together!'

I remained silent.

But Panda agreed, "All right! We will all do it together, 'So I nodded and said, "All right, if it is three, it is three. We will collect the bones together and share the money between us. "We quickly ran to the other side of the stream and gathered bones lying on the slope. Seeing us collecting the bones crows began to chase us and kites hovered over out heads. And seeing the kites and the crows above us dogs started to follow us, the smell of bones in their nostrils.

We were absorbed in collecting bones. Suddenly a kite swooped down on the bone in my hand. Its sharp talons stabbed at my hand and a little blood came out. I wiped off the blood and went on collecting bones. Between the three of us we collected a lot of them.

Dagdu said, 'Shankar! Tie these bones into a bundle and put it on my head. I will run to the bone man with it.'

It was a good idea. We tied together all the bones we collected and lifted the load onto Dagdu's head. He set off to the meeting place, his feet crunching the gravel of the stream. Then Panda and I ran towards the high bank. Ahead of us Dama was moving fast in the same direction, his eyes fixed on the bank. We were young and agile; we bounded ahead of him through the sand like lambs. We ran past him. We had no idea what he was thinking. As we ran we soon left him far behind. We ran up and caught hold of the big skeleton of an ox. I was delighted to see it. At a sudden breeze, some bluish purple buds from the karanja tree fell on my body, and some fell on the skeleton. The skeleton's teeth grinned at us. Its sockets were empty. The hooves and horns were intact. We were very happy; the bone merchant would give us at least a few annas for the skeletons. I caught hold of its rear hooves. Panda grasped its horns. And we swung up the skeleton between us. We set off, one at either end of it. Suddenly Dama Mahar charged upon us, shouting. Glaring at us, he yelled, "You rogues! It's my skeleton! Where are you taking it? I won't let you!'

Now here was dilemma.

I said, 'But we were the first to catch hold of it!'

You fools, is it your father's property?'

'Is it your property?' I retorted.

Immediately Dama started laying claim with words, 'Even it it's not my property, it is my share as a Mahar. When the ox died, I dragged it here. You thought it was easy picking, didn't you?'

And he charged at us. He caught hold of the front legs of the bull and started pulling, we pulled yet harder. The tug-of-war developed into a fight. As we tugged, he came at us to beat us. But we were too canny to let go of the skeleton. Just then Galpa from our Maharwada came by us from his field. Hearing us fight he came up to us and said, "Why are you fighting for bones like dogs?' And he shouted at Dama, 'You too, Dama! You are behaving like a child! Fighting for bones!'

Dama said, "But the skeleton's mine!'

'Is it your father's?'

'No, but that dead ox was my share'

Then you should have taken the bones at that time'

'That is true, but...'

'But why must you have it right now?'

Dama told him the truth, 'The bone-man's come to the Maharwada. That is why!'

'Oh! So the bone-man's come!'

'Yes! He has come!'

'Then share it between you. Let these boys too earn something from it, 'he offered as a compromise.

Then he yelled at us, 'Boys! Share this skeleton with Dama, half for him, half for you. Let him get a few annas too for his salt and spice.'

We agreed.

Dama stepped up and put his foot on the skeleton's spine. The bone broke like dry wood. Then we started fighting over the horns. In the end Dama got the half with the horns. We got the rear end. Dama took his end of the skeleton on his head and started out. His skin was black; walking by himself in the blazing sun with those horns on his head, he looked like a demon. And walked like one too.

Our load was now reduced. Dama had taken half of what we had, I said, 'Panda! You take this on your head! I will see if I can get some bones in the cemetery and bring them along!'

Panda nodded. He took the half skeleton on his head and started out for the Maharwada. I went straight to the cemetery, to see if there were some bones. There were tombs all around. A large, long stone was placed over each dead body. I saw a few bones at one side. They were long bones, parts of a leg. I picked them up and moved ahead. Then I found

some small bones. I gathered together some arm bones and leg bones and skulls, tied them with a rope and set out towards the meeting place. There was a big crowd of people, young and old, men, women and children, surrounding the bone merchant under the shade of the lime tree.

I went up to the bone merchant. He had set up a scale to weight the bones. As he weighed the bones he paid out the money as agreed. The people's faces bloomed with joy as the money was put into their hands. With his small eyes, Dama was counting the coins he had received. His face too glowed with satisfaction. Then we put our bones into the scales, which sagged under the weight. The bone merchant put heavier and heavier weights in the opposite scale.

The scales evened out. Examining the weights the bone merchant put his hand in his jingling purse. "Twelve annas, he said and gave the money to Panda. We were very pleased. At last he put into the scale the bones I had collected. Looking narrowly at the bones he growled at me, 'What bones are these, boy?'

"What did you mean?' They are bones, are they not?'
Child, you want us to go to jail?

'That means?' I said, surprise breaking out.

The people around started looking in astonishment from him to me and back again. I could not understand what the bone merchant meant.

So he said explicitly, "Child! These bones are not from animals! The bones you brought belong to human beings!'

Human bones! Everyone came to attention. Some jerked. Some started. And startled, I stared at the bones. The bone merchant said to me again, "You want to send us to jail? Pick up these bones at once!' And he added, put them back where you found the, Go! Run! Otherwise the police will catch you too!'

When the bone merchant said this, I trembled where I stood. I quickly picked up the bones from the scale, tied them together and ran fast towards the cemetery. I scattered all the bones and then ran back panting. I was totally out of breath.

I went towards Panda who was standing by the platform. He put my share of four annas in my hand. I was thrilled at the sight of the coins in my palm. Clenching my fist around the money I went home leaping with joy and gave the money to my mother.

Looking at me in surprise she asked, "Where did you get this money?"

"I sold some bones to the bone man and got it.

Then let us keep it aside for you to buy something to eat in the market. And she put away the money in a small jar in a pile of pots. I ran back to the meeting place, jumping gleefully.

Translated by Priya Adarkar
An extract from Taral-Antaral

Source: Dengle Arjun, (Ed.) Dalit Visions: An anthology of Dalit literature, Orient Longman,

The story of Mariaai

Once upon a time there was a Brahmin couple who had one daughter. One day a young boy came to their doorstep to beg for alms saying, "I am a poor orphan. Please give me some alms". He was very fair skinned. The wife was perplexed. She called out to her husband and asked the boy who he was. "I am an orphan Brahmin", replied the boy. The couple took pity upon him and took him into their house. The children grew up and the couple decided to get their daughter married to the boy, who had by then become a young lad.

The marriage took place with great pomp and ceremony. The newly weds set up house and soon
their first child, a handsome boy, was born. The grandparents' joy was boundless. The child began to crawl. One day he crawled onto the street and found a large bone of a buffalo with a string tied to it. He dragged it back home and was scolded for his efforts. The mother soon noticed that this became a habit with him. No sooner did she turn her back and he was out on the street fetching bones. She beat him, she threw stones at him, but he could not be restrained.

Soon the couple had a second child, this time a girl. When she started crawling, she did the same thing. The mother was mortified but she told no one. One day her when her parents came to visit she noticed her son at the door with a bone. She ran out mid sentence, her mother at her heels and just about managed to discard the bone before her mother reached the door. "He was being naughty", she replied when her mother asked what had happened.

She could keep her secret no longer. When her husband returned home she told him about the children's behaviour. He then revealed the truth about his parentage, that he was a Mahar by birth. She did not know what to do. She went to her father and asked, "Father, how does one purify 'pollution'?" " You hold the vessel over an open fire and the fire purifies it", he replied. In those days vessels which were considered to be 'polluted' by the Mahars touch were thus purified.

She went home and decided to purify herself. She doused herself with kerosene. She poured
kerosene all over the house and in the courtyard. Then she set herself ablaze. She cursed her husband saying, "whenever you kill a buffalo the blood of that buffalo will be smeared on my forehead as kumkum and I will be called Mariaai".

Puran polis, rams and male buffaloes are the offerings made to Mariaai.

Mariaai and Laxmiaai are sisters. Cockerels and puran polis are offered to Laxmiaai.

-As narrated by Laxmibai Kadam (former ragpicker), aged 68 years of Kishkinda Nagar, Paud Road, Pune

The socio-economic survey of Pune done by Gadgil[34] in 1937 mentions the presence of Mahars who traded in used oil tins in the Juna Bazaar (second hand goods market). There is also a mention of paper manufacturing units located close to the Juna Bazar in an area known as Kadgdipura (paper settlement) even now.

The association of waste-picking with bones and paper that had to be collected from the streets and garbage led to the involvement of Mahar (including Neo-Buddhist) and Matang women. Even when other scrap commodities became available they remained the only ones who would soil their hands. The occupation came to have a low status primarily because Dalits were involved and because of the filthy work environment. Dalit women also had fewer restrictions on mobility than women from the other castes. These factors precluded the involvement of even the very poor among the other castes and accounts for why the other balutedar castes ('kunbis', the small agriculturists and those providing village services like oil pressers, gardeners, ironmongers, barbers, tailors and others) that migrated during the drought did not enter this occupation. It also accounts for the negligible presence of Dalit men in waste-picking and their higher presence in itinerant buying. Itinerant buying involves the use of capital and relatively better conditions of work and therefore has a marginally better status. Not many Dalit women were accepted as domestic help in caste Hindu society although they were employed in the homes of the Parsis, Muslims, Christians and the British. This meant that they had very little choice because they had no access to capital, no skills and no education. This supports the argument that that if the sources of existence are under pressure, people fall back on familiar social mechanisms to promote their own interests (Bremen 1994). The fact that no other social category would start waste-picking would itself offer some measure of security and assurance of work to waste-pickers. Thus while entry into scrap collection appears to be 'closed' it has to do with the 'particularistic tendencies' (Bremen 1994) of the labour market, rather than extraneous entry barriers and the fencing off of the occupation by the existing workers.

Scrap collectors do not choose to enter this occupation because of ease of entry but are pushed into it by other factors. A third of all categories of scrap collectors started scrap collection because they could not get any other work (Table 3.1.21). The authors argue that the evidence points to the fact that there is labour market segmentation based on caste and gender even within the informal sector.

One in every two of the scrap collectors starts their work life in this same sector. They belong to families or communities where the bulk of the 'unemployed' population resort to scrap collection as a means of livelihood and invariably learn the 'modus operandi' by

[34] Gadgil D.R. et al. Poona: A socio-economic survey. Part I: Economic. Poona, Gokhale Institute of Politics and Economics, 1945.

watching relatives and neighbours. More than a third have just no other choice of employment and this 'self-employment' is forever accessible. Twenty per cent enter because their families or the communities they live in, offer the role models and 'training' they need.

Around 35 per cent of scrap collectors have entered this occupation after some wage labour in the informal sector, that is not garbage related. Invariably these are the same persons who have shifted to scrap collection because of the irregularity of availability of wage labour, or because the rigorous timings of work are less suitable to them than the 'flexibility' that scrap collection offers.

At the outset it needs to be clarified that child waste-pickers have not been included in the sample of this study. However, appropriate questions related to age of entry throw light on the issue. One in every five of the scrap collectors entered the occupation as a child, some even at the tender age of five. Sixty per cent of those who started work as child waste-pickers (less than 14 years) are girls whereas 40 per cent are boys. Almost 80 per cent of the boys shifted to itinerant buying when they become adult. Most of the girls continue to be waste-pickers. The mean age of entry of those who entered as children is 9 years for girls and 10 years for boys respectively. Twenty per cent of the scrap collectors were adolescents at the time of their entry into the occupation. Girls outnumbered boys in the ratio of 3:1 in this age group. Further, all the boys who entered as adolescents are itinerant buyers, not a single one is a waste-picker. The data show that gender is one of the determinants in the entry of child labourers in this occupation. Waste-picking is the level of entry of child labour. The girls usually continue in waste-picking whereas the boys either shift to itinerant buying or other occupations, both considered more respectable than waste-picking. These findings are consistent with those of the Study of Child Waste-pickers conducted by two members of the same research team in 1995.

Only 10 per cent of the scrap collectors say that they had been 'forced' into the occupation as children and therefore continue. Most have entered at their own initiative. Scrap collectors have learnt on the 'job' with their immediate families or neighbours as role models. A few have done it the hard way by actually going and collecting scrap that is not marketable and learning after two three rounds of not receiving payment from retail scrap traders! In either case nobody takes more than a week to learn the ropes.

More waste-pickers and dabbabatliwalis enter after the age of nineteen as compared to the bhangarwallas. More than half a dozen waste-pickers enter after the age of 50 years. Although bhangarwallas start work at a young age, few enter the occupation after the age of 35 years.

Four out of every five scrap collectors complain about the overall increase in the number of scrap collectors due to which their access to scrap and proportionately their earnings have reduced. Everyone wants restriction on new entrants although many would argue that individual "needy" newcomers known or related to them should be allowed entry!

Further analysis reveals that 63 per cent of the male itinerant buyers are aged between 19 and 35 years as compared to only 43 per cent of female waste-pickers and 23 per cent

female itinerant buyers. This effectively means that more numbers of male itinerant buyers are entering the trade in comparison with the other categories. Further examination of whether their mothers were waste-pickers will indicate whether there has been progression from one generation to the next. The least proportion of fresh entry is among the dabbabatliwalis. This clearly establishes that there is increasing competition within categories as well as between the different categories of scrap collectors. The male itinerant buyers are in a relatively better position to capture a larger share of the pie. They buy kraft (corrugated board), bhangar-patra (ferrous metal/tin) and fuga-kadak (blow moulded plastic-injection moulded plastic) hat would otherwise reach the garbage bin. They carry weighing scales that inspire confidence in their clients as opposed to the dabbabatliwalis who do not have weighing scales. Their carrying capacity is higher because of their pushcarts. Eighty four per cent of the dabbabatliwalis complain that the increase in the number of itinerant buyers has affected their business.

The data show that fresh entry into scrap collection still continues albeit of the same social category. It however leads to increase in internal competition and pauperisation of existing workers and the displacement of the more vulnerable among them. The primary data support Bremen's theory of fragmentation of the labour market as a result of increasing competition among workers in the informal sector. Analysis of the data on participation of scrap collectors in allied occupations substantiates the above argument.

Table 3.1.1: Estimated population of scrap collector households (2000)

	Population	**Households**	**Average household size**
Scrap collector households	18415	3225	5.71(5.55)
Scheduled castes (in Pune) **	750901	71167*	5.12*
Slums			5.12
Total in Pune**	**3479734 (2493987)***	**513944***	**4.85***

Sources: 1) Scrap collector population estimated is based on the study.
2) Figure for schedule caste and total population Pune is taken from District Census handbook, Pune 1991.

Notes: 1)* Pertain to 1991.
2)**Estimated using annual compound growth rate of the population between 1981-91.
3) Figure in parenthesis in col.3 indicates the average household size for Schedule caste scrap collectors.

Table 3.1.2: Religion in relation to category of scrap collector

Caste	**Category of scrap collector**			**Total**
	Waste picker	Itinerant buyer (bhangarwalla)	Itinerant buyer (dabba batliwali)	
Hindu	121 73.3	44 78.6	30 96.8	195 77.4
Muslim	3 1.8	8 14.3	-	11 4.4
Neo-Buddhist	41 24.8	4 7.1	1 3.2	46 18.3
Total	**165 100.0**	**56 100.0**	**31 100.0**	**252 100.0**

Table 3.1.3: Caste distribution in relation to category of scrap collector

Caste	**Category of scrap collector**			**Total**
	Waste picker	Itinerant buyer (bhangarwalla)	Itinerant buyer (dabba batliwali)	
Matang	89 55.0	40 85.0	25 84.0	154 65.0
Mahar	29 18.0	3 6.0	4 13.0	36 15.0
Neo-Buddhist	41 26.0	4 9.0	1 3.0	46 19
Any other SC	2 1.0	-	-	2 1.0
Total	161 100.0	47 100.0	30 100.0	238 100.0

Table 3.1.4: District of migration in relation to period of migration

District of origin	How many years ago did the first migrant leave in the native village								Total
	3-5	6-10	11-20	21-30	31-40	41-50	>50	Don't know	
Solapur	2 40.0	5 50.0	18 48.6	48 41.0	14 33.3	5 45.5	2 15.4	3 17.6	97 38.5
Osmanabad		1 10.0	3 8.1	31 26.5	10 23.8		2 15.4	2 11.8	49 19.4
Latur		1 10.0	3 8.1	10 8.5	1 2.4				15 6.0
Beed			3 8.1	11 9.4	6 14.3	2 18.2	1 7.7	1 5.9	24 9.5
Ahmednagar	1 20.0	1 10.0	5 13.5	11 9.4	7 16.7	2 18.2	5 38.5	6 35.3	38 15.1
Any other district of Maharashtra	2 40.0	2 20.0	4 10.8	5 4.3	2 4.8	2 18.2	2 15.4	3 17.6	22 8.7
Any other district of Karnataka	-	-	-	1 0.9	2 4.8	-	1 7.7	2 11.8	2 2.4
Any other state			1 2.7						1 0.4
Total	5 100.0	10 100.0	37 100.0	117 100.0	42 100.0	11 100.0	13 100.0	17 100.0	252 100.0

Table 3.1.5: Age of Scrap Collectors in relation to migratory status

Age of respondent	First migrant to Pune (generational)			Total
	Self	Parents	Grandparents	
15-18 years		2 2.1		2 0.8
19-35 years	47 33.1	56 58.3	9 64.3	112 44.4
36-50 years	63 44.4	35 36.5	4 28.6	102 40.5
51-60 years	23 16.2	3 3.1	1 7.1	27 10.7
61-70 years	8 5.6			8 3.2
Above 71	1 .7			1 .4
Total	142 100.0	96 100.0	14 100.0	252 100.0

Table 3.1.6 : District of origin in relation to land ownership

District of Origin	**Does the Respondent's own land in the native village**		Total
	Yes	No	
Solapur	8 30.8	89 39.4	97 38.5
Osmanabad	4 15.4	45 19.9	49 19.4
Latur	2 7.7	13 5.8	15 6.0
Beed	1 3.8	23 10.2	24 9.5
Ahmednagar	6 23.1	32 14.2	38 15.1
Any other district of Maharashtra	3 11.5	19 8.4	22 8.7
Any other district of Karnataka	2 7.7	4 1.8	6 2.4
Any other state	-	1 0.4	1 0.4
Total	26 100.0	226 100.0	252 100.0

Table 3.1.7: Primary full type occupation of first generation migrant in relation to primary reason for migration

District of origin	**Primary reasons**					
	Natural disaster	Poverty	State Oppression	Social Causes	Any other	Total
Cultivator	3 2.6	3 3.7		1 3.0	1 4.3	8 3.2
Share cropping		1 1.2				1 .4
Agricultural family Labour	4 3.5	6 7.4		2 6.1		12 4.8
Agricultural wage labour (shetgadi)	71 62.3	38 46.9		10 30.3	4 17.4	123 48.8
Agricultural wage labour (salgadi)	22 19.3	10 12.3		2 6.1	1 4.3	35 13.9
Village craft like rope weaving broom	1 .9	3 3.7		1 3.0		5 2.0
Village services	1 .9	1 1.2			1 4.3	3 1.2
EGS Schemes	5 4.4	5 6.2	1 100.0			11 4.4
Petty business (tea shop etc.)	1 .9	2 2.5		1 3.0		4 1.6
Don't know	5	3			15	23
	4.4	3.7			65.2	9.1
Any other	1	9		16	1	27
	.9	11.1		48.5	4.3	10.7
Total	114	81	1	33	23	252
	100.0	100.0	100.0	100.0	100.0	100.0

Table 3.1.8: District of origin in relation to the primary reason for migration

District of origin	**Primary reasons**					
	Natural disaster	Poverty	State Oppression	Social Causes	Any other	Total
Solapur	52 45.6	27 33.3	-	9 27.3	9 39.1	97 38.5
Osmanabad	29 25.4	14 17.3	1 100.0	3 9.1	2 8.7	49 19.4
Latur	13 11.4	1 1.2	-	1 3.0	-	15 6.0
Beed	11 9.6	9 11.1	-	4 12.1	-	24 9.5
Ahmednagar	5 4.4	16 19.8	-	10 30.3	7 30.4	38 15.1
Any other district of Maharashtra	3 2.6	9 11.1	-	6 18.2	4 17.4	22 8.7
Any other district of Karnataka	1 0.9	5 6.2	-	-	-	6 2.4
Any other state	-	-	-	-	1 4.3	1 0.4
Total	114 100.0	81 100.0	1 100.0	33 100.0	23 100.0	252 100.0

Table 3.1.9: District of origin in relation to the year of migration of first migrant.

District of origin	**Year of migration of first generation migrant**							
	1947	1966	1972	1982	1992	Don't Know	Any other	Total
Solapur	-	5 38.5	41 50.6	6 85.7	2 50.0	12 24.0	31 32.6	97 38.5
Osmanabad	-	4 30.8	18 22.2	-	-	14 28.0	13 13.7	49 19.4
Latur	-	1 7.7	8 9.9	-	-	5 10.0	1 1.1	15 6.0
Beed	1 50.0	2 15.4	7 8.6	-	-	3 6.0	11 11.6	24 9.5
Ahmednagar	-	1 7.7	4 4.9	-	-	9 18.0	24 25.3	38 15.1
Any other district of Maharashtra	1 50.0	-	2 2.5	1 14.3	1 25.0	5 10.0	12 12.6	22 8.7
Any other district of Karnataka	-	-	1 1.2	-	-	2 4.0	3 3.2	6 2.4
Any other state	-	-	-	-	1 25.0	-	-	1 0.4
Total	2 100.0	13 100.0	81 100.0	7 100.0	4 100.0	50 100.0	95 100.0	252 100.0

3.1.10 District of origin in relation to caste and performance of caste related cultural practices by first generation migrants

	Caste of first generation migrant involved in caste related cultural practices			
District of Origin	**Matang**	**Mahar**	**Neo-Buddhist**	**Total**
Solapur	25	9	15	49
	(41)	(60)	(60)	(48.5)
Osmanabad	19	3	5	27
	(31.1)	(20)	(20)	(26.7)
Latur	2	1	1	4
	(3.3)	(6.7)	(4)	(4)
Beed	6	1	1	8
	(9.5)	(6.7)	(4)	(7.9)
Ahmednagar	9		1	10
	(14.8)		(4)	(9.9)
Any other district of Maharashtra		1	2	3
		(6.7)	(8)	(3)
Total	61	15	25	101
	(60.4)	(14.9)	(24.8)	(100)

Table 3.1.12: Reason for migrating to Pune in relation to the period of migration

Reason for migrating to Pune (as opposed to any other city)	**How many yrs.ago did the 1st migrant leave in the native village**								**Total**
	3-5	6-10	11-20	21-30	31-40	41-50	>50	Don't know	
Relatives in Pune	5 100.0	6 60.0	26 70.2	65 55.6	23 54.8	8 72.7	6 46.2	6 35.3	145 57.5
Others from native village in Pune		3 30.0	4 10.8	19 16.2	6 14.3	1 9.1		1 5.9	34 13.5
Direct railway line via Latur/ Kurduwadi/Solapur				13 11.1	2 4.8	1 9.1	2 15.4		18 7.1
Hope of jobs in Pune				12 10.3	6 14.3	1 9.1	1 7.7	1 5.9	25 9.9
Any other		1	7	8	2			2	16
		10.0	18.9	6.9	4.8			11.8	6.4
Total	5	10	37	117	42	11	13	17	252
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Don't know 14

Table 3.1.13: Distribution of Scrap Collectors by Area of Residence

		No. of Scrap Collectors		
Geographical Area	**Total**	**Wastepickers**	**Itinerant Buyers(M)**	**Itinerant Buyers(W)**
Shivajinagar	695 (100) (15)	378 (54) (12)	172 (25) (17)	145 (21) (26)
Yerawada	570 (12)	406 (71) (13)	114 (20) (11)	50 (9)
Dandekar Pool	520 (11)	446 (86) (15)	49	25
Kothrud	369 (8)	255 (69) (25)	58	56
Hadapsar	343 (7)	257 (75) (25)	84	2
Pimpri	301 (7)	229 (76) (22)	14	58
Gultekdi	293 (6)	138 (47)	132 (45) (13)	23
Chinchwad	243 (5)	187 (77)	19	37
Bhawani Peth	200 (4)	72	85	43
Satara Road	169 (4)	27	133 (79) (13)	9
Nagar Road	156 (3)	107 (69)	34	15
Bibwewadi	107 (2)	91	16	Nil
Ganj Peth	100 (2)	43	47	10
Alandi Road	96 (2)	96	Nil	Nil
Gokhale Nagar	86 (2)	41	26	19
Aundh	77 (2)	26	5	46
Karvenagar	59 (1)	47	12	Nil
Nigdi	56 (1)	55	Nil	1
Khadki	50 (1)	29	7	14
Bhosari	35	29	1	5
Mangalwar Peth	34	28	6	Nil
Assorted slums	35	27	4	4
Total	4594	3014 (66)	1018 (22)	562 (12)

Source: Department of Adult Education, SNDT Women's University

Table 3.1.14: Gender distribution of scrap collectors in relation to type of scrap collection

	Total	**Type of Scrap Collector**	
Gender		**Wastepicker**	**Itinerant Buyer**
Men	1251 (100) (27)	233 (19) (8)	1018 (81) (64)
Women	3343 (100) (73)	2781 (83) (92)	562 (17) (36)
Total	**4594 (100) (100)**	**3014 (66) (100)**	**1580 (34) (100)**

Source: Department of Adult Education, SNDT Women's University
Note: Figures in parentheses indicate percentages

Table 3.1.16: Age in relation to category of scrap collector.

Age of respondent	**Category of scrap collector**			**Total**
	Waste picker	**Itinerant buyer (bhangarwalla)**	**Itinerant buyer (dabba batliwali)**	
15-18 years	1 .6	1 1.8		2 .8
19-35 years	70 42.4	34 60.7	8 25.8	112 44.4
36-50 years	63 38.2	19 33.9	20 64.5	102 40.5
51-60 years	23 13.9	2 3.6	2 6.5	27 10.7
61-70 years	7 4.2		1 3.2	8 3.2
Above 71	1 .6			1 .4
Total	165 100.0	56 100.0	31 100.0	252 100.0

Table 3.1.17: Gender and age in relation to the marital status of scrap collectors

Sex	Age	Marital Status				Total
		Single	Married	Deserted/Separated (No support from husband	Widowed	
Male	15-18	1 25.0	1 1.5	-	-	2 2.8
	19-35	3 75.0	35 53.0	1 100.0	-	39 54.9
	36-50	-	24 36.4	-	-	24 33.8
	51-60	-	4 6.1	-	-	4 5.6
	61-70	-	2 3.0	-	-	2 2.8
	Total	4 100.0	66 100.0	1 100.0	-	71 100.0
Female	19-35		53 45.7	11 52.4	9 20.5	73 40.3
	36-50		52 44.8	7 33.3	19 43.2	78 43.1
	51-60		9 7.8	3 14.3	11 25.0	23 12.7
	61-70		2 1.7	-	4 9.1	6 3.3
	Above 71		-	-	1 2.3	1 0.6
	Total		116 100.0	21 100.0	44 100.0	181 100.0

Table 3.1.19: Gender and caste in relation to level of education of scrap collectors

Sex	Caste	Level of education					Total
		Illiterate	I-IV	V-VII	VIII-X	XI-XII	
Male	Matang	25 69.4	9 69.2	10 76.9	7 87.5		51 71.8
	Mahar	3 8.3	1 7.7	1 7.7			5 7.0
	Neo-Buddhist	4 11.1		1 7.7			5 7.0
	Muslim	4 11.1	2 15.4	1 7.7	1 12.5		8 11.3
	Any other		1 7.7			1 100.0	2 2.8
	Total	36 100.0	13 100.0	13 100.0	8 100.0	1 100.0	71 100.0
Female	Matang	95 56.9	3 60.0	6 85.7			104 57.5
	Mahar	29 17.4	1 20.0		1 50.0		31 17.1
	Buddhist	2 1.2					2 1.1
	Neo-Buddhist	37 22.2	1 20.0	1 14.3			39 21.5
	Muslim	3 1.8					3 1.7
	Any other	1 .6			1 50.0		2 1.1
	Total	167 100.0	5 100.0	7 100.0	2 100.0		181 100.0

Table 3.1.20: Primary reason for scrap collection

Reason	Category of scrap collector			
	Wastepicker	Bhangarwalla	Dabbabatwali	Total
Could not get other work	63 (38.2)	17 (30.4)	10 (32.3)	90 (35.7)
Time flexibility	25 (15.2)	5 (8.9)	8 (25.8)	38 (15.1)
Neighbours	22 (13.3)	7 (12.5)	3 (9.7)	32 (12.7)
Daily Income	46 (27.9)	24 (42.9)	8 (25.8)	78 (31)
Any other	9 (5.4)	3 (5.4)	2 (6.4)	14 (5.6)
Total	165 (100)	56 (100)	31 (100)	252 (100)

Table 3.1.21: Number of years of involvement in allied work

No. of years	Category of scrap collector			
	Wastepicker	Bhangarwalla	Dabbabatliwali	Total
Upto 2	14 (35.9)	1 (16.7)	2 (40)	17 (34)
3-5	12 (30.8)	1 (16.7)	3 (60)	16 (32)
More than 5	13 (33.3)	4 (66.7)	-	17 (34)
	39 (100)	6 (100)	5 (100)	50 (100)

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Table 3.1.22 : Average Household Size in Relation to Religion and Caste

	Sample Population	Average household sine
Muslims	73	6.64
Hindu		
Matang	889	5.77
Mahar	212	5.89
Neo Buddhist	238	5.17
All Households	**1412**	**5.71**

* Excludes population of other caste households like OBC, NT etc.

Table 3.1.23 Age-sex distribution in Scrap Collector Households.

	Waste-pickers			Itinerant Buyers			Itinerant Buyers			All households		
Age (years)	M	F	Total	M	F	Total	M	F	Total	M	F	Total
>5	12.74	11.93	12.31	16.62	17.61	16.63	12.23	8.33	10.34	13.42	12.87	13.13
6-14	28.54	27.37	27.91	26.20	27.27	26.20	20.00	22.62	21.26	26.55	26.81	26.68
15-18	10.61	11.32	10.99	8.45	8.52	8.45	18.89	10.71	14.94	11.11	10.59	10.85
19-35	26.89	26.13	26.48	29.58	28.98	29.57	28.89	23.82	26.44	27.99	26.54	27.24
36-50	14.15	15.23	14.73	11.55	10.80	11.55	13.33	23.81	18.39	13.56	15.15	14.38
51-60	5.19	5.76	5.49	5.07	3.98	5.07	4.44	7.14	5.76	5.34	5.50	5.42
61-70	1.65	1.85	1.76	1.97	2.27	1.97	1.11	2.38	1.72	1.59	2.01	1.81
71>	0.23	0.41	0.33	0.56	0.57	0.56	1.11	1.19	1.15	0.43	0.53	0.49
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100	100
Total Sample Pop.	424	486	910	179	176	355	90	84	174	693	746	1439

Table 3.1.24: Per Household Population, Workers, non-workers and Economic Dependency load in relation to categories of scrap collector Households

	Waste pickers	Itinerant Buyers (Males)	Itinerant Buyers (Females)	All
Average Household Sine	5.51	6.34	5.61	5.71
Non-workers	3.10	3.95	2.81	3.25
Workers	2.41	2.39	2.80	2.46
Males	1.33	1.52	1.61	1.34
Females	1.18	0.87	1.19	1.12
Economic Dependency Load(ED)	1.29	1.65	1.00	1.32
Max. (ED)	5	7	2.5	7
Min. (ED)	0	0	0	0

Table 3.1.25 Educational Profile of Scrap Collector Households

	Age in Years								
Male	Upto5	6-14	15-18	19-35	36-50	51-60	61-70	Above 71	Total
Illiterate	3 (3)	6 (3)	7 (9)	82 (42)	62 (67)	31(84)	10 (91)	3 (100)	204 (29)
I-IV	5 (5)	92 (50)	5 (7)	31 (16)	14 (15)	1 (3)	1 (9)		149 (22)
V-VII		52 (28)	24 (31)	46 (24)	8 (8)	5 (13)			135 (19)
VII-X		19 (10)	36 (47)	29 (15)	8 (8)				92 (13)
XII-XII			1 (1)	3 (1)	1 (1)				5 (1)
Graduate				1 (1)					1 (1)
Pre-schooling	83 (91)	3 (2)							86 (12)
Non-schooling	1 (1)	12 (7)	1 (1)						14 (2)
Any other			3 (4)	3 (1)	1 (1)				7 (1)
Total	92 (100)	184 (100)	77 (100)	195 (100)	94 (100)	37 (100)	11 (100)	3 (100)	693 (100)
Female									
Illiterate	1 (1)	4 (2)	36 (46)	151 (76)	106 (94)	41 (100)	15 (100)	4 (100)	358 (48)
I-IV	5 (5)	97 (49)	11 (14)	17 (8)	4 (3)				134 (18)
V-VII		58 (29)	15 (19)	18 (9)	3 (3)				94 (13)
VII-X		15 (7)	15 (19)	11 (6)					41 (5)
Pre-schooling	90 (94)	2 (1)							92 (12)
Non-schooling		24 (12)	2 (2)						26 (3)
Any other				1 (1)					1 (1)
Total	96 (100)	200 (100)	79 (100)	198 (100)	113(100)	41 (100)	15 (100)	4 (100)	746(100)

Table 3.1.26: Worker Population Ratios: NSS(50th round) Estimates (Maharashtra Urban) and the Estimates From the Study Sample.

Age Group Years	Estimates from the Study Sample 2000.		NSS Estimates Maharashtra(Urban) 1993-94.	
	Male	Female	Male	Female
15-18	48.1	17.7	28.7	8.8
19-35	93.3	58.6	82.5	20.4
36-50	89.4	87.6	97.2	27.6
51+	60.4	76.8	65.5	15.9
All	48.5	37.7	52.6	16.9

Source: National Sample Survey Organisation. '*Survekshana*' Vol. XX, No.1 68th Issue, July-September 1996.

Table 3.1.27 : Worker Population Ratios in relation to category of Scrap Collectors, 2000

	Waste-pickers	Itinerant Buyers (Push cart/cycle)	Itinerant Buyers (Daba batliwali)	All scrap collector's Households
Male	47.6 (202)	47.5(85)	54.4 (49)	48.5(336)
Female	40.1(195)	27.8(49)	44.0(37)	37.7(281)
Persons	48.6(397)	37.8(134)	49.4(86)	42.8 (617)

Table 3.1.27-A : Worker Population Ratios in Pune City,1991.

	Households in Pune (1991)	Scehdule Caste Households in Pune (1991)
Male	49.7 (651376)	45.9 (86219)
Female	12.4 (146832)	14.9 (26272)
Persons	32.1 (798208)	30.8 (112491)

Note : Figures in Parentheses denote total number of workers.
Source : Figures for Pune are taken from District Census Handbook, (Pune) 1991.

Table 3.1.28: Economic Dependency Load and Per Capita Income

Economic Dependency Load	Number of Households	Mean Per Capita Income
4 +	18	328
3-4	18	466
2-3	19	470
1-2	87	561
0-1	91	787
0	19	1090
All	**252**	**591**

Table 3.1.29: Distribution of Scrap collector households in extreme dependency loads

	Wastepickers	Itinerant Buyers (Males)	Itinerant Buyers (Females)	Total
Economic Dependency Load				
4+	7	11	0	18
0	13	1	5	19

Table 3.1.30 : Dependency Loads

	Demographic Dependency	Economic Dependency
Wasterpickers	0.74	1.28
Itinerant Buyers (Bhangarwallast)	0.83	1.64
Itinerant Buyers (Daba Baltiwali)	0.53	1.00
All Categories	**0.73 (0.66)**	**1.32 (2.24)**

Notes : 1) Figures in parentheses in Col. (2) and Col. (3) represent demographic dependency load of general urban population in Maharashtra observed in NFHS2, (1992-93) and economic dependency load observed for Scheduled Caste households in Pune observed in Census 1991.

2) Demographic dependency load is the proportion (in percentage terms) of the under fourteen population plus above sixty population and population between the age group 15-59.

Table3.1.31: Workers engaged in scrap collection in waste picker households in relation to age

		Age of respondent							
Sex		6-14	15-18	19-35	36-50	51-60	61-70	Above 71	Total
Male	Scrap Collector – Waste picker		3 75.0 %	10 37.0 %	11 69.8 %	6 75.0 %	2 100.0 %		32 56.1 %
	Scrap Collector – Itinerant Scrap buyer			16 59.3 %	5 31.3 %	2 25.0 %			23 40.4 %
	Working under a scrap dealer		**1 25.0 %**	**1 3.7 %**					**2 3.5 %**
	Total		4 100.0 %	27 100.0 %	16 100.0 %	8 100.0 %	2 100.0 %		57 100.0 %
Female	Scrap Collector – Waste picker	5 100 %	3 100.0 %	71 97.3%	63 100.0 %	21 95.5 %	8 100.0 %	1 100 %	172 56.1 %
	Scrap Collector – Itinerant Scrap buyer			2 2.7 %		1 4.5 %			3 1.7 %
	Total	5 100 %	3 100.0 %	73 100.0 %	63 100.0 %	22 100.0%	8 100.00 %	1 100 %	175 100.0 %

Table 3.1.32: Occupational Distribution of Male Workers in relation to Categories of the Households.

Sex	Occupation	Categories			
		Waste Picker	Itinerant Buyers (Males)	Itinerant Buyers (Female)	Total
	Informal Sector				
	Scrap collection Waste picking	32 (17.2%)	5 (6.0%)	6 (13.6%)	43 (13.7%)
	Scrap collection Itinerant buying	23 (12.4%)	61 (73.5%)	6 (13.6%)	90 (28.7%)
	Working in a scrap shop	2 (1.1%)	1 (1.2%)	-	3 (1.0%)
	Wage employment in garbage related activities	1 (0.5%)	1 (1.2%)	1 (2.3 %)	3 (1.0%)
	Self employment and wage employment in non-garbage related activities	128 (68.8%)	15 (18.1%)	31 (70.5%)	174 (55.6%)
	Total Informal Sector	**186 (100.0%)**	**83(100.0%)**	**44(100.0%)**	**313 (100.0%)**
	Formal Sector				
	Formal sector Garbage related	7	-	-	7
	Formal Sector Non garbage related unskilled	3	-	2	5
	Formal sector non garbage related (Skilled)	4	2	3	9
	Total Formal Sector	**14**	**2**	**5**	**21**
	Any other	2	-	-	2
	Total Employment	**202 (92.0%)**	**85 (97.6%)**	**49 (89.8%)**	**336 (93.1%)**

Note: Figures in the parentheses of the last row denote percentage employed in the informal sector.

3.1.33: Occupational Distribution of Male Workers in relation to Categories of the Households.

Sex	Occupation	Categories			
		Waste Picker	Itinerant Buyers (Males)	Itinerant Buyers (Female)	Total
	Informal Sector				
	Scrap collection Waste picking	32 (17.2%)	5 (6.0%)	6 (13.6%)	43 (13.7%)
	Scrap collection Itinerant buying	23 (12.4%)	61 (73.5%)	6 (13.6%)	90 (28.7%)
	Working in a scrap shop	2 (1.1%)	1 (1.2%)	-	3 (1.0%)
	Wage employment in garbage related activities	1 (0.5%)	1 (1.2%)	1 (2.3 %)	3 (1.0%)
	Self employment and wage employment in non-garbage related activities	128 (68.8%)	15 (18.1%)	31 (70.5%)	174 (55.6%)
	Total Informal Sector	**186 (100.0%)**	**83(100.0%)**	**44(100.0%)**	**313 (100.0%)**
	Formal Sector				
	Formal sector Garbage related	7	-	-	7
	Formal Sector Non garbage related unskilled	3	-	2	5
	Formal sector non garbage related (Skilled)	4	2	3	9
	Total Formal Sector	**14**	**2**	**5**	**21**
	Any other	2	-	-	2
	Total Employment	**202 (92.0%)**	**85 (97.6%)**	**49 (89.8%)**	**336 (93.1%)**

Note: Figures in the parentheses of the last row denote percentage employed in the informal sector.

Table 3.1.34: Occupational Distribution of Female Workers in relation to Category of Scrap Collector Households.

Occupation				
Informal sector	Waste Picker	Itinerant Buyers (Males)	Itinerant Buyers (Female)	Total
Scrap collection Waste picking	172 (88.2%)	13(27.1%)	2(5.4%)	187(66.8%)
Scrap collection Itinerant buying	3 (1.5%)	4(8.3%)	32(86.5%)	39(13.9%)
Self and wage employment in non-garbage related activities	20(10.3%)	31(64.6%)	3(8.1%)	54(19.3%)
Total employment in informal sector	195(100.0)	48(100.0)	37(100.0)	280(100.0)
Total employment	195	49	37	281

Table 3.1.35: Occupational Distribution of Male Workers in Relation to Age

	Age (in years)						
	6-14	15-18	19-35	36-50	51-60	61-70	Total
Informal Sector							
1. Self employment in scrap related activities	1 (25)	7 (21)	72 (42)	40 (52)	14 (58)	2 (65)	136 (43)
2. Wage employment in garbage related activities	1 (25)	-	1 (1)	-	1 (4)	-	3 (1)
3. Self and wage employment in non-garbage related activities	2 (50)	26 (79)	99 (54)	37 (48)	9 (37)	1 (34)	145 (46)
4. Total employment in Informal Sector	4 (100)	33 9100)	172 (100)	77 (100)	24 (100)	3 (100)	313 (100)
Formal Sector							
5. Garbage related	-	-	3	4	-	-	7
6. Non-garbage related (unskilled)	-	3	1	2	1	1	5
7. Non Garbage related (Skilled)	-	1	5	1	1	1	9
8. Total employment in Formal Sector	-	4	8	7	1	1	21
9. Any other	-	-	2	-	-	-	-
10. Total Employment	4	37	182	84	25	4	336

Note:Figures in parentheses denote percentages

Table 3.1.36: Occupational Distribution of Female Workers in Relation to Age

	Age (in years)						
	6-14	15-18	19-35	36-50	51-60	61-70	Total
Informal Sector							
Self employment in scrap related activities	5 (62)	3 (21)	90 (78)	86 (87)	31 (94)	10 (100)	226 (81)
Self and wage employment in garbage related activities	3 (38)	11 (79)	25 (22)	13 (13)	2 (6)	-	54 (19)
Total employment in Informal Sector	8 (100)	14 9100)	115 (100)	99 (100)	33 (100)	10 (100)	280(100)
Formal Sector							
Formal Sector Non Garbage related occupation	-	-	1	-	-	-	1
Total Employment	8	14	116	99	33	10	281

Note: Figures in parentheses denote percentages

Table: 3.1.27-B Average Household Income From All Sources in Relation to the Category of the Households.

Category of the Household	Total Monthly Income(Rs.)	No. of Persons	Per Capita Income (Rs.)	Per Household Income (Rs.)
Wastepickers	558955	910	614.24	3388 (66%0
Itinerant Buyers(Male)	189220	355	533.01	3380(81%)
ItinerantBuyers (Female)	102301	174	587.94	3410(61%)
All households	**850476**	**1439**	**591.02**	**3388(68%)**

Source: Study sample

Table: 3.1.27-C Per worker monthly earnings from scrap related and non-scrap related activities in relation to categories of scrap collector households

Category of scrap collector households	Per worker monthly earnings (Rs.)	
	Scrap related activities*	Non-scrap related activities
Waste pickers	1580.27	1165.44
Itinerant buyers(Males)	1820.92	725.25
Itinerant buyers(Female)	1357.71	996.16
Total	1607.83	1052.70

Note : * Pertain to the monthly earnings from all types of scrap collection activities of the workers in different categories of scrap collector households. and are estimated as follows.

First total monthly earnings from each activity of scrap collection is obtained as a product of the sample estimate of per worker monthly earnings and number of workers engaged in each type of activity in the particular category of scrap collector households. The sum of these earnings is then divided by the total workers engaged in scrap in that category of scrap collector household to obtain per worker earning.

CHAPTER III

SECTION II: SOCIO-ECONOMIC PROFILE OF SCRAP TRADERS

Gender, Religion and Caste

There is clear gender based segmentation in the scrap trade. Not a single wholesaler is a woman and four out of every five retailers and stockists are men (Table 3.2.1).

There is a strong representation of the Muslim community in the scrap trade. Three out of five traders are Muslims (Table 3.2.2). Hindus and Muslims are evenly distributed in stocking. However, over half the retailers and three fourths of the wholesalers belong to the Muslim community (Figure 1).

More than half the traders belong to the scheduled castes, tribes or other backward castes. Their presence however is significantly higher in the retail trade while the representation of the upper castes is higher in stocking and the wholesale trade. Not a single wholesaler shares the caste group of the scrap collectors. There are no Matang, Mahar or Neo-Buddhist wholesalers (Table 3.2.3 and 3.2.4).

At the lower end of the trade are the retail traders, many of whom share the background of the scrap collectors. The socio-economic disparity among the scrap collectors and traders progressively increases with the higher levels of the trade. In fact, one out of every five retail traders' immediate relatives such as spouse, sister or parent has engaged or continues to engage in scrap collection, usually waste-picking (Table 3.2.5). This is not the case with stockists or wholesale traders. On the other hand, about half the stockists and wholesalers have family members, particularly immediate family members, who are scrap traders or reprocessors as compared with only one third of the retail traders (Tables 3.2.6 & 3.2.7).

The higher levels of the trade in glass, bhangar-patra, bottles, white record, kraft and plastic are dominated by traders from the merchant sub-groups/castes among the Muslim (Memon and Khoja) and the Hindu (Bhandari, Oswal, Sharma, Rathi) communities. Originally from Gujarat, the Memons were traditionally involved in the trade of oil and oil seeds while the Khojas were traditionally involved in the trade of grains, leather, tallow and animal hides. A significant presence of the Muslim Tamboli community, originally 'pan' (betel leaf) merchants from rural Maharashtra is observed in the trade of kraft and white record.

The other non- agricultural trading groups such as Maniyar (bangle sellers), Mullani, Bagwan (fruit vendors), Pathan (warriors and moneylenders) and Khan, Sheikh, Patel (village bureaucrats) from the Muslim community are involved in the wholesale trade of RS and mixed mein. They also have a strong presence in the retail trade. The two most significant sub-groups among the Muslims in the retail trade are Sheikh (40 per cent) and Khan (17 per cent).

Age and marital status

There are traders who manage the store who are as young as 19 years of age and as old as 70. Almost two thirds of those under 30 years are retail traders as compared to less than

a quarter of the stockists and wholesalers. Since stocking is always preceded by a few years of retail trade it stands to reason that retail traders are younger. The data show that more than three fourths of the retailers and wholesalers are less than forty years old, albeit for different reasons which are explored later in the report (Table 3.2.8).

Two thirds of the traders are married (Table 3.2.9). About half of the scrap traders belong to households with between 6 and 10 members. Cutting across categories of scrap traders, household size is less than 5 members or 6 to 10 members (Table 3.2.10). One out of four wholesalers and stockists live in joint families with households of more than 10 members.

Education

Almost a third of the traders are illiterate. Since all stockists are also retailers, there are twice as many illiterate retailers in comparison with wholesalers. Almost half of those with some education have attended secondary school. Apart from this there is no significant difference in the educational levels of categories of traders (Table 3.2.11).

Region of origin

Three fourths of the scrap traders are natives of Maharashtra. Those from other states belong to Karnataka, Uttar Pradesh, Gujarat, Rajasthan and Andhra Pradesh. Three out of five wholesalers belong to other states, mainly Karnataka and Gujarat (Table 3.2.12) This is not surprising because there are no indigenous trading castes in Maharashtra. Retail traders are more likely to be natives of Maharashtra. A quarter of retail traders (including stockists) are from Solapur district (Table 3.2.13). A fifth of the retail traders (including stockists) are from the Marathwada region (Latur, Osmanabad, Beed, Parbhani). Retail traders are more likely to come from families where the first generation migrants were agricultural labourers while a third of the stockists and wholesalers are from families where the first generation migrants were cultivators and petty businessmen respectively (Table 3.2.14,3.2.15). There is much similarity in the districts of origin of scrap collectors and retail traders. The wholesale traders are mostly from Pune or from outside the state. Four out of every five traders have been resident in the city for more than 20 years (Table 3.2.16).

Living conditions

Four out of five retail traders live in slums as compared to half of the stockists and a quarter of the wholesalers. In fact, over one third of the retail traders live in homes that are contiguous with the scrap store. Wholesalers and stockists are five times more likely to live in flats, apartments or bungalows than retailers (Table 3.2.17).

7.2.2 Primary Reason for Entry into the Scrap Trade

As in scrap collection, caste and kinship networks seem to have played some role in entry into the trade. ***Four out of every five, scrap traders have entered the trade either because it is the family business or because they had prior exposure to the trade.*** It is significant that no wholesaler entered the trade for any other reason.

This clearly indicates the relatively 'closed' nature of the trade. One third of the retailers and half the wholesalers have an immediate relative such as a parent, brother or sister who is involved in the scrap trade or reprocessing. Two thirds of the retail traders have relatives in the retail segment as compared to three fourths of the wholesalers who have relatives in the higher segments of the trade and reprocessing. This finding substantiates the argument that ***entry at the lower level of the trade is relatively easier than at the higher levels***. At lower levels it is more likely to be mediated by contact with scrap collectors or retail traders while at higher levels contact with wholesale traders or reprocessors assumes significance.

7.3 Occupational Mobility of the Scrap Traders

One in three traders had not worked prior to their entry into the scrap trade. Two thirds of them have entered because it is their family business and one third because of exposure to the trade independent of the family. Many traders have prior experience in or exposure to the trade. This establishes ***that entry into the scrap trade is contingent upon prior contact in the sector***. Of those with prior work experience, half the retail traders (including stockists) have no contact in the scrap trade prior to their entry as compared to a quarter of the wholesalers.

Only ten percent of the traders had been itinerant buyers, not even one trader had been a wastepicker. Upward mobility from scrap collection into the scrap trade is extremely limited. Even that is seen primarily in the retail segment. Of those with prior work experience, half the retail traders (including stockists) have no contact in the scrap trade prior to their entry as compared to a quarter of the wholesalers. This indicates that entry into the lower trade segment is relatively easier than at higher levels.

Table 3.2.1 : Gender in relation to category of scrap trader

Sex	Retailer	Stockist	Wholesaler	Total
Male	33 86.8%	12 85.7%	19 100.0%	64 90.1%
Female	5 13.2%	1 7.1%		6 8.5%
Any other		1 7.1%		1 1.4%
Total	38 100.0%	14 100.0%	19 100.0%	71 100.0%

N.A.1 Co-operative store

Table 3.2.2 : Religion in relation to category of scrap trader

Religion	Retailer	Stockist	Wholesaler	Total
Hindu	10 26.3%	7 50.0%	5 26.3%	22 30.9%
Muslim	23 61.0%	6 42.9%	14 73.7%	43 60.5%
Neo-buddhist	5 13.2%	1 7.1%		6 8.4%
Total	38 100.0%	14 100.0%	19 100.0%	71 100.0%

N.A. 1 Co-operative store

Table 3.2.3 : Caste in relation to category scrap trader

Caste	Retailer	Stockist	Wholesaler	Total
SC	10 76.9% 67.0%	3 23.0% 37.0%		13 100.0% 46.0%
ST	1 100.0% 7.0%			1 100.0% 4.0%
OBC		1 50.0% 12.0%	1 50.0% 20.0%	2 100.0% 4.0%
Upper castes	4 20.0% 27.0%	4 40.0% 50.0%	2 20.0% 40.0%	10 100.0% 36.0%
Any other			2 100.0% 40.0%	2 100.0% 7.0%
Total	15 53.0% 100.0%	8 29.0% 100.0%	5 18.0% 100.0%	28 100.0% 100.0%

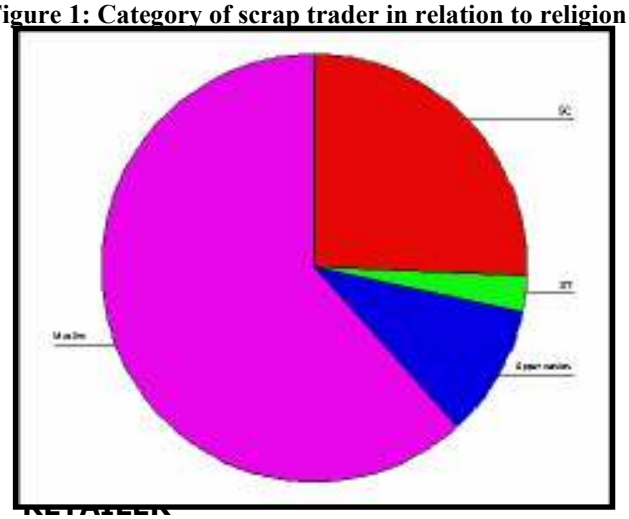
N.A. 1 Cooperative store

Table 3.2.4: Sub-caste/religious sub-group of scrap traders

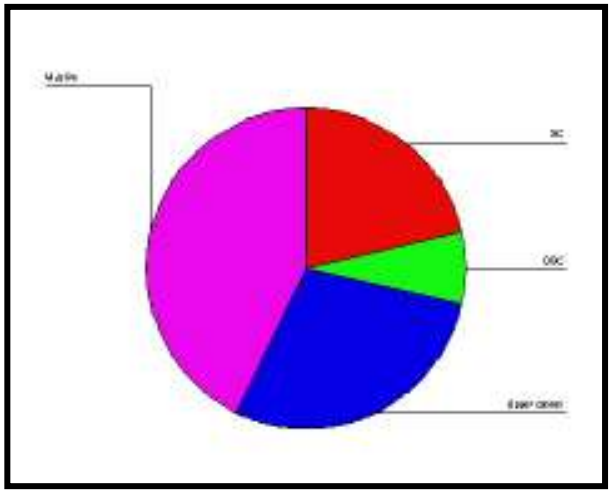
Sub-caste/Religious sub-group	Retailer	Stockist	Wholesaler	Total
Matang	5 12.8%	2 14.3%		7 9.7%
Neo-buddhist	5 12.8%	1 7.1%		6 8.3%
Marathas	2 5.1%	3 21.4%		5 6.9%
Kureishi	1 2.6%	1 7.1%		2 2.8%
Sheikh	10 25.6%	2 14.3%	5 26.3%	17 40.0%
Pathan	1 2.6%			1 1.4%
Tamboli	5 12.8%	1 7.1%	2 10.5%	8 11.1%
Khan	5 12.8%	1 7.1%	2 10.5%	8 2.8%
Bagwan	1 2.6%			1 1.4%
Maniyar			1 5.3%	1 1.4%
Memon	1 2.6%	1 7.1%	2 10.5%	4 5.6%
Wadari	1 2.6%			1 1.4%
Jain			1 5.3%	1 1.4%
Any other	5 12.8%	3 21.4%	7 36.8%	15 1.4%
Total	38	14 100.0%	19 100.0%	71 100%

N.A. 1 Cooperative store

Figure 1: Category of scrap trader in relation to religion and caste

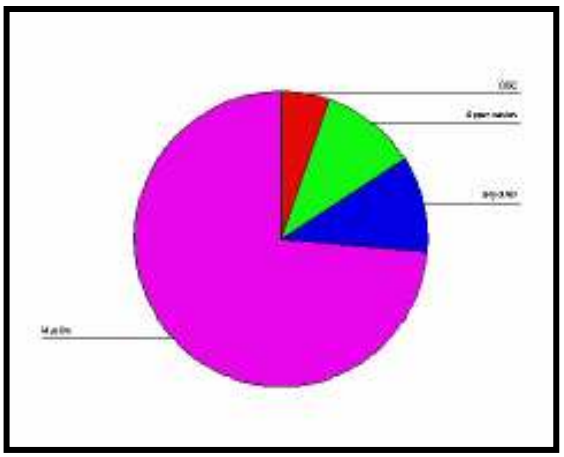


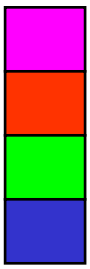
RETAILER



STOCKISTS

WHOLESALER





Muslim

Scheduled caste
Scheduled Tribe

Neo-Buddhist

Table 3.2.5 : Involvement of relatives of scrap traders in scrap collection

Type of Scrap Collection	Retailer	Stockist	Wholesaler	Total
Waste Picker	7 88%	1 100%		8 73%
Itinerant buyer female	1 12%		2 100%	3 27%
TOTAL	8 100%	1 100%	2 100%	11 100%

N.A. 1 Co-operative store

Table 3.2.6 : Involvement of relatives of scrap traders in the Scrap Trade

Type of Scrap Trade	Retailer	Stockist	Wholesaler	Total
Retail	9 39.2%	4 28.6%	2 10.5%	15 21.1%
Wholesale	1 7.8%	2 25.0%	2 22.2%	5 16.0%
Reprocessing	1 7.8%		2 22.2%	3 13.3%
Retail and wholesale	1 7.8%	2 25.0%	1 11.1%	1 13.3%
Wholesale & Reprocessing			1 11.1%	1 3.3%
Retail wholesale & reprocessing	1 7.8%			1 3.3%
Casual labour in reprocessing			1 11.1%	1 3.3%
Total	13 100.0%	6 100.0%	9 100.0%	30 100.0%

N.A. 1 Co-operative store

Table 3.2.7 : Involvement of relatives of scrap traders in the scrap trade

Relationship	Retailer	Stockist	Wholesaler	Total
Immediate Family	3 23%	4 50%	6 67%	13 43%
Relative	10 77%	4 50%	3 33%	17 57%
Total	13 100%	8 100%	9 100%	30 100%

N.A.1 cooperative store

Table 3.2.8 : Age in relation to category of scrap trader

Age in Years	Retailer	Stockist	Wholesaler	Total
Upto 20	2 5.3%			2 2.8%
21-30	15 39.5%	4 28.6%	5 26.3%	24 33.8%
31-40	15 39.5%	3 21.4%	9 47.4%	27 38.0%
41-50	3 7.9%	5 35.7%	5 26.3%	13 18.3%
Above 50	3 7.9%	2 14.3%		5 7.0%
Total	38 100.0%	14 100.0%	19 100.0%	71 100.0%

N.A. 1 Co-operative store

Table 3.2.9 : Marital Status of Scrap traders

Marital status	Retailer	Stockist	Wholesaler	Total
Single	4 10.5%	1 7.1%	1 5.3%	6 8.5%
Married	34 89.5%	12 85.7%	17 89.5%	63 88.7%
Married(polygynous)			1 5.3%	1 1.4%
Widowed		1 7.1%		1 1.4%
Total	38 100.0%	14 100.0%	19 100.0%	71 100.0%

N.A. 1 Co-operative store

Table3.2.10 : Household size of scrap traders

Household Size	Retailer	Stockist	Wholesaler	Total
Upto 5	9 23.7%	3 21.4%	5 26.3%	17 23.9%
	22 57.9%	7 50.0%	9 47.4%	38 53.5%
More than 10	7 18.4%	4 28.6%	5 26.3%	16 53.5%
Total	38 100.0%	14 100.0%	19 100.0%	71 100.0%

N.A. 1 Cooperative store

Table 3.2.11 : Education in relation to category of scrap traders

Education	Retailer	Stockist	Wholesaler	Total
Primary	4 16.0%	2 20.0%	1 6.7%	7 14.0%
Secondary	14 56.0%	3 30.0%	5 33.3%	22 44.0%
H.S.C.	5 20.0%	3 30.0%	6 40.0%	14 28.0%
Graduation	2 8.0%	2 20.0%	3 20.0%	7 14.0%
Total	25 100.0%	10 100.0%	15 100.0%	50 100.0%

Table 3.2.12: State of origin in relation to category of scrap trader

State of Origin	Retailer	Stockist	Wholesaler	Total
Maharashtra	33 86.8%	11 78.6%	11 57.9%	55 77.5%
Karnataka	1 2.6%	1 7.1%	3 15.8%	5 7.0%
U.P.	1 2.6%		1 5.3%	2 2.8%
Gujarat		1 7.1%	2 10.5%	3 4.2%
Rajsthan	1 2.6%	1 7.1%	1 5.3%	3 4.2%
Andhra Pradesh	1 2.6%		1 5/3%	2 2.8%
Any other	1 2.6%			1 1.4%
Total	38 100.0%	14 100.0%	19 100.0%	71 100.0%

Table 3.2.13 : District of origin in relation to category of scrap trader

District	Retailer	Stockist	Wholesaler	Total
Solapur	10 26.3%	3 21.4%	2 10.5%	15 21.1%
Osmanabad	5 13.2%	1 7.1%	1 5.3%	7 9.9%
Latur	1 2.6%	1 7.1%		2 2.8%
Beed			1 5.3%	1 1.4%
Aurangabad	1 2.6%			1 1.4%
Parbhani	2 5.3%	1 7.1%		3 4.2%
Jalna	1 2.6%			1 1.4%
Ahmednagar	3 7.9%			3 4.2%
Satara		1 7.1%	2 10.5%	3 4.2%
Pune	7 18.4%	4 28/6%	4 21.1%	15 21.1%
Nasik	1 2.6%			1 1.4%
Buldhana	2 5.3%		1 5.3%	3 4.2%
Any district in Karnataka		1 7.1%	3 15.8%	4 5.6%
State other than Mah. and Kar.	5 13.2%	3 21.4%	8 42.1%	16 22.5%
Total	38 100.0%	14 100.0%	19 100.0%	71 100.0%

N.A.1 Cooperative store

Table 3.2.14 : Primary occupation of first generation migrant in relation to category of scrap trader

Primary occupation	Retailer	Stockist	Wholesaler	Total
Cultivator	5 19.0%	4 37.0%	3 20.0%	12 16.9%
Agricultural wage labour(Shet gadi)	15 57.0%	3 27.0%	1 7.0%	19 26.8%
Petty business(Tea shop etc.)Self business	2 8.0%		5 33.0%	7 9.9%
Not working	2 5.3%	1 9.0%	2 13.0%	5 7.0%
Any other	2 8.0%	3 27.0%	4 27.0%	9 12.7%
Total	26 100.0%	11 100.0%	15 100%	52 100.0%

Table 3.2.15 : How many years ago did the first migrant leave in the native village

Years of migration	**Retailer**	**Stockist**	**Wholesaler**	**Total**
3-5	1 3.33%		2 11.1%	3 5.0%
6-7	4 13.3%	2 16.7%	2 11.1%	8 13.3%
11-20	13 43.3%	7 58.3%	4 22.2%	24 40.0%
21-30	5 16.7%	1 8.3%	1 5.6%	7 11.7%
31-40	2 6.7%	1 8.3%	4 22.2%	7 11.7%
41-50	5 16.7%	1 8.3%	5 27.4%	11 18.3%
Total	30 100.0%	12 100.0%	18 100.0%	60 100.0%

N.A.1 Co-operative

Table 3.2.16: Scrap trader's Year of residence in Pune

Years of residence	**Retailer**	**Stockist**	**Wholesaler**	**Total**
Upto 10 yrs.	1 2.6%		2 10.5%	3 4.2%
11-20	5 13.25%	1 7.1%	2 10.5%	8 11.3%
21-30	20 52.6%	8 57.1%	6 31/6%	34 47.9%
31-40	6 15.8%	3 21.4%	6 31.6%	15 21.1%
41-50	3 7.9%	1 7.1%	3 15.8%	7 9.9%
More than 50	3 7.9%	1 7.1%		4 5.6%
Total	38 100.0%	14 100.0%	19 100.0%	71 100.0%

N.A. 1 Co-operative store

Table 3.2.17 : Type of residence in relation to category of traders

Type of residence	Retailer	Stockist	Wholesaler	Total
Slum house contiguous with the shop	16 42.0%	4 28.6%	3 5.8%	23 32.3%
Slum house	15 39.5	2 14.3%	2 10.5%	19 26.8%
Chawl	3 7.9%	1 7.1%	3 15.8%	7 9.9%
Flat/Apartment	3 7.9%	5 35.7%	11 57.9%	19 26.8%
Bunglow	1 2.6%	2 14.3%		3 4.2%
Total	38 100.0%	14 100.0%	19 100.0%	71 100.0%

N.A. 1 Co-operative store

Table 2: Primary reason for entering into the scrap trade in relation to category of scrap traders

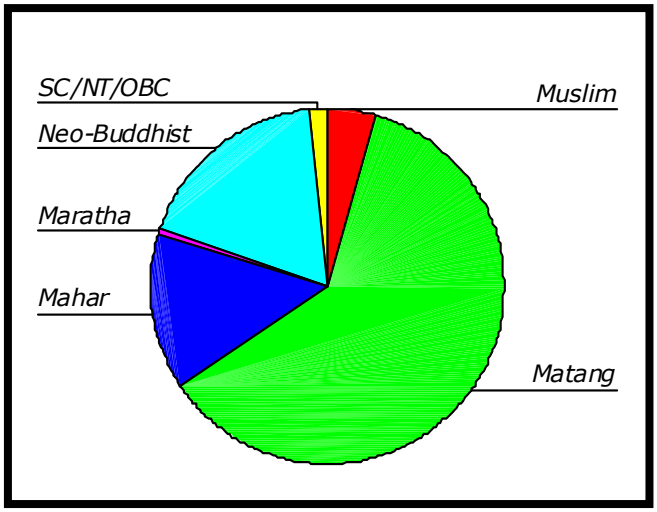
Primary reason for entering scrap trade	Retailer	Stockist	Wholesaler	Total
Family business	8 20.5%	5 35.7%	9 47.4%	22 30.6%
Exposure to trade(independent of family)	22 56.4%	7 50.0%	10 52.6%	39 55.2%
Relatively low investment	8 20.5%	2 14.3%		10 13.9%
Relatively easy to enter	1 2.6%			1 1.4%
Total	39 100.0%	14 100.0%	19 100.0%	72 100.0%

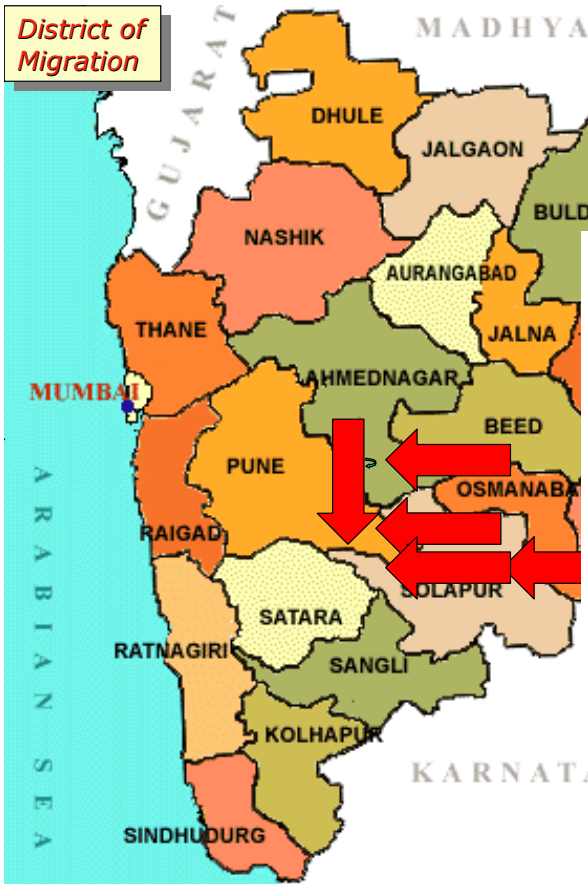
N.A. 1 Cooperative store

Table 3: Occupation in Pune city immediately prior to entering into the scrap trade in relation to category of scrap trader

Occupation in Pune city prior to scrap trader	Retailer	Stockist	Wholesaler	Total
Itinerant buyer	7 28.0%		2 15.0%	9 20.0%
Labourer in a scrap store/wholesale shop	3 12.0%	4 45.0%	4 32.0%	11 23.0%
Manager of scrap store			2 15.0%	2 4.0%
Reprocessor			2 15.0%	2 4.0%
Skilled/Unskilled wage labour not related to garbage/scrap	9 36.0%	2 22.0%	1 8.0%	12 25.0%
Self business other than scrap	6 24.0%	1 11.0%	2 15.0%	9 20.0%
Any other		2 22.0%		2 4.0%
Total	25 100.0%	9 100.0%	13 100.0%	47 100.0%

Figure 1: Caste distribution of scrap collectors





Push factor: 40 % faced caste oppression in the native village; the drought of 1972 is a watershed in their migration.

2/3 migrated from Solapur or Marathwada

Every other scrap collector is still involved in caste related cultural practices

State Map Of
MAHARASHTRA

Figure 3: Spatial distribution of scrap collectors across Pune

Figure 4: Graph of gender disaggregated level of literacy in relation to age of members in scrap collectors households

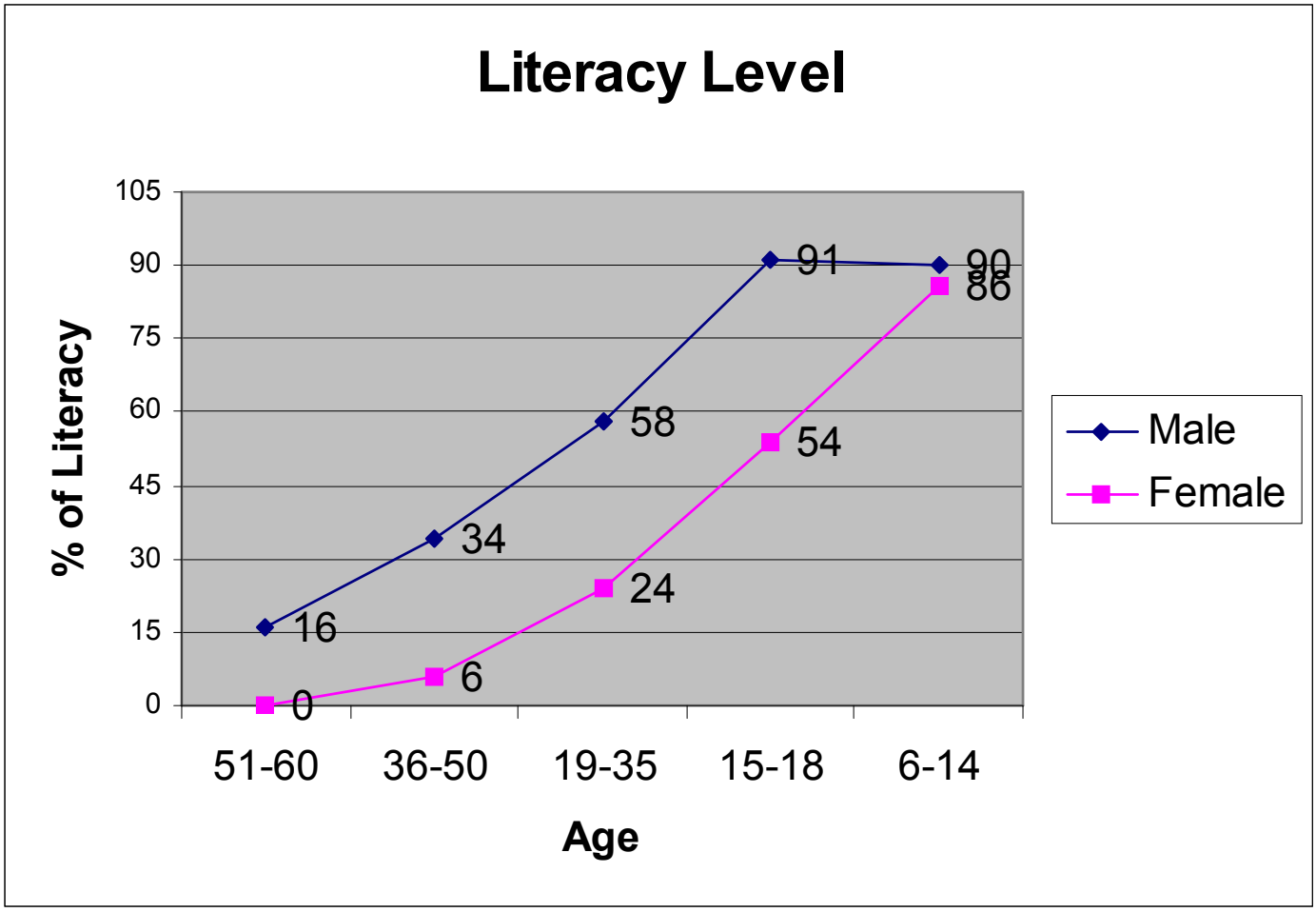


Figure 5: Worker Population Ratio (Female): NSS and Scrap Collectors Study

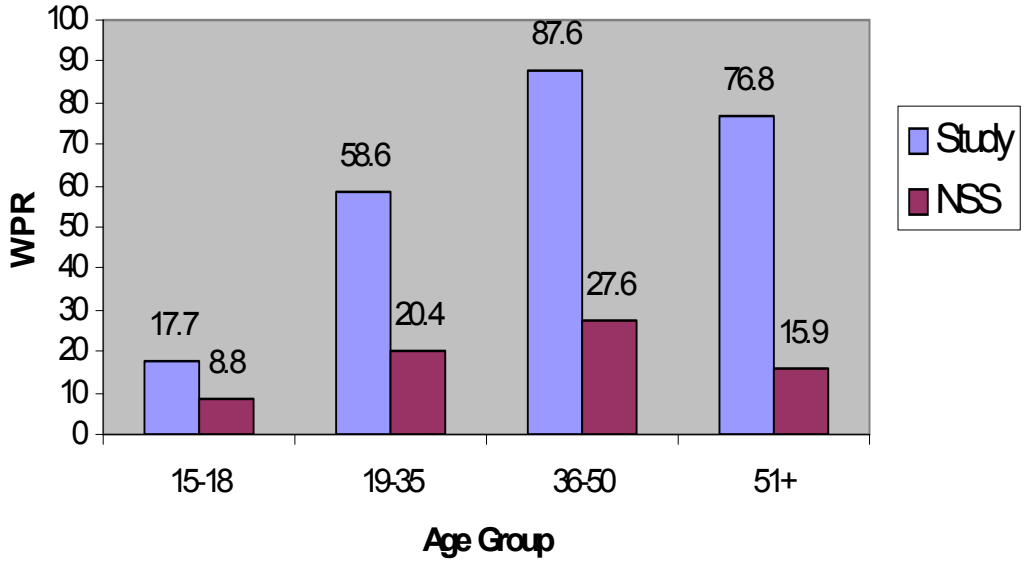


Figure 6: Worker Population Ratio (Male): NSS and Scrap Collectors Study

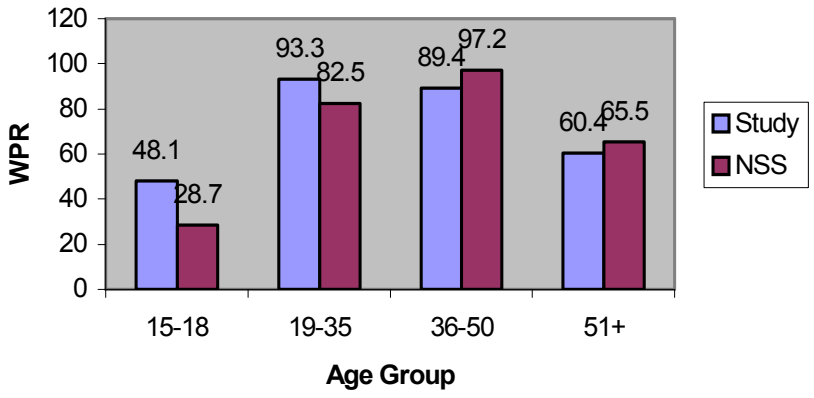


Figure 7: Gender in relation to age of scrap related workers in the household

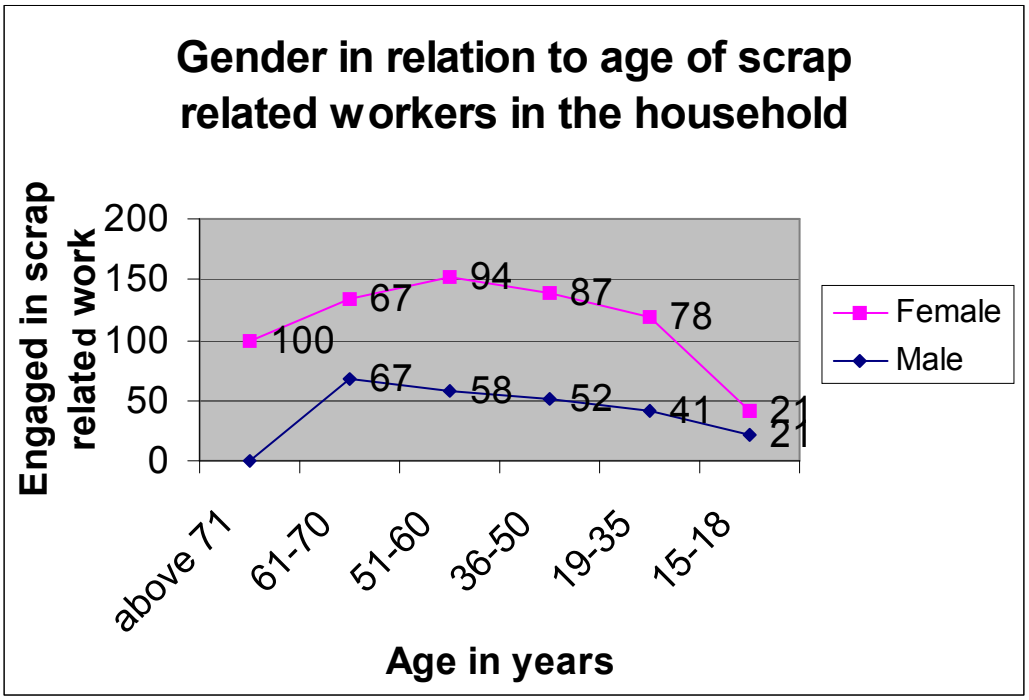
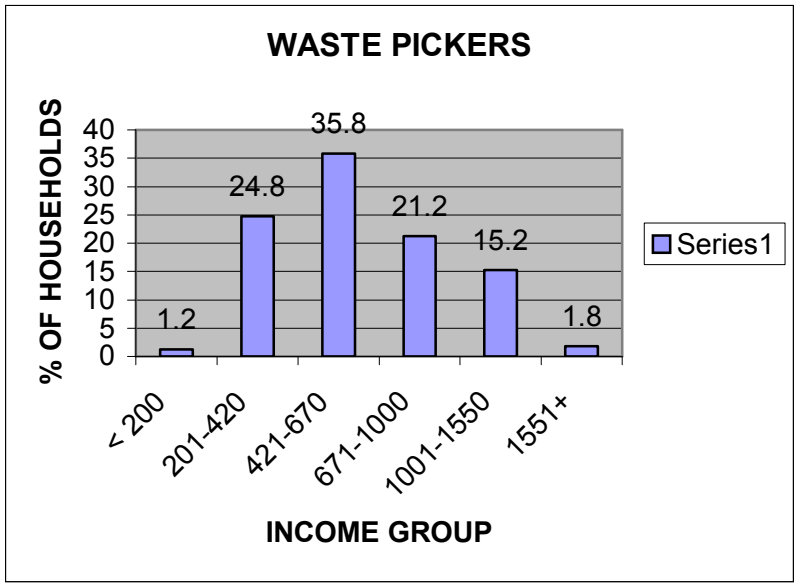
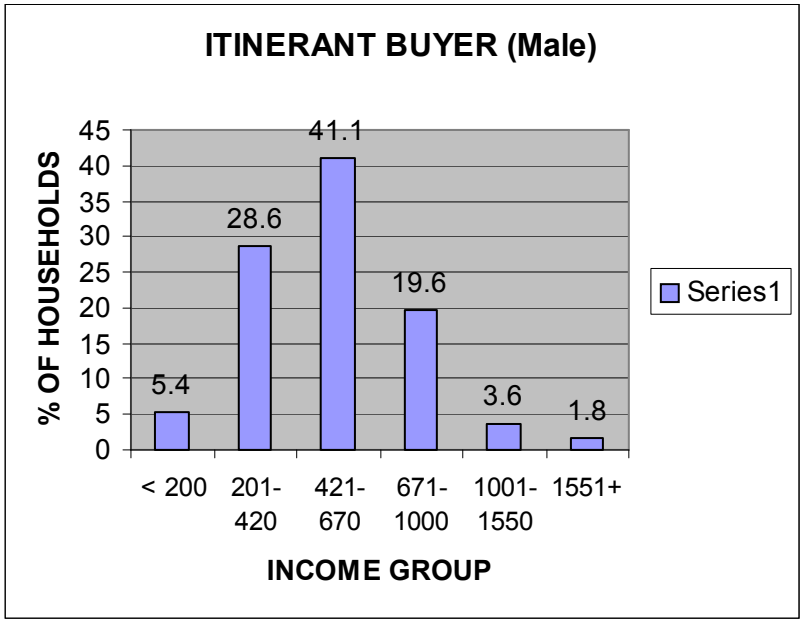


Figure 8: Per capita incomes of waste picker, male itinerant buyers and female itinerant buyer households





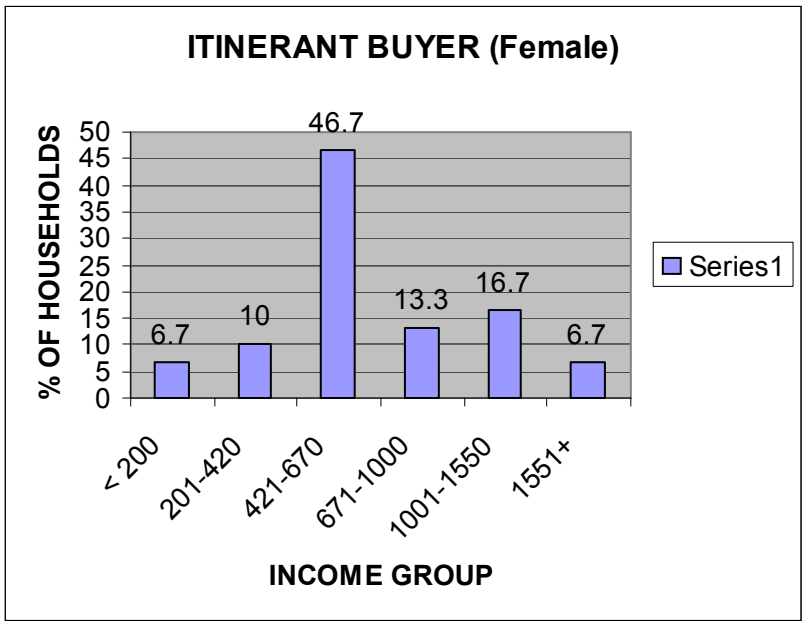
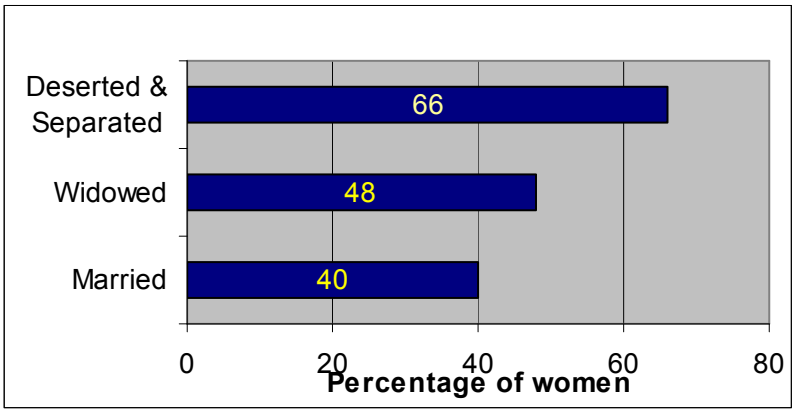

ITINERANT BUYER (Female)
% OF HOUSEHOLDS
50
45
40
35
30
25
20
15
10
5
0
6.7
10
46.7
13.3
16.7
6.7
< 200
201-420
421-670
671-1000
1001-1550
1551+
INCOME GROUP
Series1

Figure 9: Women Contributing more than 50 % to household income



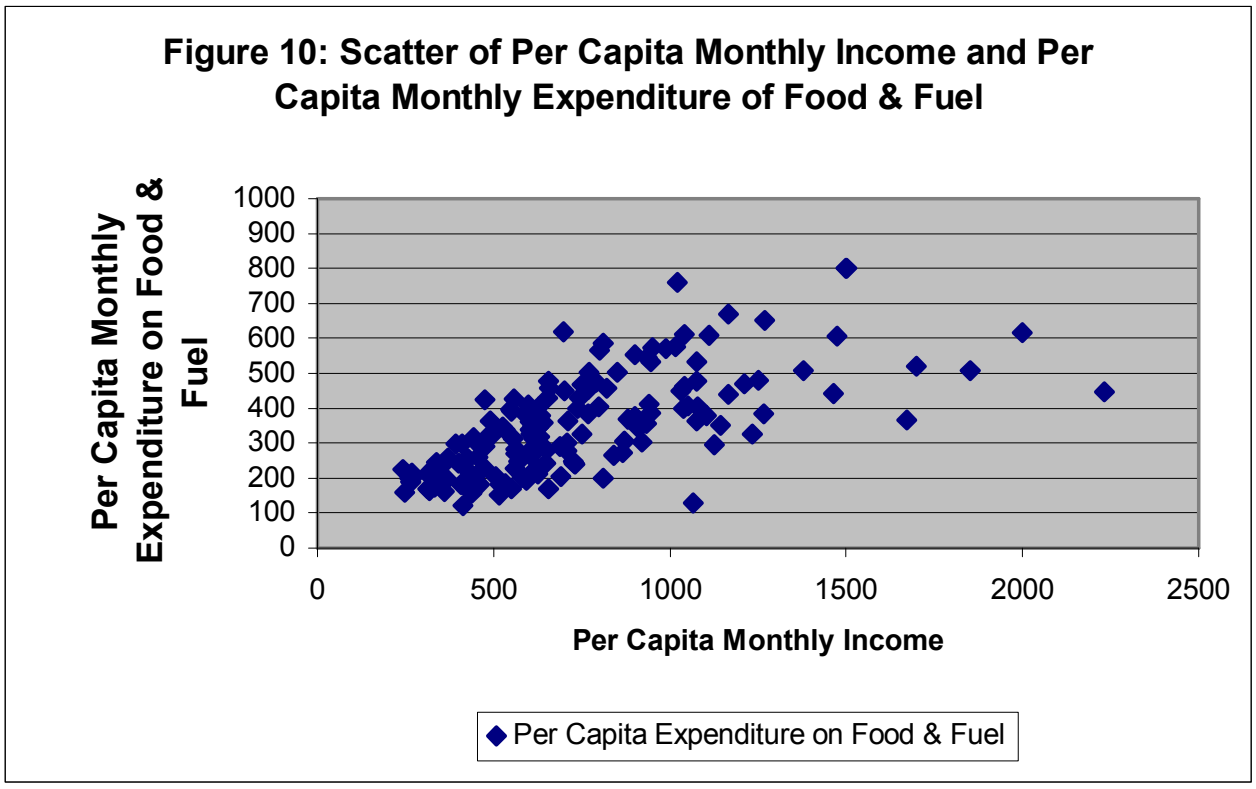
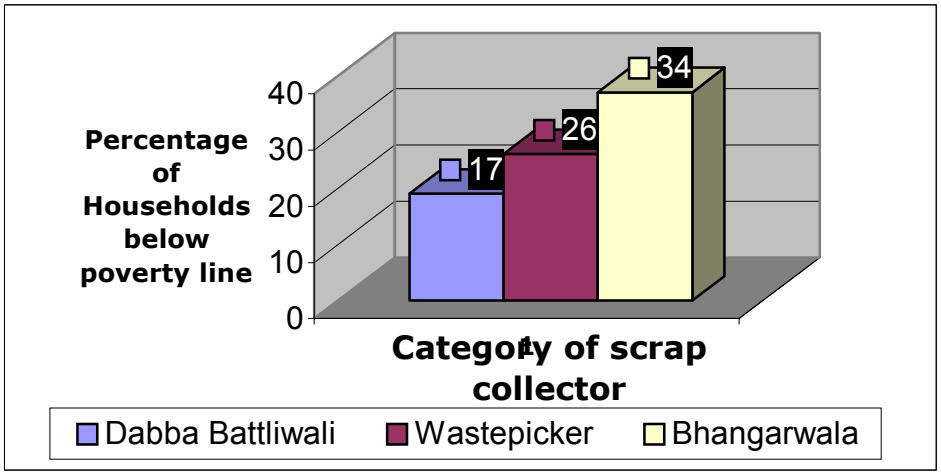


Figure 11: Estimation of poverty in scrap collector households



CHAPTER IV

THE RECYCLING SECTOR

SECTION I
SCRAP COLLECTION

4.1.1.0 Categories of Scrap Collectors and Methods of Scrap Collection

Broadly, scrap collectors can be classified into two categories, the waste-pickers and the itinerant buyers. Waste-pickers are numerically the largest group and constitute 66 per cent of the total population of scrap collectors. They are involved in the 'free' collection of scrap. They need capital very occasionally if they come across someone who wishes to sell a large quantity and therefore will not give it free of cost. Waste-pickers retrieve paper, plastic, metal and glass scrap from their collection sites. Most scrap collectors of all types own their limited 'tools' for scrap collection. Whereas seventy five per cent of waste-pickers have just a sack or two, one in five use a make-do rake as well.

Waste-pickers can be further classified based on the source of scrap, which for most (82 per cent) is the municipal garbage bin on the street where citizens deposit their garbage (Table 4.1.1). Although 20 per cent of the scrap collectors do frequent industrial or commercial areas, the majority survive on 'domestic scrap' generated by households (Table 4.1.2). The 'bin pickers' salvage the scrap prior to its collection by the municipality. The data show that about 5 per cent of the waste-pickers collect scrap at the dumping grounds or the landfill sites where the municipality carts the garbage. The scrap collected by these pickers is residual scrap of very poor quality. However, the quantity that they are able to collect is quite high. Some (6 per cent) of the waste-pickers also frequent the villages in the vicinity of Pune for collecting scrap. Another 6 per cent collect garbage directly from households as part of a garbage collection initiative promoted by the trade union.

Then there are the 'kachwalis', those who frequent industrial areas carrying powerful hand magnets. They 'sweep' the roads with the magnets to collect iron dust and filings that spill out of transport vehicles in industrial areas. Although 20 per cent of the scrap collectors do frequent industrial or commercial areas, the majority survive on 'domestic scrap' generated by households.

Despite the fact that industries, hotels and institutions generate large quantities of scrap, it is rarely accessible to scrap collectors. Most large establishments sell the scrap directly to wholesale traders and reprocessors or burn it. Itinerant Buyers purchase small quantities of scrap mostly from households and commercial establishments. The men are called 'bhangar feriwallas' (itinerant iron-mongers). They generally use push-carts and carry a pair of weighing scales. Only 29 per cent of them do not own pushcarts and rent them from the retail scrap trader for up to Rs.15 per day. Further, they are forced to sell their scrap to the same dealers from whom they hire the push carts. The commodities collected by the bhangar feriwallas are puttha, fuga, kadak, cable, chappal, bhangar, patra, washed milk bags and bottles. Around 10 per cent of the male itinerant buyers use a bicycle with sacks tied around it. Although this increases their mobility it restricts their carrying capacity for scrap. Some of them like the 'cycle puthewalas' specialise in certain scrap

commodities. They move around on bicycles and buy only corrugated board from commercial areas. They do not carry weighing scales. There are also a few 'bhangar feriwallas' who primarily frequent slums and trade chewing gum or ice candies with children in exchange for small quantities of scrap.

The women itinerant buyers are called 'dabbabatliwalis'. They carry baskets on their heads but no weighing scales. Some 'dabbabatliwalis' (7 per cent) barter fruits and vegetables in exchange for scrap. This method is popular with children and the rural population because seasonal fruits and vegetables are not easily available in rural areas. The itinerant buyers benefit because the villagers do not know the price of the exchange commodity.

The data show that the total value of the tools owned by the waste-pickers and female itinerant buyers is never more than Rs.50, whereas male itinerant buyers usually value their own tools at between Rs.750 and Rs1500.

Itinerant buyers generally operate with daily working capital of at least Rs.200 while the women in this category usually use up to Rs.100 (Table 4.1.3). More than two thirds of the itinerant buyers borrow working capital from the retail scrap traders at no interest, but with the credit market being tied to the product market (Table 4.1.4). Many can actually calculate that the daily interest rate actually works out to 10 per cent per day! All the other lenders charge interest rates of between 10 and 200 per cent a month! The credit co-operative of scrap collectors has extended loans to 4 itinerant buyers for working capital at a monthly interest rate of 2 per cent.

4.1.2.0 Growth in scrap collectors

The data shows a decline in the entry of all categories of scrap collectors from about 1990 (Figure 4.1A). In the case of dababatliwalis the decline is evident from 1971 itself. However, in the case of bhangarwalas and wastepickers, 1986-1990 is the peak period. The increased entry of males into wastepicking is also seen during the last decade. This lends credence to the complaint of women that the entry of increasing numbers of men has negatively impacted on their livelihoods (Table 4.1.4A).

4.1.3.0 The Work Schedule of Scrap Collectors

One in every four of the scrap collectors works all seven days of the week (Table 4.1.5). Around 50 per cent take a day off and the rest are not regular for health or other reasons. This pattern is not different for categories of scrap collectors. Itinerant buyers are less likely to take a weekly off because most of the residents that they buy the scrap from are available on holidays. So holidays actually mean more business for them.

Waste-pickers maintain the worst and the longest working hours with almost 10 per cent leaving their homes before 6 in the morning and a third definitely before 8 am (4.1.6). Some of those who leave so early are over 50 years of age. Many younger women manage to leave for work only between 8 and 10 am in the morning because they shoulder the additional responsibility of cooking and cleaning for their families (Table 4.1.7). Despite this, it is usually the women who leave earlier in the morning. Likewise more women return home only after 7 pm (Table 4.1.8, 4.1.9, 4.1.10). Notwithstanding

the fact that some enter the occupation because of time 'flexibility', half actually put in between 9 and 12 hours of work for 6 days a week. Hardly anyone works part-time and 50 per cent work an 8 hour day (Table 4.1.11).

The actual time spent by most scrap collectors in commuting to and from the place of residence to the place of work is over an hour. Ten km is the distance they need to cover daily, over and above the travelling for scrap collection (Table 4.1.12 and 4.1.13). Walking at the work site for collecting scrap itself takes up 5 hours or more for more than three fourths of the scrap collectors (Tables 4.1.14).

The data show that very occasionally, very few scrap collectors actually spend the whole night collecting scrap or sleep at the work sites in order that they can start really early in the morning. They constitute less than 4 per cent of the total population and would only spend one night a week. For some this is only during the festive season of Dassera and Diwali, when the citizens get rid of junk and the market areas are full of shoppers. Nonetheless, many scrap collectors are branded as 'thieves' for their 'overnight' working hours.

4.1.3.1 Commodities collected by scrap collectors

The scrap commodities generally collected by waste-pickers are high in quantity and of low value. These include RS or bandha (road sweepings paper), white (white paper), puttha or kraft (corrugated board), mixed mein (assorted polythene bags), fuga (blow moulded plastic), kadak (injection moulded plastic), milk bags, cable (cables), chappal (plastic footwear), tale (PVC soles), bhangar (ferrous metal), patra (tin), beer (beer bottles), quarter and half (alcohol bottles) and loafer (assorted bottles) and kach (broken glass). Segregation of garbage and direct access to it, for waste-pickers, would mean not only a significant improvement in the working conditions but also a reduction in the overall quantum of garbage reaching the municipal garbage bins. Only 5 per cent of the waste-pickers continue to collect bones. One in every ten waste-pickers has also stopped collecting items like khaki, chindhi (rags) and sacks because there are very few traders that buy them. Often these items are seen lying around the garbage bins uncollected. Some waste-pickers have also stopped collecting items like glass and RS because they are low value items that are bulky and heavy. Also glass carries a high risk of injury.

4.1.3.2 Quantity of scrap collected daily by scrap collectors

The mean value of the weight of scrap collected daily by waste-pickers is 27 kg. That for bhangarwallas and dabbabatliwalis is 51kg and 20 kg respectively. Waste-pickers collect scrap exclusively from municipal garbage bins and there are 3014 registered waste-pickers in the city. The total quantum collected by them daily amounts to approximately 81.4 MT. The local municipalities spend about Rs.300 per MT for garbage disposal. Logically this means that the work done by the waste-pickers actually saves the Pune and Pimpri Chinchwad Municipal Corporations the tidy sum of Rs.24, 413 per day. This amounts to a colossal Rs.8,910,891 per annum. It follows that in effect each waste-picker actually contributes Rs.246 in the form of unpaid labour to the municipalities every month! (Figure 4.2)

The total scrap collected by all categories of scrap collectors every day is 144.5 MT.

Four out of every five scrap collectors complain about the reduction in the quantity of scrap that they are able to collect. Wastepickers and dababatliwalis are more likely to complain than bhangarwalas (Table 4.1.15).

4.1.3.3 Sorting

Most itinerant buyers (men and women) sort their scrap outside the trade establishment Waste-pickers have to be more discrete in choosing their sorting sites and many manage to negotiate for some space near the collection site itself. Such sorting involves twice the labour as they have to retie the sacks to transport it to the trader. Only half the waste-pickers have the facility of sorting near the trade establishment itself, thus reducing the time spent (Table 4.1.16). The data show that the sorting site is chosen on the basis of convenience and availability of open space. Further analysis of the data establishes that only some traders in both Pune and Pimpri Chinchwad allow waste-pickers to sort the scrap outside the establishment. Those that do permit it are located in Hadapsar, Nagar Road and Aundh where factors like space, traffic and complaints from middle class citizens are not very constraining. The likelihood of scrap collectors sorting scrap near the trade establishment is higher in these areas (Table 4.1.17).

4.1.3.4 Transport of scrap to the trade establishment

One in every two waste-pickers walks to the trade establishment carrying the scrap on her head. Those who carry heavier loads are usually the ones who hire transport, although a few, carry loads of over 75 kg on their heads and make repeated trips to the trade establishment in order to save transport costs.

Of the 97 scrap collectors who incur expenditure for transporting the collected scrap to the trade establishment, most spend approximately Rs.10 per day some spend Rs.20 and few even more (Table 4.1.19). Over 90 per cent bear the entire transport cost themselves. Only traders located at Dandekar Pul, Kothrud and one at Shivajinagar observe the long established precedent of reimbursing 25-50 per cent of the transport costs to waste-pickers. More waste-pickers than bhangarwalas incur this expenditure because the latter transport the scrap on their pushcarts or bicycles. A lot of dabbabatliwalis are forced to bear transport costs because they sell their scrap in the bazar (market) area more than 10 km away from their place of residence. They therefore try to reduce costs by not transacting daily with the scrap trader. Obviously the better earning waste-pickers can ‘afford’ this expenditure and the very old have no choice but to hire transport for scrap. The only waste-pickers who earn less but continue to incur high transportation costs are those that also earn from other sources (Table 4.1.20 aand 4.1.21).

4.1.3.5 Primary transaction between the scrap collector and the retail trader

Scrap collectors sell the scrap commodities that they collect to retail scrap traders. Market logic suggests that they should be selling the commodity to different traders offering the

highest prices in order to optimise returns. Contrary to this, one in every three of the scrap collectors has been selling at the same retail establishment for more than 5 years (Table 4.1.22). Of those who have consciously changed the trader in the last three years, only a third have done so for reasons related to poor rates or bad treatment from the trader (Table 4.1.23). More than a third have shifted to another trader because the scrap trader himself has shifted or closed business. Despite the fact that very few retail traders acknowledge the exact number of scrap collectors that regularly sell scrap at their establishments, scrap collectors usually continue to sell at the same establishment for years together. The loyalty factor as we shall call it, is the highest among dabbabatliwalis and waste-pickers, both of whom are women. Male itinerant buyers are the most likely to shift because of quarrels.

4.1.3.6 Fluctuations in the prices of scrap

It is customary for scrap collectors to answer questions about the duration of their presence in the trade with, "since the days paper used to sell at one anna a kilo". Most scrap collectors talk of a general rise in the prices of scrap commodities in the '70s and of seasonal fluctuations in the prices of scrap. However, every single scrap collector who has been in this occupation since 1995 recollects the sharp decline in the prices of kadak-fuga thereafter. Kadak that sold at a price of Rs.15 per kg in 1994-95 dropped to a low of Rs.3, so much so that many stopped collecting it. The price of kadak has now stabilised at Rs.5. Fuga fared somewhat better. The price dropped from Rs.12 to Rs.8 and is now stable at Rs.9. The reasons for the decline are not known by 90 per cent of the scrap collectors and the rest can only hazard a guess.

4.1.4.0 Income from scrap collection

The mean daily income of waste-pickers is Rs.60 per day. That of bhangarwallas and dabbabatliwalis is Rs.75 and Rs.49 respectively (Figure 4.3). Collectively, this amounts to Rs.2, 84,728 per day.

A third of the waste-pickers earn between Rs.1000 and 1500 per month. Around 25 per cent earn less than Rs.1000. A third of the male itinerant buyers earn up to Rs.1500 per month. However, the monthly income of the rest is more than Rs.1500. Dabbabatliwalis have a poorer deal with more than half of them earning less than Rs.1000 per month. Very few in this category earn over Rs.2000 (Table 4.1.24).

4.1.5.0 Conditions of Work

4.1.5.1 Amenities at the work-place

The questions in this section generated the most mirth among scrap collectors. Given their abominable conditions of work they found the very idea of 'amenities' to be ridiculous. They answered only because they know the researchers. However, the questions had to be asked because 'provision' of minimum facilities at the workplace is mandatory under various international conventions! Since they spend the entire day on

the street the idea of a 'place of rest' elicited the following response "we only have to stretch out under the trees on the roads and nap until the municipal official or policeman prods us with his baton!"

Although most scrap collectors do manage to get drinking water at the work sites, it usually accompanies tea or snacks that they have to buy. Toilets, even pay and use, are rarely accessible to scrap collectors. This makes it particularly difficult for women. Women have shared various anecdotes with us about urinating inside the municipal garbage containers the sides of which are so high that people cannot look in!

One in a hundred scrap collectors says she has child care facilities at the workplace (!), meaning thereby that her older daughter accompanies her to work to take care of the infant sibling.

Scrap collectors do not usually carry packed lunch to work because it is impossible to eat in the environs of an overflowing garbage bin. Men are even less likely to do so. One in ten works closer to home and returns for lunch.

4.1.5.2 Occupational health and nutrition

Most young, wastepicking women leave home for work after the intake of a single cup of tea. Male, itinerant buyers on the other hand usually leave after a heavy home cooked breakfast. Lunch is usually skipped, some women have a cup of tea at work and return home to an early dinner of 'bhakris'- bread made of jowar-, rice, dal and the cheapest vegetable available on that day. They eat meat once a week.

Hard working conditions, poor living conditions, unhygienic environs notwithstanding, one in three scrap collectors claims she does not suffer from any minor or major illness. 'We do not lead protected lives and are the healthier for it' they claim cheerfully. 'You will fall ill within a day of doing our work.'

Of those who do have health problems, more than half complain that it is an over frequent recurrence of the common cold/ cough, fever, headache or gastro-enteritis (Table 4.1.25).

An average garbage container has sides that are 7 feet high and a corresponding depth. A waste-picker has to scramble over the side of these metal containers and jump into the unseggregated garbage that cushions her fall. This garbage comprises shards of broken glass, sharp edged pieces of tin, faeces, snotty tissues, sanitary napkins, rotting vegetables and sometimes toxic hospital waste including hypodermic syringes. During the monsoons this garbage becomes slush and the women sink knee deep into it to collect scrap.

The conditions at the landfill site are even more horrifying. As the tippers unload the garbage there is a scramble to reach the garbage first. As far as the eye can see there is only the landscape of barren land piled high with garbage and stray animals hungrily foraging through it. Animals are not uncommon in bins either and waste-pickers often have to fight with pigs and dogs for plastic. The overpowering stench of putrefying garbage gets lodged in the nostrils and clings to the body long after they reach home.

No wonder then, that only a 5 percent sample of scrap collectors in Pune, had one incidence of Tuberculosis, 3 of occupation related accidents, 6 respiratory tract infections, 9 major injuries including falling from/into garbage bins, 1 eye infection and 36 cases of severe musculo skeletal problems. One of the waste-pickers in the sample fell of a running train while she was returning from work with a loaded sack and lost her right hand and leg. Another has given up scrap collection because she contracted tuberculosis due to continued exposure to fumes at the land fill site which was her place of work. Yet another had fractured her leg as she slipped and fell into the much maligned container that was empty while she was trying to climb into it. The staggering proportions of life/limb threatening accidents in a 5%

sample, when projected for the whole population, clearly emphasise the need for medical insurance for scrap collectors (Table 4.1.26).

One in three scrap collectors has been bitten by an animal, dog, cat or pig while at work and every other scrap collector has a fresh bruise or cut acquired in the course of picking metal or glass. However the more careful among them (25 per cent) say that they manage to get away with just one injury in 6 months. Some of them avoid collecting glass for the same reason (Table 4.1.27).

Atleast half of them are willing to use hand gloves, recognising the protection this will offer them. Suggestions to use face masks elicit a lot of giggles usually, due to their shyness, yet many are open to using them when advised the risks and high incidence of Tuberculosis and Respiratory Tract Infection.

It is evident that scrap collectors tend to ignore minor illnesses till they assume dangerous proportions and become regular 'conditions'. Women Waste-pickers are even more likely to ignore warning signs.

There is an omnipresent fear of the government hospital due to which private treatment is preferred even though it is more expensive. The average expenditure on health care for a single episode of illness is RS 554/- where the cumulative family income rarely exceeds RS 5000.

Many scrap collectors are adopting newer, alternative health therapies for instance magnet therapy and can be seen sporting necklaces made of magnet beads. 'It has not cured the disease, but is supposed to be slow acting but long lasting', they offered hopefully, attempting to sell such necklaces to us.

Around 10 percent of scrap collectors have undergone an AIDS test to ascertain that she is not HIV positive. It is significant that not many (21 per cent) scrap collectors undertake activities to propitiate the Gods during illnesses, and in fact adopt a modern, scientific, practical approach to health care.

Around one in six pledges something in return for a favour from the 'Gods'- older women are more likely to practise such customs and hardly anyone with access to even the most basic, primary education is involved in such rituals. Surprisingly however, this practice has not been given up entirely by the otherwise progressive Neo Buddhists, although Matangs are far more likely to indulge in them.

Every other scrap collector , man or woman, chews either tobacco or paan, but only one in ten, usually a male scrap collector smokes. Only one in three male scrap collectors accepts he has a drinking problem and one woman in 250 confesses to drinking occasionally.

Drug abuse among scrap collectors in Pune is negligible (1 per cent) and is confined to Matang males. In fact all the vices are very significantly associated with the Matang community. Smoking and drinking is rarer among Mahars and almost non-existent among Neo Buddhists.

4.1.5.3 Harassment

Waste-pickers are marginally more likely to be perceived as 'thieves' than the bhangarwallas with the dabbabatliwallis running the least risk. However, all categories of scrap collectors are rounded up on grounds of 'suspicion' and 'investigation'. More than three fourths of these 'cases' are not even formally charged. Every single one of those actually charged, are also acquitted. However the unnecessary action not only results in loss of time and earning for scrap collectors but also causes significant damage to their image. Nonetheless, the same scrap collectors when queried about police harassment do not mention it as a problem. More than 4 out of 5 of those accused accept it as an

occupational 'hazard' and believe that the police are merely being vigilant and performing their duties.

Only one in ten scrap collectors has actually faced direct harassment from police or municipal workers but most claim that this is because they are ultra careful not to incur the displeasure of either. Many waste-pickers report that they even perform the duties of municipal staff by sweeping the area around bins and throwing garbage inside in order to maintain a working relationship with them and ensure unthreatened access to garbage.

An equal number complain of harassment by security personnel or other citizens. This usually takes the form of unwarranted suspicion, disrespect, denial of access to scrap and 'talking down'.

Since they do not have any major complaints against anyone they claim they do not really 'need' any help. Of those who have needed any assistance, most approach the trade union and then the scrap dealer with whom they interact daily. A few solicit support from other scrap collectors or neighbours.

4.1.5.4 Work benefits

The practice of retail scrap traders giving a Diwali (festival) bonus to scrap collectors is quite prevalent. It is usually given in kind uniformly to all clients and rarely exceeds the value of Rs 250/-. (Table 4.1.28).

Although every other scrap collector receives such a bonus, a lot of waste-pickers from certain geographical areas complain that scrap dealers have ganged up and decided not given bonus for three consecutive years. This is particularly true of Dandekar Pul, Kothrud, Kashiwadi and Nagar Road.

Although every other scrap collector relies on scrap dealers for small need based advances, only one in five can expect larger loans or advances, assistance in death or support in work related conflicts (Table 4.1.29).

Nonetheless one in two scrap collectors describes her relationship with the scrap dealer as business like, and almost one in three are essentially sympathetic to the retail scrap trader. Less than one in ten has a really hostile relationship. These patterns seem to cut across slums and though scrap collectors vent their spleen against retail scrap traders in general, they readily offer disclaimers about their own scrap dealer (Table 4.1.30).

Scrap collectors share a genuinely less hostile relationship with other scrap collectors despite the fact that there is acute competition for scrap. Although fights over access to garbage are not at all uncommon, they are speedily resolved and rarely breed any serious, long-term animosity. 'Everyone has stomachs to feed' was the most common response to queries about their 'treatment' of new entrants. More squabbling over garbage occurs in predominantly commercial areas and institutional areas where larger quantities and better quality scrap are available (Table 4.1.31). One in ten confesses to abusive behaviour. While they are largely sympathetic and sensitive to the reality of increasing poverty and lack of opportunities for gainful employment. This by no means implies that this is illustrative or indicative of the mechanism of 'shared poverty' that is propagated by those who subscribe to the belief of undiminished absorptive capacity in the lower regions of urban economics (Table 4.1.32).

4.1.6.0 Organisational Status

Almost each and every scrap collector in Pune is aware about the existence of the trade union, though a good third are not its official members. Those who are members tend to participate more and more the different programmes of the union, seeking more from it and simultaneously giving more to it (Table 4.1.33). Though active members are more likely to aver to the positive impact of unionisation on their work lives, a good number of those who are not card holders accept that they would have benefited had they participated more actively.

4.1.7.0 Future Aspirations

The union's positive impact notwithstanding, most scrap collectors see no alternative future for themselves outside this occupation. "What can we say. We have no option. We are satisfied in a manner of speaking. Will you give us other jobs?" are the most frequent responses to questions about their 'job satisfaction'. Realistically speaking they recognise the total absence of options. "We will continue to collect scrap until we can walk no more" is the most common response to the question on how long they will continue to do this work (Table 4.1.34).

Figure 4.1: Quantity of scrap collected by scrap collectors

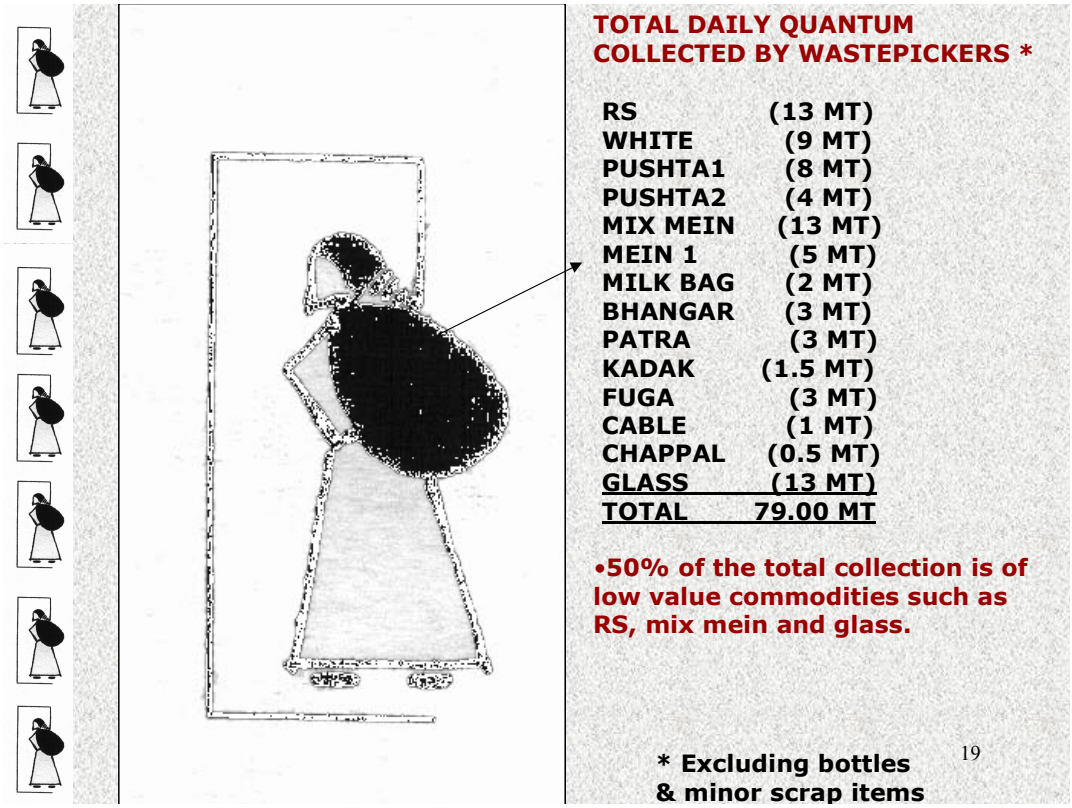


Figure 4.2

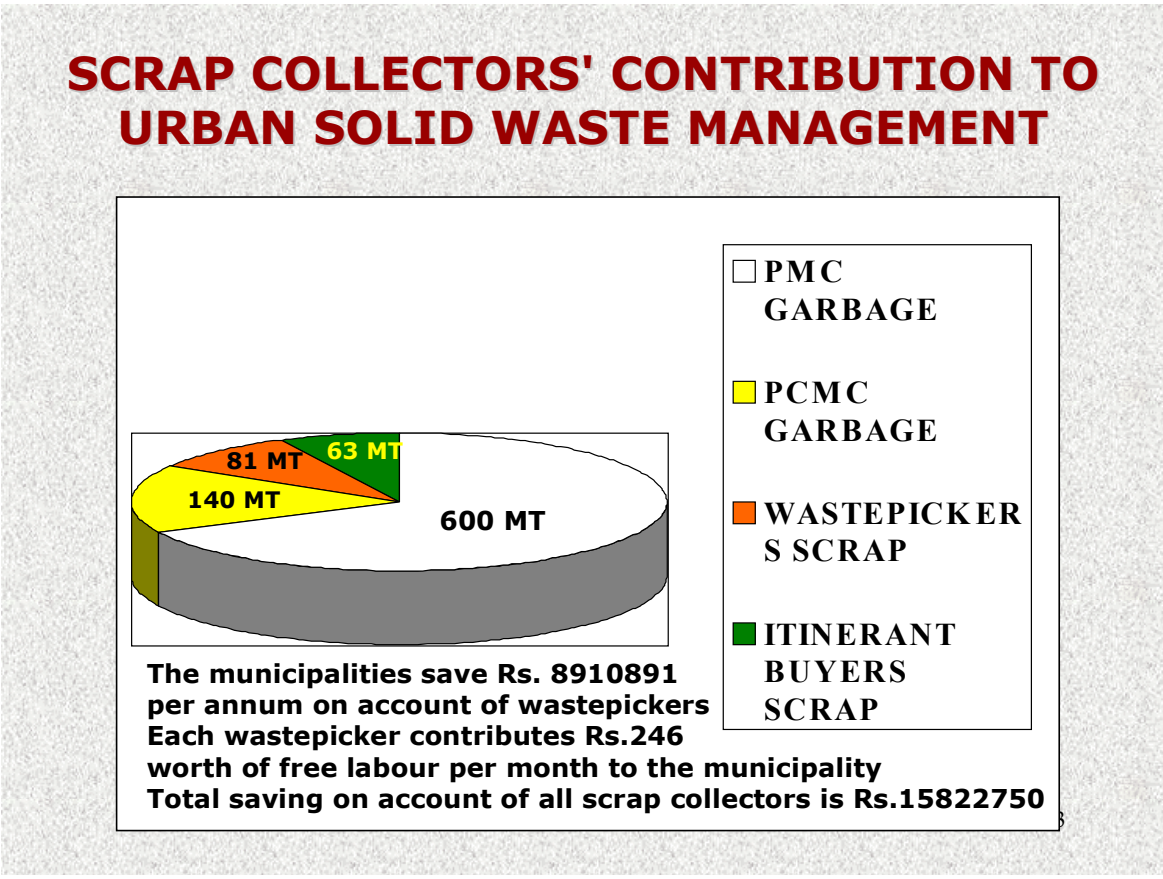

SCRAP COLLECTORS' CONTRIBUTION TO URBAN SOLID WASTE MANAGEMENT
81 MT
63 MT
140 MT
600 MT
PMC GARBAGE
PCMC GARBAGE
WASTEPICKERS SCRAP
ITINERANT BUYERS SCRAP
The municipalities save Rs. 8910891 per annum on account of wastepickers
Each wastepicker contributes Rs.246 worth of free labour per month to the municipality
Total saving on account of all scrap collectors is Rs.15822750

Figure 4.3: Mean daily income from scrap collection in relation to category of scrap collector

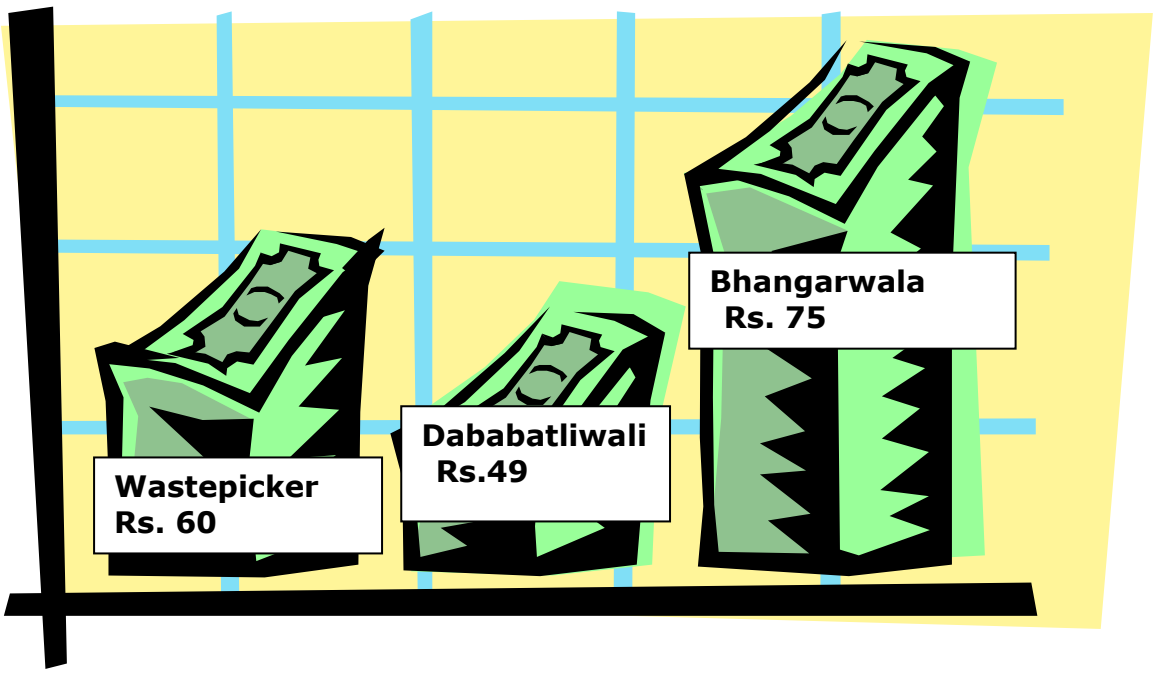


Table 4.1.1 : Primary source of scrap in relation to category of scrap collector

Primary source of scrap	Category of scrap collector			**Total**
	Wastepicker	**Bhangarwalla**	**Dabbabatliwali)**	
Landfill site	8 (5)	1 (2)		9 (4)
Garbage bins and street	135 (82)		1 (3)	136 (54)
Households	8 (5)	46 (77)	28 (94)	79 (31)
Commercial premises	10 (6)	12 (21)	1 (3)	23 (9)
Institutional area/private offices	1 (0.5)			1 (0.5)
Institutional area/university/other	1 (0.5)			1 (0.5)
Industry	2 (1)			2 (1)
Total	**165 (100)**	**56 (100)**	**30 (100)**	**251 (100)**

NA 1

Table 4.1.2 : Location of scrap collection site in relation to category of scrap collectors

Location of Scrap Site	**Category of scrap collector**			**Total**
	Waste Picker	**Bhangarwala**	**Dabba batliwali**	
Rural Area	10 (6.1)	3 (5.4)	6 (20)	19 (7.5)
Predominantly Residential area	108 (65.5)	41 (73.2)	23 (76.6)	172 (68.5)
Predominantly Commercial area	39 (23.6)	11 (19.6)		50 (19.9)
Landfill side	7 (4.2)			7 (2.8)
Slum	1 (.6)			1 (0.5)
Any other		1 (1.8)	1 (3.4)	2 (0.8)
Total	**165 (100)**	**56 (100)**	**30 (100)**	**251 (100)**

NA 1

Table 4.1.3 : Daily working capital in relation to category of scrap collector

Daily working capital	**Category of scrap collector**			Total
	Waste picker	Bhangarwalla	Dabba batliwali	
Upto 50	1 (33.3)	1 (1.8)	2 (6.9)	4 (4.6)
51-100		5 (9.1)	18 (62.1)	23 (26.4)
101-150		3 (5.5)	2 (6.9)	5 (5.7)
151-250		24 (43.6)	6 (20.7)	30 (34.5)
252-350		16 (29.1)		16 (18.4)
351-500	1 (33.3)	5 (9.1)		6 (6.9)
More than 500	1 (33.3)	1 (1.8)		2 (2.3)
NA			1 (3.4)	1 (1.1)
Total	**3 (100)**	**55 (100)**	**29 (100)**	**87 (100)**

Table 4.1.4: Source of capital in relation to interest rates

Lender	**Monthly interest paid on working capital @Rs. Per 100**					**Total**
	Upto 2	3-10	11-30	101-200	Nil	
Scrap collectors credit co-operative	4 (100)					4 (100)
Scrap dealer		1 (12.5)		1 (25)	36 (90)	38 (65.5)
Neighbours		6 (75)		2 (50)	3 (7.5)	11 (19)
Malwari (Money lender)		1 (12.5)	2 (100)	1 (25)		4 (6.9)
Other family members					1 (2.5)	1 (1.7)
Total	**4 (100)**	**8 (100)**	**2 (100)**	**4 (100)**	**4 (100)**	**58 (100)**

Figure 4.1A: Growth in scrap collectors- year of starting scrap collection

Figure 4.1A: Growth in scrap collectors- year of starting scrap collection

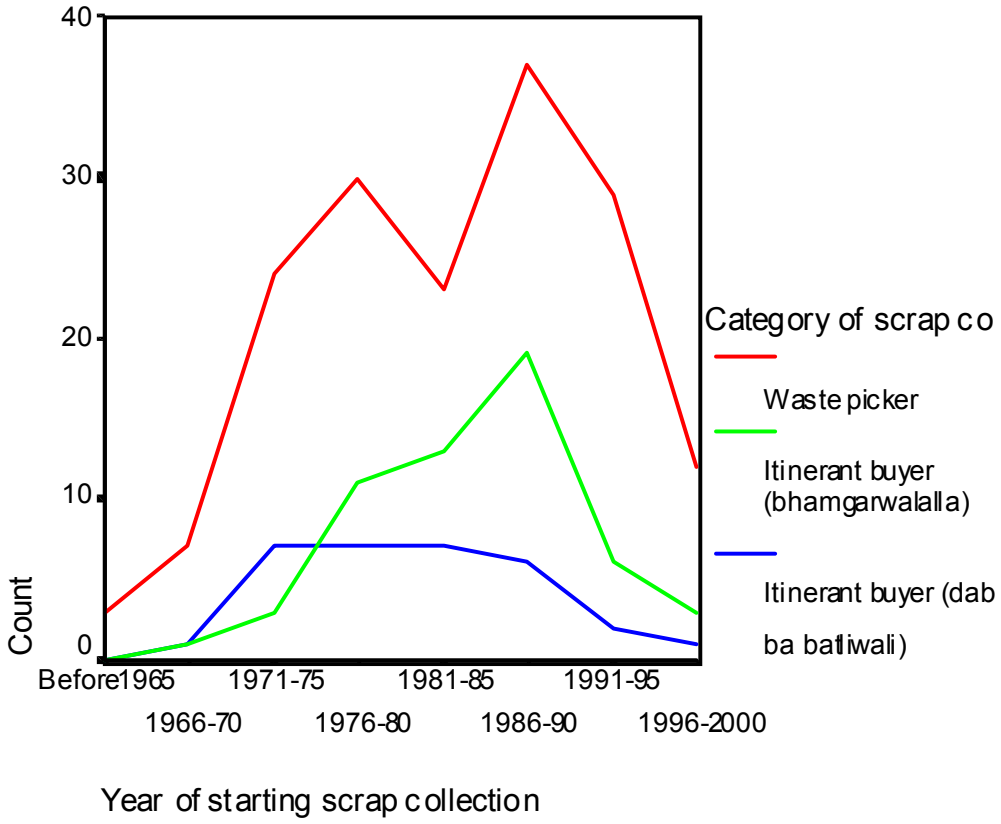


Table 4.1.4A: Growth in scrap collectors- Year of starting scrap collection in relation to gender

Year/Gender	Category of scrap collector			Total
Male	**Wastepicker**	**Bhangarwala**	**Dababatliwali**	
1966-1970	1 (6.7)	1 (1.8)		2 (2.8)
1971-1975	2 (13.3)	3 (5.4)		5 (7)
1976-1980	2 (13.3)	11 (19.6)		13 (18.3)
1981-1985	2 (13.3)	13 (23.2)		15 (21.1)
1986-1990	3 (20)	19 (33.9)		22 (31)
1991-1995	2 (13.3)	6 (10.7)		8 (11.3)
1996-2000	3 (20)	3 (5.4)		6 (8.5)
Total	15 (100)	56 (100)		71 (100)
Female				
Before 1965	3 (2)			3 (3.9)
1966-1970	6 (4)		1 (3.2)	7 (3.9)
1971-1975	22 (14.7)		7 (22.6)	29 (16)
1976-1980	28 (18.7)		7 (22.6)	35 (19.3)
1981-1985	21 (14)		7 (22.6)	28 (15.5)

1986-1990	34 (22.7)		6 (19.4)	40 (22.1)
1991-1995	27 (18)		2 (6.5)	29 (16)
1996-2000	9 (6)		1 (3.2)	10 (5.5)
Total	150 (100)		31 (100)	181 (100)

Table 4.1.5 : Number of working days in a week in relation to category of scrap collector

No. of Working Days in a Week	**Waste-picker**	**Bhangarwalla**	**Dabbabatliwali**	**Total**
Zero	2 (1.2)		1 (3.2)	3 (1.2)
One	1 (0.6)		1 (3.2)	2 (0.8)
Two	2 (1.2)			2 (0.8
Three	4 (2.4)	1 (1.8)		5 (2)
Four	8 (4.8)	1 (1.8)	1 (3.2)	10 (4)
Five	16 (9.7)	3 (5.4)	2 (6.5)	21 (8.3)
Six	83 (50.3)	31 (55.4)	17 (54.8)	131 (52)
Seven	49 (29.7)	20 (35.7)	9 (29)	78 (31)
Total	**165 (100)**	**56 (100)**	**31 (100)**	**251 (100)**

NA 1

Table 4.1.6: Time of departure for work in relation to category of scrap collector

Time of departure	Category of scrap collector			Total
	Waste picker	Bhangarwala	Dabbabatliwali	
Before 6 am	14 (8.5)			14 (5.6)
6-8 am	66 (40.0)	19 (33.9)	7 (22.6)	92 (36.5)
8-10 am	69 (41.8)	35 (62.5)	16(51.6)	120 (47.6)
After 10 am	16 (9.7)	2 (3.6)	7 (22.6)	25 (9.9)
Total	**165 (100)**	**56 (100)**	**30 (100)**	**251 (100)**

NA 1

Table 4.1.7: Time of departure for work in relation to age of scrap collector.

Time of Departure	Age of respondent in years						Total
	15-18	19-35	36-50	51-60	61-70	Above 71	
Before 6 am.		4 (3.6)	7 (6.9)	1(3.7)	2(25.0)		14(5.6)
6-8 am.	2 (100)	39 (34.8)	36 (35.3)	13 (48.1)	2 (25.0)		92 (36.5)
8-10 am.		55 (49.1)	51 (50.0)	11 (40.7)	2 (25.0)	1 (100)	120 (47.6)
After 10 am.		13 (11.6)	8 (7.8)	2 (7.4)	2 (25.0)		25 (9.9)
Total	**2 100%**	**111 100%**	**102 100%**	**27 100%**	**8 100%**	**1 100%**	**251 100%**

NA 1

Table 4.1.8: Time of departure to work in relation to gender of scrap collector.

Time of departure	Sex		Total
	Male	Female	
Before 6 am	2 (2.8)	12 (6.6)	14 (5.6)
6-8 am	29 (40.8)	63 (34.8)	92 (36.5)
8-10 am.	37 (4.2)	83 (12.2)	120 (9.9)
After 10 am.	3 (4.2)	22 (12.2)	25 (9.9)
Total	**71 (100)**	**180 (100)**	**251 (100)**

NA 1

Table 4.1.9: Time of return from work in relation to category of scrap collector.

Time of return	Category of scrap collector			Total
	Waste picker	Bhangarwala	Dabba batliwali	
Before 10 a.m.	1 (6)			1 (4)
10 am.-12 noon	7 (4.2)		1 (3.2)	8 (3.2)
12 noon-3 p.m.	25 (15.8)	7 (12.5)	2 (6.5)	35 (13.9)
3 pm-5 pm.	45 (27.3)	21 (37.5)	6 (19.4)	72 (28.6)
5 pm.-7 pm.	62 (37.6)	25 (44.6)	17 (54.8)	104 (41.3)
After 7 p.m.	24 (14.5)	3 (5.4)	4 (12.9)	31 (12.3)
Total	**165 (100)**	**56 (100)**	**30 (100)**	**251 (100)**

NA 1

Table 4.1.10: Time of return from work in relation to gender

Time to return to home	Sex		Total
	Male	Female	
Before 10 a.m.		1 (6)	1 (4)
10 am.-12 noon	1 (1.4)	7 (3.9)	8 (3.2)
12 noon-3 p.m.	13 (18.3)	22 (12.2)	35 (13.9)
3 pm-5 pm.	22 (31.0)	50 (27.6)	72 (28.6)
5 pm.-7 pm.	30 (42.3)	74 (40.9)	104 (41.3)
After 7 p.m.	5 (7.0)	26 (14.4)	31 (12.3)
NA		1 (.6)	1 (.4)
Total	**71 (100)**	**180 (100)**	**251 (100)**

NA 1

Table 4.1.11: Length of working day in relation to category of scrap collector.

Length of working day	Category of Scrap collector			Total
	Waste picker	Bhangarwala	Dabba batliwali	
Upto 4	8 4.8%		2 6.5%	10 4.0%
5-8	70 42.4%	28 50%	15 48.4%	113 44.8%
9-12	79 47.9%	28 50.0%	12 38.7%	119 42.2%
More than 12	8 4.8%		1 3.2%	9 3.6%
Total	**165 100%**	**56 100%**	**30 100%**	**251 100%**

NA 1

Table 4.1.12 : Total distance commuted to and from work in relation to category of scrap collector

Total distance in km.	Wastepicker	Bhangarwala	Dababatliwali	Total
Less than 2	**2 (1.2)**			**2**
2.1-5	**26**	**2**	**1**	**29**
5.1-10	**63**	**11**	**3**	**77**
More than 10	**74**	**43**	**26**	**143**
Total	**165**	**56**	**30**	**251**

NA 1

Table 4.1.13: Total time taken for commuting to and from place of work in relation to category of scrap collector

Time in min.	Wastepicker	Bhangarwala	Dababatliwali	Total
Upto 15	**2**			**2**
16-30	**13**			**13**
31-60	**58**	**10**	**2**	**70**
More than 60	**92**	**46**	**28**	**166**
Total	**165**	**56**	**30**	**251**

NA 1

Table 4.1.14: Time spent walking for scrap collection in relation to category of scrap collector

Time spent walking for scrap collection (in hrs.)	**Category of scrap collector**			**Total**
	Waste picker	**Bhangarwala**	**Daba batliwali**	
Upto 1 hr.	4 2.6%		1 3.3%	5 2.1%
1.1-3 hrs.	25 16.1%	3 6.1%	6 20.0%	34 14.5%
3.1-5 hrs	63 40.6%	18 57.1%	15 50.0%	96 41.0%
More than 5 hrs.	63 40.6%	28 57.1%	8 26.7%	99 42.3%
Total	**155 100%**	**49 100%**	**30 100%**	**234 100%**

NA 18

Table 4.1.15: Primary reason for the decrease in the quantity of scrap in relation to category of scrap collector

Primary Reason for Decrease in Quantity Of Scrap	**Waste-picker**	**Bhangarwala**	**Dababatliwali**	**TOTAL**
Increase in the number of waste-pickers	78 (56.9)	4	4	86
Increase in the number of itinerant buyers	26 (19)	27	22	75
Collection by municipal workers and others	17			17
Direct sale to scrap traders	2	2		4
Any other	14	5		19
TOTAL	**137**	**38**	**26**	**201**

Table 4.1.16: Sorting site in relation to category of scrap collector

Place of sorting scrap	Category of scrap collector			**Total**
	Wastepicker	Itinerant buyer(push cart/cycle)	Itinerant buyer(dabba batliwala)	
Near scrap collection sites	63 38.2%	8 14.3%	3 9.7%	74 29.4%
Near residence	34 20.6%	2 3.6%	2 6.5%	38 15.1%
Near scrap shop	65 39.4%	45 80.4%	23 74.2%	133 52.8%
N.A.			1 3.2%	1 4%
Any other	3 1.8%		1 3.2%	4 1.6%
Total	**165 100%**	**56 100%**	**31 100%**	**252 100%**

Table 4.1.17: Location of retail scrap traders in relation to location of sorting site

Slum of location of retail scrap dealers	**Place of sorting scrap**	Total

	Near scrap collection site	Near residence	Near scrap shop	No sorting	Any other	
Alandi Road			2 1.5%			2 8%
Aundh	2 2.7%	1 2.6%	4 3%			7 2.8%
Gokhale nagar	1 1.4%	1 2.6%				2 8%
Shivajinagar	2 2.7%	8 21.1%	19 14.3%		1 33.3%	30 12%
Pimpri	5 6.8%	1 2.6%	17 12.8%		1 33.3%	24 9.6%
Chinchwad	2 2.7%		6 4.5%			8 3.2%
Nigdi		2 5.3%				2 8%
Bhosari			2 1.5%			2 8%
Khadki Cantt.			1 8%			1 4%
Alpana	8 11%	3 7.9%	22 16.5%	2 100%		35 14.1%
Total	**73 100%**	**38 100%**	**133 100%**	**2 100%**	**3 100%**	**249 100%**

NA2

Table 4.1.18: Mode of transporting scrap load by waste-pickers

Mode of transport load Fr. work to shop	**Wastepicker**	**Total**
Walking	94 57.0%	94 57.0%
Cycling	1 .6%	1 .6%
Train	7 4.2%	7 4.2%
Truck/Tempo/LCV	33 20.0%	33 20.0%
Rickshaw	14 8.5%	14 8.5%
Combination of the above	1 .6%	1 .6%
Hand cart	14	14

	8.5%	8.5%
Any other	1 6%	1 6%
Total	**165** **100%**	**165** **100%**

Table 4.1.19: Transport cost for scrap load in relation to category of scrap collector

Total transport cost incurred per day	**Category of scrap collector**			**Total**
	Waste picker	**Itinerant buyer (push cart/cycle)**	**Itinerant buyer(dabb a batliwali)**	
Upto 5	10 14.1%	1 14.3%	5 26.3%	16 16.5%
6-10	30 42.3%	4 57.1%	8 42.1%	42 43.3%
11-20	27 38.0%		4 21.1%	31 32.0%
More than 21	4 5.6%	2 28.6%	2 10.5%	8 8.2%
Total	**71** **73.2%**	**7** **7.2%**	**19** **19.6%**	**97** **100 %**

Table 4.1.20 Category of scrap collector and monthly income from scrap collection in relation to total transport cost incurred per day

Monthly Income of scrap collector	**Total transport cost incurred per day**						**Total**
	None	**Upto 5**	**6-10**	**11-20**	**More than 21**	**N.A**	
Wastepicker Upto 250	1 1.1%			1 3.7%			2 1.2%
251-500	3 3.2%			1 3.7%			4 2.4%
501-1000	21 22.3%	2 20%	9 30%	7 25.9%	1 25%		40 24.2%
1001-2000	49 52.1%	6 60%	13 43.3%	9 33.3%	1 25%		78 47.3%
2001-3000	12 12.8%	2 20%	7 23.3%	8 29.6%	1 25%		30 18.2%

3001-5000	7 7.4%			1 3.7%	1 25%		9 5.5%
At present not working	1 1.1%		1 3.3%				2 1.2
Total	**94** **100%**	**10** **100%**	**30** **100%**	**27** **100%**	**4** **100%**		**165** **100%**

Bhangarwala 251-500	1 2%						1 1.8%
501-1000	4 8.2%		1 25%				5 8.9%
1001-2000	23 46.9%		2 50%		1 60%		26 46.4%
2001-3000	14 28.6%	1 100%					15 26.8%
3001-5000	7 14.3%		1 25%		1 25%		9 16.1%
Total	**49** **100%**	**1** **100%**	**4** **100%**		**2** **100%**		56 100%
Dabba batliwali 251-500	3 27.3%	1 20%		1 25%	1 50%		6 19.4
501-1000	2 18.2%	3 60%	4 50%	2 50%			11 35.5%
1001-2000	4 36.4%		2 25%	1 25%	1 50%		8 25.8%
2001-3000	1 9.1%		1 12.5%				2 6.5%
3001-5000	1 9.1%	1 20%	1 12.5%				3 9.7%
At present not working						1 100%	1 3.2%
Total	11 100%	5 100%	8 100%	4 100%	2 100%	1 100%	31 100%

Table 4.1.21 Mode of transport load in relation to quantum of scrap collected daily

Mode of transport load fr.work to shop	**Total quantum of scrap collection in kgs per day**							**Total**
	Upto 5	6-10	11-20	21-30	31-50	51-75	More than 75	

Walking	2 66.7%	4 57.1%	37 72.5%	26 56.5%	21 47.7%	2 20%		92 56.8%
Cycling				1 2.2%				1 6%
Train			3 5.9%	2 4.3%	1 2.3%	1 10%		7 4.3%
Truck/Tempo/LCV		1 14.3%	8 15.7%	6 13%	14 31.8%	2 20%	1 100%	32 19.8%
Rickshaw	1 33.3%	2 28.6%	3 5.9%	3 6.5%	3 6.8%	2 20%		14 8.6%
Combination of the above					1 2.3%			1 6%
Handcart				7 15.2%	4 9.1%	3 30%		14 8.6%
Any other				1 2.2%				1 6%
Total	**3 100%**	**7 100%**	**51 100%**	**46 100%**	**44 100%**	**10 100%**	**1 100%**	**162 100%**

Table 4.1.22: Duration of transacting with the same retail scrap trader in relation to category of scrap collector

Duration in years	Category of scrap collector			Total
	Wastepicker	Bhangarwala	Dababatliwali	
Upto 1	19 (11.7)	10 (17.9)	1 (3.3)	30 (12)
1-3	29 (17.8)	13 (23.2)	3 (10)	45 (18.1)
3-5	20 (12.3)	4 (7.1)	1 (3.3)	25 (10)
More than 5	95 (58.3)	21 (51.8)	25 (83.3)	149 (59.8)
Total	163 (100)	56 (100)	30 (100)	249 (100)

NA 3

Table 4.1.23: Reason for change of scrap trader within the last three years

Reason	**Category of scrap collector**			
	Wastepicker	Bhangarwala	Dababatliwali	**Total**
Low rates	16 (33.3)	10 (43.5)	1 (33.3)	27 (36.5)
Disrespectful	3 (6.3)	1 (4.3)	1 (33.3)	5 (6.8)
Shop closed/shifted	20 (41.7)	5 (21.7)	1 (33.3)	26 (35.1)
Any other	9 (18.8)	7 (30.4)		16 (21.6)
Total	48 (100)	23 (100)	3 (100)	74 (100)

Table 4.1.24 : Monthly earnings from scrap collection in relation to category of scrap collector

Monthly earnings in Rs.	Category of scrap collector			Total
	Wastepicker	Bhangarwala	Dababatliwali	
Less than 500	5 (3)		6 (20)	11 (4.4)
501-1000	43 (26.2)	7 (12.5)	10 (33.3)	60 (24)
1001-1500	52 (31.5)	14 (25)	4 (13.3)	70 (28)
1501-2000	24 (14.6)	12 (21.4)	5 (16.7)	41 (16.4)
2001-2500	20 (12.2)	10 (17.9)	1 (3.3)	31 (12.4)
2501-3000	11 (6.7)	4 (7.1)	2 (6.7)	17 (6.8)
3001-4000	5 (3)	8 (14.3)	2 (6.7)	15 (6)
4001-5000	4 (2.4)			4 (1.6)
More than 5000		1 (1.89)		1 (0.4)
Total	165 (100)	56 (100)	30 (100)	250 (100)

Table 4.1.25: Incidence of minor illness (preceding three months) in relation to category of scrap collector

Minor Illness	Category of scrap collector			Total
	Wastepicker	Bhangarwala	Dababatliwali	
Cold/cough/ Fever	40 (62.5)	18 (90)	7 (58.3)	65 (67.7)
Diarrhoea/ gastroenteritis	9 (14.1)	1 (5)	1 (8.3)	11 (11.5)
Body ache	10 (15.6)		2 (16.7)	12 (12.5)
Any other	5 (7.8)	1 (5)	2 (16.7)	8 (8.3)
Total	64 (100)	20 (100)	12 (100)	96 (100)

Table 4.1.26: Incidence of major illnesses

Major illness	Category of scrap collector			Total
	Wastepicker	Bhangarwala	Dababatliwali	
Tuberculosis	1 (4)			1 (2.8)
Malaria	1 (4)	1 (16.7)	1 (20)	3 (8.3)
Hypertension	5 (20)	1 (16.7)	1 (20)	7 (19.4)
Gynaec. Problems	8 (32)		1 (20)	9 (25)
Accidents requiring hospitalisation	2 (8)		1 (20)	3 (8.3)
Any other	8 (32)	4 (66.7)	1 (20)	13 (36.1)
Total	25 (100)	6 (100)	5 (100)	36 (100)

Table 4.1.27: Frequency of injury in relation to category of scrap collector

Frequency	Category of scrap collector			Total
	Wastepicker	Bhangarwala	Dababatliwali	
Daily	26 (15.8)	2 (3.6)	2 (6.5)	30 (11.9)
Once a week	59 (35.8)	22 (39.3)	6 (19.4)	87 (34.5)
Once a month	42 (25.5)	13 (23.2)	10 (32.3)	65 (25.8)
Once in 3 mths.	15 (9.1)	3 (5.4)	3 (9.7)	21 (8.3)
Once in 6 mths.	5 (3)	3 (5.4)	4 (12.9)	12 (4.8)
Once a year	4 (2.4)	1 (1.8)		5 (2)
Less than once a year	12 (7.3)	9 (16.1)	3 (9.7)	24 (9.5)
Total	163 (100)	53 (100)	28 (100)	244 (100)

NA 8

Table 4.1.28 : Value of annual festival bonus in relation to category of scrap collector

Value of bonus	Category of scrap collector			Total
	Wastepicker	Bhangarwala	Dababatliwali	
Upto Rs.250	87 (87.9)	24 (70.6)	12 (80)	123 (83.1)
Rs.251-500	11 (11.1)	9 (26.5)		20 (13.5)
Rs.501-1000	1 (1)	1 (2.9)	3 (20)	5 (3.4)
Total	99 (100)	34 (100)	15 (100)	148 (100)

Table 4.1.29: Assistance provided by the retail scrap trader

Assistance		Category of scrap collector	
	Wastepicker	Bhangarwala	Dababatliwali
Small need based advances	83 (50.3)	39 (69.6)	17 (54.8)
Large advances	20 (12.1)	9 (16.1)	6 (19.4)
Monetary help during bereavement	32 (19.4)	8 (14.3)	5 (16.1)
Intervention in work related conflicts	33 (20)	12 (21.4)	9 (29)

Table 4.1.31 Relationships among scrap collectors in relation to scrap collection site

Site	Relationship with other scrap collectors				
	Aloof	Friendly	Occasional fights	Hostile	Total
Industrial belt	1 (1)	8 (7)			9 (4)
Rural area	6 (6)	12 (10)	1 (5)		19 (7)
Residential area	72 (72)	86 (70)	11 (52)	3 (43)	172 (68)
Commercial area	16 (16)	12 (10)	6 (29)	2 (28.5)	37 (15)
Institutional area	1 (1)		3 (14)		4 (2)
Landfill site	3 (3)	2 (1.5)		2 (28.5)	7 (3)
Any other	1 (1)	2 (1.5)			3 (1)
Total	100 (100)	122 (100)	21 (100)	7 (100)	251 (100)

NA1

Table 4.1.32 Response to new entrants

Response	Category of scrap collector			Total
	Wastepicker	Bhangarwala	Dababatliwali	
Indifferent	39 (30)	18 (50)	8 (35)	65 (34)
Sympathetic	35 (27)	8 (22)	5 (22)	48 (25)
Hostile	28 (21)	3 (8)	6 (26)	37 (20)
Helpless	28 (21)	7 (20)	4 (17)	39 (21)
Total	130 (100)	36 (100)	23 (100)	189 (100)

NR61 NA1

Table 4.1.33 Involvement of scrap collectors in the trade union

Involvement	Category of scrap collector			Total
	Wastepicker	Bhangarwala	Dababatliwali	
Leadership role	5 (3)		3 (9.7)	8 (3.2)
Very participative	18 (10.9)	3 (5.4)	2 (6.5)	23 (9.1)
Member	38 (23)	12 (21.4)	4 (12.9)	54 (21.4)
Peripheral involvement	52 (31.5)	18 (32.1)	11 (35.5)	81 (32.1)
Resistant	8 (4.8)	1 (1.8)	1 (3.2)	10 (4)
Unaware	8 (4.8)	4 (7.1)	3 (9.7)	15 (6)

No involvement	36 (21.8)	18 (32.1)	7 (22.6)	61 (24.2)
Total	165 (100)	56 (100)	31 (100)	252 (100)

Table 4.1.34 Future aspirations-continuation in present occupation

Continuation	Category of scrap collector			Total
	Wastepicker	Bhangarwala	Dababatliwali	
Till physically possible	147 (89.1)	43 (76.8)	26 (83.9)	216 (85.7)
Till better options are available	9 (5.5)	9 (16.1)	2 (6.5)	20 (7.9)
Till children secure regular employment	3 (1.8)	2 (3.6)	1 (3.2)	6 (2.4)
Till family obligations are fulfilled	4 (2.4)	2 (3.6)	2 (6.5)	8 (3.2)
Any other	2 (1.2)			2 (0.8)
Total	165 (100)	56 (100)	31(100)	252 (100)

CHAPTER IV

THE RECYCLING SECTOR

SECTION II

THE SCRAP TRADE

4.1.0.0 Introduction

Trade in commodities such as grain, agricultural produce, cotton and textiles, steel and non-ferrous metals, hardware and timber/wood is well established and markets exist for all these commodities. This is not so in the case of scrap. Trade in scrap is relatively invisible and unrecognised. There are no geographical areas designated as scrap markets. The traders are not part of associations like the Pune Merchants Chamber or the Mahratta Chamber of Commerce, Industries and Agriculture. The scrap trade is generally believed to have a very low status within the hierarchy of commodity trading, regardless of the profit potential. It has no respectability. One of the reasons is that scrap is collected from garbage and therefore considered 'dirty'. Then retail trade involves daily interaction with people who are looked upon as 'low-caste, uncouth, foul mouthed scum of society'.

In this section we analyse the features of the scrap trade market, organisational structure of trade establishments, their infrastructure, trade operations and incomes. The analysis is based on the baseline data and the data collected from the sample establishments during the study.

4.1.1.0 The Nature of the Scrap Trade Market

The retail traders form the cutting edge level of the scrap trade (Figure 4.2.1). Most often they are located in slums with significant populations of scrap collectors. They have a direct relationship with the scrap collectors from whom they purchase scrap. Sometimes they also supply working capital and the tools of the trade to itinerant buyers. The baseline data suggest that *there is locational specialisation of the scrap trade establishments and scrap collectors in Pune***.** This is an outcome of the inter-relatedness between the process of proliferation of trade establishments and entry into scrap collection, in various areas of the city.

Retail traders can be broadly classified according to the commodities traded.

1. ***General retailers:*** those who trade in all scrap commodities including 'bundle items' (commodities such as pushta, RS, mixed mein, WR) which are manually packed prior to sale)
2. ***Non-bundle retailers:*** those who trade only in 'non-bundle items' (commodities such as fuga, kadak, bhangar, patra, glass and bottles)

Stocking is the first level of wholesale trade. Stockists are always also retail traders. Except for glass, the practice of stocking exists in the trade of all commodities. The presence of stockists is closely linked to the proliferation of small scrap shops in a particular geographical area. In order to ensure adequate supplies and retain their hold over the market, the older, established retail traders often start by distributing advances and/or lifting a few commodities from smaller retailers who face space and capital constraints. Stockists earn a trading margin on bulk purchases, over and above that from the retail activity. They specialise in specific commodities in order to reduce the competition among themselves. They are in a better position than retail traders to negotiate prices with the bigger wholesalers due to the larger quantity they trade. In turn

the bigger wholesalers also give advances to stockists to ensure adequate supplies. The credit market is tied to the product market for those stockists who take advances from wholesalers. Large stockists of mixed mein and RS also supply the commodities directly to the reprocessors because the latter do not insist upon Registered Dealers. The classes of traders are therefore intersecting, except in the case of exclusive wholesalers.

The wholesale trade (stocking and/or exclusive wholesale) is generally undertaken either for a single item or for a group of items that have a common market. The single items are glass, RS and mixed mein. Whereas, bhangar-patra, different varieties of bottles, corrugated board/kraft/pushta–white office record, fuga-kadak-cable-chappal and LD-milk bags form groups.

The large wholesalers for mixed mein and RS form a distinct category, in that they have no warehousing facilities or establishments. They deploy their capital for advances, purchase, loading and transport of scrap to the reprocessors for a trading margin.

Registered Dealers exist in the trade of kraft, white record, glass, bottles, bhangar and patra. They often, also procure better quality industrial and commercial scrap from bulk generators through the tendering process. This is mixed with the lower quality scrap purchased from retail traders. They have vast godowns, hired labour, equipment and machinery to process the scrap prior to supply of the commodities to reprocessors. They also encourage unregistered stockists and wholesalers to supply the reprocessors on their behalf for a trading margin, at no risk to themselves.

There is variation among those in the wholesale trade in terms of the capacity to invest financial capital, own or borrowed that in turn determines the quantum of scrap they trade. The above discussion highlights the heterogeneous nature of the scrap trade market. It comprises trade establishments performing varying levels of trading activities. The competitive relations among each class homogenous in terms of activity level determine the market power. The ladder of level of trade activity where the class stands, determines the ability of the group to negotiate the terms of trade with higher and lower classes. There exists an element of non-price competition at all level s of trade like tying the sellers by way of giving advances.

Let us now turn to the empirical analysis of the scrap trade. The detailed analysis of the dynamics of the scrap trade market based on primary data is preceded by the analysis of features of the market based on baseline data.

As per the baseline data at present there are 368 trade establishments in Pune. Out of this 214 are retail traders, 68 are retailer cum stockists, 80 are wholesalers and 6 are traders combining reprocessing.

4.1.2.0 Growth of the Scrap Trade

The data show that prior to 1970, there was not much growth in the number of scrap traders (Figure 4.2.2 A and B). There was a sudden spurt in the number of scrap stores from 1986***. Three out of five scrap establishments started after 1986***. In fact almost ***half the scrap stores were established in the decade between 1986 and 1995.*** Almost half the retail and wholesale establishments were started during this period. The picture is slightly different with respect to stocking. Half the stockists existed prior to 1980. The decline in the period after 1996 was higher in the wholesale segment as compared to the retail segment and non-existent in stocking.

However a sharp decline of 50 per cent is seen after 1995 as compared to the previous five years. Newer establishments, however, failed to attract 'regular' clients of the older establishments. All the establishments, which have more than 25 scrap collectors selling to them, have been set up prior to 1990. Most of the recent establishments have less than 25 collectors.

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Very few wholesale traders existed prior to 1975. RS is the only commodity to be traded in the wholesale market prior to 1965 although sixty per cent of those trading in RS started after 1981. The same proportion

of traders started trading in kraft-white record and bhangar-patra between 1966 and 1980. All those trading in fuga-kadak and bottles started after 1981. The increase in trade in bottles can be explained by the increase in the consumption of bottled beverages and alcohol during the last two decades. New entrants in the last five years are only seen in glass, kraft, bhangar-patra and fuga-kadak. Trade in mixed mein and plastic is of more recent origin. It corresponds to the growth in the use of plastic.

4.1.3.0 Features of the Scrap Trade Market

The baseline data generated in the study contains information on the location of trade establishments, types of activities undertaken by the traders, commodity wise purchase and sale prices and the agency to which the commodity is sold. These data throw light on the features like location specific spread of scrap trade establishments, the structure of the scrap trade market and trading margins in the scrap market.

4.1.3.1 Location specific spread of scrap trade establishments

The data presented in Table A reveal that spatial spread of scrap trade establishments follows closely the spatial spread of residence of the scrap collectors population in the metropolis. A positive correlation between the above two variables which is of the order of 0 .77 is an indication of the interdependence between the process of spatio-temporal proliferation in trade establishments and growth in the number of scrap collectors. These two processes in the recycle sector are demand following, the sources of demand being different at different stages. The initial emergence of trading establishment's consequent to the demand for scrap from reprocessors creates opportunities for scrap collection in the vicinity of trade establishments. This leads entry into scrap collection. Increasing collection of scrap in the area in turn opens avenues for new trade establishments. Entry of new establishments in turn leads further entry into scrap collection.

The increasing concentration of the trade establishments in a particular area results in specialisation of trade in some commodities as well as vertical movement in level of trading activity. The retail trade establishments then combine stocking and wholesale activity with retail trade. This process of vertical movement is evidenced in the baseline data. (Table 4.2.1) The data show that the trade establishments that combine retail, stocking and wholesale are concentrated in the same areas where retail trade establishments are large in number.

4.1.3.2 Structure of scrap trade market

As mentioned earlier, the scrap trade market consists of different sub-markets that operate at different levels of trading activity. At the lowest end is the market of retail trade where retail trade establishments are the buyers and scrap collectors are the sellers. The buyers side in this market consists of exclusive retail traders as well as retail traders combining retail trade with stocking and wholesale. The sub-market at the middle level comprises retailers combining retail and higher level of trading activity as buyers, and the exclusive retail traders as sellers. However, the buying selling transactions are complex in this sub-market. There exists buyer seller relationship within the group of buyers. Hence, ideally this sub-market should further be divided accordingly. At the top level buying selling classes are mixed and the clear distinction between buyers and sellers is difficult.

4.1.3.3 Size of the sub-market and market power

Among the main dimensions of market structure the number of buyers in relation to sellers gives an indication of market power. From the baseline data on each category of trade establishments presented in

Chapter II (Table 4.2.2) it is possible to work out buyer seller ratios in the sub-markets for retail trade and for the middle level trading activity.

The number of buyers in the retail market who buy directly from large numbers of scrap collectors (4594) is around 214. Most of the traders buy many commodities like road scrap, mein, bhangar, glass, and bottles. The buyer seller ratio in this market is 0.05 implying that the market is effectively competitive at this level of trading activity. The variations in prices offered to scrap collectors are expected to basically reflect the qualitative differences in the commodities transacted. This is substantiated by the variability observed in commodity-wise retail purchase prices. The variation is on the higher side in the purchase prices of commodities like mein no.1 and road scrap which are likely to differ in quality (Table 4.2.3).

In the market for middle level trading activity the number of establishments combining retail stocking and wholesale activity is 68. These 68 buyers buy from 214 retail trade establishments. This is first level of classification of buyers and sellers in this sub-market. As mentioned above there is buying selling relationship within the 68 buyers. Complete information to trace buyer-seller relationship among the retail traders who combine retail and higher level of trade functions is not available. Hence it is not possible to obtain second level of classification of buyers and sellers. Also trade establishments in this sub-market specialise in buying one or two commodities. From the available information it is possible to compute buyer-seller ratios for all commodities. However, in this case also it is not possible to separate ultimate buyer trade establishments. The buyer-seller ratios in the first level of classification for different commodities are presented in (Table 4.2.2). These ratios range between 2:100 for fuga and 10:100 for bhangar and patra. It appears that 'fewness' of buyers in relation to sellers is a common feature for all commodities and this is likely to give greater market power to buyers and consequently the ability to hold down the prices. The data reveal that the average purchase prices of retail traders buying in bulk are lower than the average purchase price by other retail traders (Table 4). The divergence in these two prices is highest for road scrap (12 per cent) while it is the lowest for bhangar (2 per cent). It may be noted that this variation cannot be explained solely in terms of 'fewness' of numbers of buyers in relation to sellers. The extent to which the buyers in this sub-market can neglect the changes in prices offered by other buyers depends upon the non-price measures of competition that they adopt. This needs to be further explored.

4.1.3.4 Levels of Trading Margins in Scrap trade

The commodity-wise trading margins for all trading classes worked out from base line data and the average purchase prices of these commodities (Table 3 and 5) indicate that except for mein No.1 the trading margins are on higher side for the low-valued commodities like road scrap, mixed mein, glass and quarter. The trading margins for these commodities lie in the range of 27 per cent to 37 per cent. In the case of high valued commodities like Pushta, White, Bhangar, Patra and Fuga the trade margins are highest in white (26 per cent) followed by fuga (23 per cent).

The above analysis of the salient features of the scrap trade market provides useful insights into the functioning of this market. The most important point for the present study is the oligopsony power in sub-market for the middle trading activity. This power inhibits the spread effects of the price change of the commodity at the top level to the scrap collectors and has implications for any proposed market interventions.

4.2.0.0 Operational Details of the Scrap Trade Establishments

4.2.1.0 Type of Scrap Trading Establishments

The ratio of retailers to wholesalers is 3:1 and one out of every four retailers is likely to also be a stockist. **The only non-household establishment is the one operated by the Kagad Kach Patra Kashtakari Panchayat (Table 4.2.8). There is equal representation of household establishments that are own account and those that hire labour. Retailers**

also doing stocking are twice as likely to hire labour than those doing only retail trade whereas many wholesale establishments dealing in commodities such as mixed mein and RS can function without hiring labour.

Almost all the retail and stocking establishments are registered under the Shops and Establishments Act and three fourths have valid licenses. **One in four wholesale establishments are unregistered. This is because some of the wholesalers do not actually have 'establishments'!**

4.2.1.1 Ownership and Management of Scrap Trade Establishments

The ownership of all the establishments is wholly private. **Eighty per cent are individual proprietorships and the rest are joint family partnerships. There is no significant difference in the ownership pattern across categories of traders. The only exception is the KKPKP store (Tables 4.2.9 and 4.2.10).**

Management of scrap establishments is most likely to rest with the owners themselves. **Almost two thirds of the total establishments are singly owned and managed and one third are owned and managed by the larger joint family. Retail establishments are more likely to be singly owned and the practice of hiring managers is very limited even in the stocking and wholesale segment.** *The KKPKP store is the only retail establishment to have hired a manager.*

4.2.2.0 Infrastructure and Equipment in Scrap Establishments

Other than space and weighing scales, the infrastructure and equipment requirements in scrap trading are very limited. Not even these exist for wholesale trade in certain commodities. *Almost all the establishments are located in slums.* **It is for this reason that the term 'occupied' has been used instead of 'owned'. Only two per cent of the traders have purchased the land in the open market. About one fourth have occupied it free of cost and the rest have paid the previous occupiers (Table 4.2.13). Little over a third of the establishments are located in rented premises. Mostly retailers and stockists (one third) do not pay any amount for space. Significantly, many 'new' and 'old' scrap shops have used similar means to 'occupy' or 'encroach' on municipal space. Even shops started in the 1990's have done so without paying any costs.**

Approximately one third of the establishments are 'pucca', 'semi-pucca' and 'katcha' structures respectively (Table 4.2.14). The 'pucca' structures have brick walls, corrugated tin roofs and cemented or tiled floors, the 'semi-pucca' structures have part brick walls, corrugated roofs and cemented floors and the 'katcha' structures are made entirely out of corrugated tin sheets. Fewer wholesalers have 'katcha' structures in comparison with retailers and stockists. Other than that there is no significant difference between categories of traders.No stockists have premises of less than 100 sq.ft.(Table 4.2.15) And no wholesalers have premises of less than 200 sq.ft. ***Given the small size of most establishments, most traders encroach upon roads and pavements during business hours.*** Only one out of ten traders do not encroach on public space. Three fourths of those who do, use up to a 100 sq.ft.(Table 4.2.16)

Only one, in four establishments, has electricity. One fourth of the traders have no telephone facility. All of them are retailers because only they can carry on their business without a telephone. Consequently, three fourth of the stockists and wholesalers have their own telephone connection. About a third of the traders do not own any means of transport. There is not a single wholesaler among them because mobility is essential in wholesale trading. The most commonly owned vehicle is a two-wheeler. Not even one retailer owns a four- wheeler in comparison with one in three wholesalers (Tables 4.2.17,18,19,20).

The interior of scrap stores is generally very dark, dingy and stuffy because of storage of large quantities of scrap, particularly plastic because it emits heat. Ventilation is very poor.

A pair of weighing scales is the standard equipment in all the retail establishments. Those trading in RS and other manually packed goods also have wooden or fabricated metal packing frames. Many purchase the equipment in the second hand goods market. The total worth of the equipment in each retail establishment is less than Rs. 3000. The retail traders often provide pushcarts for scrap collection to itinerant buyers. The value of a new pushcart is about Rs. 2500.

A quarter of the traders estimate the value of their fixed assets (land, building and equipment) as nil. An equal number estimate it at more than Rs.1,00,000. ***Only five per cent of the establishments are insured.*** They are all wholesale establishments.

7.9 Labour in Scrap Trade Establishments

The number of labourers employed usually depends on the size of the establishment, the exception being the wholesale traders without establishments. ***Most retailers have 2-3 labourers.*** Some make do with only one. Wholesale establishments have up to 20 labourers performing a combination of tasks. There are no child labourers working as labourers in scrap establishments. Almost 90 per cent of the labourers in scrap establishments work for more than 8 hours per day and mostly up to 12 hours per day. The work is strenuous physical labour in a poorly ventilated cramped room, often only 200 sq. ft in size with no toilets or child-care facilities. Half do not even get drinking water.

Almost ninety per cent of the total labourers are male. The gender bias in the assignment of work is obvious with women having to perform monotonous jobs like sorting and pre-packing. Men on the other hand do a larger share of the management tasks as well as the heavy manual jobs***. The gender disparity in the allocation of tasks logically carries on to wages.*** Only one in thirteen women earns a daily wage of over Rs.60 whereas two thirds of the men earn over Rs.60. ***The average daily wage for a male worker is Rs.80 with a half-paid weekly holiday while that for a female worker is Rs.40 with no paid holiday.*** The data show that the male workers are paid the minimum wage prescribed by the Shops and Establishments Act, whereas the female workers are not. The provisions of the Equal Remuneration Act are also not complied with. The Shop Act provides for weekly and other paid holidays. Only the male workers are given a weekly holiday that too with half-pay. No other paid holidays are given even if the worker has been employed continuously for more than 60 days as provided for in the Shop Act. Since even the most basic provisions related to wages and paid holidays are not complied with it is unlikely that those pertaining to Maternity Benefits and Workmen's Compensation will be.

The conditions of work in the scrap establishments have already been described in the previous chapter. They do not meet with the requirements stipulated in the Shop Act.

Unpaid family labour constitutes more than a third of the labour force in scrap establishments. Four out of five of them are male, usually brothers or sons working in the same unit. They are involved in almost all tasks to do with the trade but mostly in overall management. Female labour is almost equally distributed between hired and family labour.

Every fourth labourer in the scrap establishments is from Maharashtra. Only 1 out of 10 labourers, mostly from Maharashtra, are entrusted with management related tasks. The only significant migrant group among labourers (17 per cent) is that of 'bhaiyas' from Uttar Pradesh. Although they are preferred because they are honest, hard working, regular and "vice-free", they are assigned manual work and are very rarely involved in management tasks. Labour from UP is preferred even though it is more expensive.

Admittedly the sector offers employment to a good number of workers, but they are rarely entrusted with management tasks. One reason is the "risk" of their upward mobility thereby increasing the competition because many retail traders themselves have graduated from being labourers in scrap store.

4.2.1.1 Working Capital of Scrap Traders

One in ten scrap traders operates with daily working capital of more than Rs.1, 00,000. About half utilise between Rs.1, 000 and 3,000. No retail trader utilises working capital that exceeds Rs.5, 000 per day. Most use between Rs.1, 001 and 3,000. No stockist operates with less than a thousand rupees or more than Rs.25, 000. Most stockists use between Rs.1, 001 and 3,000. No wholesaler operates with less than Rs.3, 000 and 40 per cent use more than Rs.1, 00,000 .Two thirds of the traders are self-financed. Half of those who use borrowed capital source it from other scrap traders, mostly wholesalers. Sixty per cent of the retail traders rely on wholesalers for finance. In this case ***the credit market is tied to the product market.*** Co-operative banks and other institutional lenders are the source of finance for a third of the traders. Only 20 per cent of the retail traders access institutional lenders as compared with 75 per cent of the wholesale traders. No stockist avails of institutional finance.

RS, mixed mein and glass are low value commodities as compared to kraft-white record, bhangar-patra,fuga and bottles. Trade in the latter requires higher working capital. Almost all those who have a working capital of more than Rs.1, 00,000 trade these items. The maximum working capital outlay for mix mein, bhangar-patra and milk bags is Rs.50, 000. Other factors that influence working capital requirements are weights of the commodities and generation or overall availability of the commodity in quantity. The availability of mixed mein, glass, bhangar and kraft is much more than the other commodities as will be seen later in the report. Fuga and other plastic are very light in weight but high in volume.

Consequently, 2 out of 3 wholesalers in fuga operate with capital of less than Rs.25, 000.
Certain scrap commodities are not considered to be creditworthy by formal banking institutions including co-operative banks. Those trading in RS, mixed mein and milk bags claim they are not able to access banking institutions and are forced to rely on their own capital or source it from within the trade. Only those who deal in plastic, kraft, bottles and glass have received institutional finance.

4.2.1.2 Total receipts less trading expenses

The actual total monthly receipt from the sale of commodities, minus the total trading expenditure is calculated to assess the monthly income of each category of trader. The mean value is Rs.6, 500.71 for retail traders, Rs.23, 942 for stockists and
Rs.32, 627.63 for wholesalers (Tables 45,46,47).

The traders were also asked to estimate the daily earnings of categories of scrap collectors and scrap traders. Three out of every five wholesalers estimate the daily earnings of wholesalers to be between Rs.500 and Rs.1, 000, not very far removed from the mean. Three out of five stockists estimate the daily earnings of stockists to be between Rs.101 and 300.

4.2.1.3 Variation in the Earnings of Scrap Traders

The difference in the levels of earnings of the traders is primarily due to the trading margins, volume traded and composition of the commodities traded.

The trade margins (sale price minus purchase price) are higher but the volumes traded are lower per retail trade establishment, in comparison with that of the stockist. This holds true for all commodities. The reason for lower trade margins at the stockist level is that their average purchase price (composite of the retail purchase price and bulk purchase price from the traders) is higher.

At the wholesale trade level relatively larger volumes are traded and the margins are also higher.

4.2.1.4 Variation in Earnings within the Categories of Traders

The earnings of the scrap traders vary considerably in each category. Nearly three fourths of the retail traders earn less than the mean level of income of retail traders. The wholesalers and stockists who earn less than the average income are around 66 percent in each category.

This variability, at the retail level, is due to the difference in the size of operations and could also be due to the links of the bigger retail traders with the wholesalers, which result in higher trade margins.

At the wholesale level the variability is due to differences in the volume and type of commodities traded. ***The earnings are higher in commodities like bottles, bhangar, patra, Kraft and fuga and relatively lower in commodities like road scrap and mixed mein***. The commodity specificity in the earnings is primarily a function of the dynamics of the market for that scrap commodity. Like other inputs the demand for scrap is a derived demand. Hence, dynamics in the scrap market are a derivative of the demand supply dynamics in the product market for the commodity that uses the scrap as input.

At the wholesale trade level relatively larger volumes are traded and the margins are also higher.

4.2.1.5 Harassment Experienced by Scrap Traders

Retail scrap traders routinely face harassment from the police and municipal authorities. About 40 per cent of the traders report harassment from both these sources. One in every two non-bundle retailers complains of police harassment. Forty four per cent of the bundle retailers complain of municipal harassment. The sources of harassment vary according to the commodities traded. The non-bundle traders are accused of fencing stolen goods while the bundle traders are harassed for encroachment***.***

Very few establishments have been actually demolished by the municipality. None have suffered losses on account of arson or vandalism. One in five has caught fire. The proportion of bundle establishments in this is higher because paper and mixed mein are relatively more inflammable.

4.2.1.6 Perception of future prospects of the trade

The traders are equally distributed across those who believe the prospects of the trade are very bright, moderate and bad. The distribution is similar in the case of retail traders. There are more stockists (42 per cent) who feel the prospects are bad as compared to only 1 in 4 wholesalers. This is not surprising given the fact that the competition in the lower segments is higher than in the upper segment (Table 48).

4.2.1.7 Plans for expansion

Every second trader has no expansion plans. Of those who have such plans, 39 per cent want to expand the existing business. Retailers and wholesalers are equally distributed across this category. Every third retailer has plans to enter the wholesale trade as compared to every third wholesaler who wants to diversify into other sectors. Forty per cent of the stockists have plans to start reprocessing. Unlike for scrap collectors, perhaps the scrap trade is a stepping stone into other businesses for wholesalers (Table 50).

4.2.1.8 Views on forming an association

Almost three fourths of the scrap traders are inclined to organize. More retailers are inclined to organise than the other categories of traders. Understandably the wholesalers are the least inclined to organise. Several years ago the traders had attempted to form some kind of association in response to the unionisation of scrap collectors. However the organisation never did take off. Generally they rally together when there is an issue but this is mostly location specific and only till the immediate problem is resolved. This happened a few years ago when the municipal corporation took it upon itself to demolish all shops and commercial establishments in slums as part of an anti-encroachment drive.

4.3.0.0 Market Power in the Scrap Trade Market.

The earlier discussion highlights the heterogeneous nature of the scrap trade market. The market comprises trade establishments performing varying levels of trading activities. The competitive relations among each class, homogenous in terms of activity level, determine the market power. The ladder of level of trade activity where the class stands, determines the ability of the group to negotiate the terms of trade with higher and lower classes. There exists an element of non-price competition at all levels of trade like tying the sellers by way of giving advances.

At the lowest end is the market of retail trade where retail trade establishments are the buyers and scrap collectors are the sellers. The buyers' side in this market segment consists of exclusive retail traders as well as retail traders combining retail trade with stocking and wholesale. The middle level market segment comprises retailers combining retail and higher level of trading activity as buyers, and the exclusive retail traders as sellers. However, the buying selling transactions are complex in this market segment. There exists a buyer seller relationship within the group of buyers. Hence, ideally this segment should further be divided accordingly. At the top level buying selling classes are mixed and the clear distinction between buyers and sellers is difficult.

All the segments in the scrap trade market are open segments. The traders in each segment also buy scrap from institutions in the formal sector.

The base line data reveal that ***the retail trade segment of the market is effectively competitive*** as there are relatively large numbers of traders (214) in this segment. No single retail trader has control over the buying price of scrap. The primary data substantiate the fact that traders use other means of competition such as tying the scrap collectors by giving them need based advances and providing working capital to itinerant buyers.

The stockists and wholesalers have oligopsonistic powers. The market power differs across commodities depending upon the number and size of traders in each commodity. *The data show that* ***the market power is the highest in road scrap and the lowest in bhangar.*** This is reflected in their ability to hold down the prices of bulk buying.

The oligopsony power of the traders however does not imply that the prices are sticky upwards. That the rise in the prices of scrap does get transmitted to the bottom end, albeit marginally and with a time lag and

that the transmission of the ***decline*** in the price is however instantaneous and is to a greater extent, has been shared by the key informants in the scrap trade.

The range in the purchase price is smaller than the range in the sale price for all commodities, at all levels of the trading activity.

A few retail traders purchase certain commodities (beer bottles, quarter bottles, fuga and road scrap), at very low prices, but manage to sell them at the highest possible prices. In this case even if the quantities purchased are small, incomes are high.

4.3.1.0 Levels of Trading Margins in the Scrap Trade

During the period of data collection the average purchase price of RS and glass at the retail level has been within the range of Rs.0 .90 to Rs.1.0 per kg. The average purchase price for mixed mein has been around Rs.2.02 per kg. The prices for 1 No. mein were Rs.3.70 per kg. The prices for white, kraft and patra ranged between Rs. 3.20 to 3.50 per kg. Bhangar and phuga were sold at Rs.5 and Rs.9 per kg., respectively. The prices offered for quarter and beer bottles were Rs. 0.65 and Rs.2.00 per piece. The stockists offer similar prices for retail purchases from scrap collectors but offer higher prices for bulk purchases from the retailers.

The commodity-wise trading margins for all trading classes worked out from baseline data and the average purchase prices of these commodities indicate that except for No 1 mein the trading margins are on the higher side for the low-value commodities like road scrap, mixed mein, glass and quarter. The trading margins for these commodities lie in the range of 27 per cent to 37 per cent. In the case of high value commodities like kraft, White, Bhangar, Patra and Phuga the trade margins are highest in white (26 per cent) followed by fuga (23 per cent). The commodity-wise order of the trade margins is similar for the retailers, stockists and the wholesalers. The margins are obviously the highest at the wholesale level.

The above analysis of the salient features of the scrap trade market provides useful insights into the functioning of this market. ***The most important point for the present*** *study is the oligopsony power in the segment for higher levels of trading activity. This* ***power diffuses the spread effects of the price change of the commodity from the top level to scrap collectors, and has implications for any proposed market interventions***.

4.3.2.0 Daily Quantum Traded in Each Commodity

Two alternate estimates of volume traded are available. The first is the estimate from primary data and pertains to volume traded at retail level. These are the quantities collected by the scrap collectors. The second estimate is provided by the important traders in each commodity. Whereas the two estimates are similar in terms of total quantum traded the commodity-wise composition differs.

Commodity	Traders' Estimate	Survey Estimate
Mixed mein	**25 MT**	**14 MT**
1 No. Mein		**05 MT**
RS	**09 MT**	**13 MT**
Glass	**30 MT**	**19 MT**
Bhangar	20 MT	21 MT
Patra	05 MT	14 MT
Kraft	**50 MT**	**25 MT**
White record	05 MT	11 MT
'Plastic'	**01 MT**	**15 MT**
Milk Bags	**02 MT**	**03 MT**
Total	**147 MT***	**140 MT***

(excludes bottles that are traded in units)
***figures have been rounded off**

4.4.0.0 Sectoral Overview of Scrap Collection and the Scrap Trade

4.4.1.0 Sectoral View of the Employment Generated in Scrap Collection and Trade

The estimated total employment in scrap trade in the city (own account and hired) is 6064. This constitutes a little less than one percent of the total employment in the city. ***Of this 4594 (76 per cent) is in scrap collection, the lowest level of the activity.*** Of the 1470 employed in trading, 914 (62 per cent) are hired labourers. The majority is male. Of these 40 percent are employed in the retail trade, 35 percent in the wholesale trade and 25 percent in the stockist segment.

4.4.2.0 Sectoral View of Income Generated in Scrap Collection and Trade

The income generated (i.e. the value added which is equal to receipts minus trading expenditure), per month in Pune city in the scrap trade sector (during the reference period) is Rs.152.04 lakhs. ***The annual contribution of this sector to the total income generated in Pune is Rs.1848.24 lakhs. Half of this contribution amounting to Rs.74.41 lakhs is the labour of scrap collectors***. However, because of their larger number, the income generated per scrap collector is the lowest. The remaining half of the income is generated in the retail and wholesale trade. This amounts to Rs.77.63 lakhs. Of this, the share of wholesale traders is 55 per cent, and that of the retail traders and stockists, 22.5 per cent each.

The monthly income generated per trade establishment ranges from Rs.7,812 at the retail trade level to Rs.54,086 at the wholesale level. ***The income generated per establishment increases in a non-linear manner with the level of trading activity.*** The average value added is three times higher for stockists than retail traders. The value added per wholesale establishment is one and a half times higher than that for the stockist.

4.4.3.0 Sectoral View of Income Earned by Scrap Collectors and Traders

In the case of scrap collectors the income generated is equal to the income earned. The average earnings of the scrap collectors are around Rs. 1620 per month. Among these, the bhangarwalas earn the highest (Rs. 1950), followed by the scrap collectors (Rs. 1560). The lowest earnings in the group are of the dabbabatliwalis (Rs. 1300).

The income earned by all the traders (the difference between the income generated and the factor payments like wages, rent and interest) is Rs. 50.25 lakhs per month. The main component of the factor payment is the wage bill that is around 25 percent of the value added for all trading classes.

Half of the total income earned goes to the wholesale traders. The remaining half is distributed equally between the retail trade and the stockist. Average earnings per trade establishment per month range from Rs. 5645 to the retailers to Rs. 31569 to the wholesalers. Three out of every five wholesalers estimate the daily earnings of wholesalers to be between Rs.500 and Rs.1, 000. This is not very far removed from the mean.

The gap between average earnings of traders declines successively with the level of trading activity. ***The average earnings at the retail trade level are three and half times that of the average earnings of the scrap collectors. The stockist, on an average earns three times more than the retailer. The average earnings of the wholesale traders are one and half times higher than the stockists***.

The sole factor of production for wastepickers is labour. The total income earned by them is reward for their labour. The total share of the wage bill, which equals the sum of the wastepickers incomes and the wages of the labourers in the trading establishments, constitutes 44 percent of the total income generated in the sector. The itinerant buyers use working capital along with labour. The income earned by them is the sum of the reward for their labour and capital. The major share of this is, however, is the reward for their labour. If the income earned by the itinerant buyers is added to the wage bill the above percentage increases to 62.

So far we have analysed the dynamics in the scrap trade market. The manufacturers of recycled commodities are the forward linkages to this sector. What happens in the scrap trade market is shaped by the dynamics in the recycling manufacturing sector. We now turn to the analysis of the dynamics in this forward linkage sector which uses scrap collected in the city.

Figure 4.2.1 A Growth of the Scrap Trade

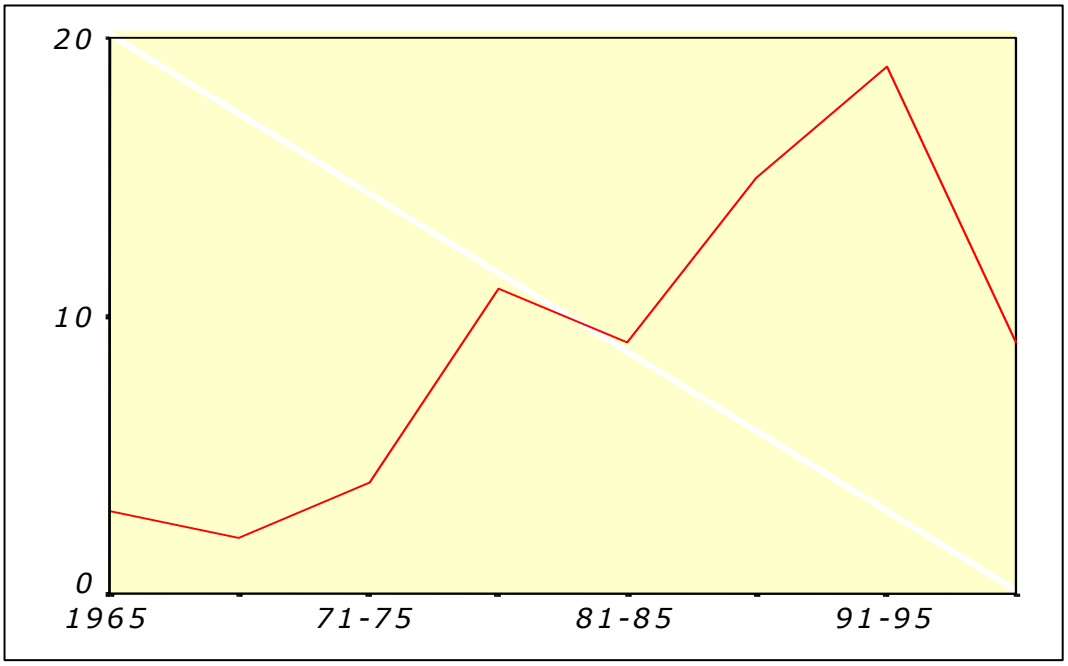

Figure 4.2.1 B : New entries into the scrap trade

Year of starting trading activity in relation category of trader
Number of traders
Year of starting trading
Before 1985
1990-1994
1995-1999
2000-2004
2005-2009
2010-2014
2015-2019
2020-2024
Retailer 2 0 2 3 6 10 6 7
Stockist 1 0 2 4 1 2 4 0
Wholesaler 0 2 0 4 2 3 6 2
0
5
10
15
Retailer
Stockist
Wholesaler

Table 4.2.1: Distribution of Trade establishments and Scrap Collectors by Area of Residence in Pune Metropolis

Geographical Area	Scrap collectors	Trade Establishments*
Shivaji Nagar	15.1	10.4
Yerawada	12.4	6.8
Dandekar Pool	11.3	11.2
Kothrud	8.0	2.8
Hadapsar	7.5	12.1
Pimpri	6.5	5.6
Gultekdi	8.7	10.0
Chinchwad	5.3	1.2
Bhawani Peth	6.5	8.0
Sahara Road	3.7	2.4
Nagar Road	3.4	3.6
Alandi Road	2.1	1.6
Gokhale Nagar	1.9	3.2
Aundh	1.7	2.0
Karvenagar	1.3	3.2
Nigdi	1.2	2.0
Bhosari	0.8	0.8
Other remaining areas	2.6	13.1

*Excluding Establishments located in Bazar.

Table 4.2.2: Composition of Retail Trade Establishments in relation to Categories of Traders in Major Trading Areas.

Area	Retailers	Retailers combing stocking & wholesale trade	Non-bundle Retailers	Non-bundle Retailers combing stocking & wholesale trade
Bhavani Peth	3.8	20.1	18.7	28.6
Dandekar Pul	17.5	22.8	9.4	21.4
Gultekdi	18.7	17.1	9.4	7.1

Hadapsar	12.5	17.1	31.2	28.6
Nagar Road	8.7	2.8	3.1	-
Shivaji Nagar	16.3	11.5	21.9	14.3
Yerwada	15.0	8.6	6.3	-
	100.00	100.00	100.00	100.00
Total Trade Establishment	74 (61)	35 (70)	32 (52)	14 (74)

Source: Baseline data.

Note: Figures in parentheses represent percentage to total trade establishments in the relevant category.

Table 4.2.3: Commodity-wise Average Purchase and Sale prices

Statistics	Commodity RS		Commodity Mein		Commodity Mein No.1		Commodity Phuga	
	Purchase Price	Sale Price	Purchase Price	Sale Price	Purchase Price	Sale Price	Purchase Price	Sale Price
Mean	0.82	1.10	1.94	2.37	4.45	6.22	8.23	9.95
Mode	1.00	1.20	2.00	2.50	3.00	4.00	8.00	10.00
S.D	0.26	0.30	0.37	0.36	2.11	2.72	1.13	1.08
Coefficient of variation	31.7%	27.3%	19.1%	15.2%	47.4%	43.7%	13.7%	10.8%

Statistics	Commodity White		Commodity Putha		Commodity Patra		Commodity Bhangar	
	Purchase Price	Sale Price	Purchase Price	Sale Price	Purchase Price	Sale Price	Purchase Price	Sale Price
Mean	2.74	3.40	2.72	3.24	3.14	3.72	4.79	5.35
Mode	3.00	3.00	3.00	3.00	3.00	3.50	5.00	5.50
S.D	0.51	0.59	0.43	0.46	0.28	0.45	0.39	0.46
Coefficient of variation	18.6%	17.3%	15.8%	14.2%	8.9%	12.1%	8.1%	8.6%

Statistics	Commodity Glass		Commodity Quarter		Commodity Beer	
	Purchase Price	Sale Price	Purchase Price	Sale Price	Purchase Price	Sale Price
Mean	0.97	1.29	0.60	0.77	1.90	2.20
Mode	1.00	1.20	0.50	0.80	2.00	2.25
S.D	0.12	0.17	0.11	0.10	0.26	0.23
Coefficient of variation	12.4%	13.2%	18.3%	13.0%	13.7%	10.45%

Source: **Baseline** **data.**

Table 4.2.4: Number of Trade Establishments combining retail trade, stocking and wholesale trade in different commodities.

Commodity	Number of Traders combining stocking and wholesale with retain trade activity	Number of wholesalers
Road Scrap	(9) 8	5
Mein	(8) 10	2
Fuga	(2) 5	18
White Pushta	(5) 7 (8)10	12
Bhangar & Patra	(10) 20	20
Glass	(2) 4	8
Quarter & Beer	(6) 13	16
Total	**77**	**79**

Source: Baseline data.

Notes : 1) Figures in parentheses represent buyers per 100 sellers in the Stockists market.

2) Total of traders in column No. 2 exceeds total number of traders in this category because some traders trade in more than one commodity.

Table 4.2.5: Average Purchase Price of the Transactions between Traders

Commodity	Purchase Price		
	Wholesalers	**Stockist**	**Other Retailers**
RS	1.17	(12.0) 0.97	1.10
Mein	2.28	(4.7) 2.34	2.45
Phuga	9.99	(-0.03) 10.17	9.86
White	3.37	(7.2) 3.08	3.32
Phushta	3.47	(5.8) 3.25	3.45
Patra	3.92	(5.5) 3.56	3.77
Bhangar	5.49	(1.9) 5.21	5.31
Glass	1.33	(3.8) 1.25	1.30
Quarter	0.76	0.76	0.77
Beer	2.25	(7.1) 2.08	2.24

Note : Figures in Parentheses are calculated as (col.(4) – prices in col.(3))/col.(4)*100.

Table 4.2.6: Types of establishment

Types of establishment	Retailer	Stockist	Wholesaler	Total
Household:Own account	**23** **59.0%**	**5** **35.7%**	**11** **57.9%**	**39** **54.2%**
Household:hired labour	**15** **38.5%**	**9** **64.3%**	**8** **42.1%**	**32** **44.4%**
Non-household	**1** **2.6%**			**1** **1.4%**
Total	**39** **100.0%**	**14** **100.0%**	**19** **100.0%**	**72** **100.0%**

Source: Survey Data.

Table 4.2.7: Type of establishment

Type of establishment	Retailer	Stockiest	Wholesaler	Total
Single owned/managed	**28** **71.8%**	**7** **50**	**10** **52.6%**	**45** **62.5%**
Single owned-manager hired		**1** **7.1%**	**2** **10.5%**	**3** **4.2%**
Family owned/managed	**10** **25.6%**	**5** **32.7%**	**7** **36.8%**	**22** **30.6%**
Family owned-manager hired		**1** **7.1%**		**1** **1.4%**
Any other specify	**1** **2.6%**			**1** **1.4%**
Total	**39** **100.0%**	**14** **100.0%**	**19** **100.0%**	**72** **100.0%**

Source: Survey Data

Table 4.2.8 Type of organisation

Type of organisation	Retailer	Stockiest	Wholesaler	Total
Individual proprietorship	**34** **87.2%**	**9** **64.3%**	**17** **89.5%**	**60** **83.3%**
Partnership Joint family	**4** **10.3%**	**5** **35.7%**	**2** **10.5%**	**11** **15.3%**
Co-operative society	**1** **2.6%**			**1** **1.4%**
Total	**39** **100.0%**	**14** **100.0%**	**19** **100.0%**	**72** **100.0%**

Source: Survey Data

Table 4.2.9 : Type of ownership

Type of ownership	Retailer	Stockiest	Wholesaler	Total
Wholly private	**38** **97.4%**	**14** **100.0%**	**19** **100.0%**	**71** **98.6%**
Any other specify	**1** **2.6%**			**1** **1.4%**
Total	**39** **100.0%**	**14** **100.0%**	**19** **100.0%**	**72** **100.0%**

Source: Survey Data

Table 4.2.10: Registration of establishments

	Retailer	Stockist	Wholesaler	Total
Registered	**37** **94.9%**	**14** **100.0%**	**14** **73.7%**	**65** **90.3%**
Not registered	**2** **5.1%**		**5** **26.3%**	**7** **9.7%**
Total	**39** **100.0%**	**14** **100.0%**	**19** **100.0%**	**72** **100.0%**

Source: Survey Data

Table 4.2.11: Method of occupation of space by scrap traders

Method of occupation of space wholesaler	Retailer	Stockist	Wholesaler	Total
Occupied free of cost	11 37.0%	3 23.0%	2 14.3%	16 28.0%
Occupied by payment to slum lord/local goon	4 13.3%	1 6.7%		5 8.8%
Occupied by payment to municipal councillor/PMC		1 7.7%	1 7.1%	2 3.5%
Occupied by payment to previous occupier	14 46.7%	8 62.0%	11 79.0%	33 57.9%
Purchased in open market	1 3.3%			1 1.8%
Total	30 100.0%	13 100.0%	14 100.0%	57 100.0%

NA 1 cooperative store.

Table 4.2.12: Type of structure in relation to category of establishment

Type of structure	Retailer	Stockist	Wholesaler	Total
Pucca	12 31.6%	3 21.4%	4 25.0%	19 27.9%
Semi pucca	10 26.3%	2 14.3%	9 56.55	21 30.9%
Kutcha	16 42.1%	9 64.3%	3 18.8%	28 41.2%
Total	38 100.0%	14 100.0%	16 100.0%	68 100.0%

N.A. 1 Co-operative store

Table 4.2.13: Floor area of establishment in relation to category of establishment

Floor area in sq.ft	Retailer	Stockist	Wholesaler	Total
Upto 100	7 8.4%			7 10.3%
101-200	17 44.7%	3 21.4%		20 29.4%
201-400	4 10.5%	3 21.4%	1 6.2%	8 11.8%
401-600	1 16.7% 2.6%	3 50.0% 21.4%	2 33.3% 12.5%	6 100.0% 8.8%
601-1000	4 36.4% 10.5%	2 18.2% 14.3%	5 45.5% 33.3%	11 100.0 16.2%
1001-2000	3 37.5% 7.9%	1 12.5% 7.1%	4 50.0% 25.0%	8 100.0% 11.8%
More than 2000	2 25.0 5.3%	2 25.0% 14.3%	4 50.0% 25.0%	8 100.0% 11.8%
Total	38	14	16	68

	55.9% 100.0%	20.5% 100.0%	23.5% 100.0%	100.0% 100.0%

Table 4.2.14: Use of open space during business

Area in sq.ft	Retailer	Stockist	Wholesaler	Total
Upto 100	26 74.0%	8 61.5%	8 72.7%	42 62.7%
101-200	8 22.9%	3 23.0%	1 9.0%	12 17.9%
201-400		1 7.8%	1 9.0%	2 2.9%
401-600		1 7.8%		1 1.4%
1001-2001	1 2.8%		1 9.0%	2 2.9%
Total	35 100.0%	13 100.0%	11 100.0%	67 100.0%

N.A. 1 Co-operative store

Table 4.2.15: Electricity

Electricity	Retailer	Stockist	Wholesaler	Total
Own meter	8 29.6%	10 83.0%	12 85.0%	30 56.6%
Rented	19 70.3%	2 16.7%	2 14.2%	23 43.3%
Total	27 100.0%	12 100.0%	14 100.0%	53 100.0%

N.A. 1 Co-operative store

Table 4.2.16: Telephone

Telephone	Retailer	Stockist	Wholesaler	Total
Owned	11 50.0%	10 71.4%	15 78.9%	36 65.5%
Shared	11 50.0%	4 28.6%	4 21.1%	19 34.5%
Total	22 100.0%	14 100.0%	19 100.0%	55 100.0%

N.A. 1 Co-operative store

Table 4.2.17: Ownership of transport

	Retailer	Stockist	Wholesaler	Total
Cycle	2 10		1 5.3%	3 5.8%
Two wheeler	18 90.0%	10 83.3%	12 63.2%	40 78.4%
L.M.V. (car)			1 5.3%	1 1.9%
L.C.V.(Goods carrier)/Heavy truck		2 16.7%	5 26.3%	7 13.7%
Total	20 100.0%	12 100.0%	19 100.0%	51 100.0%

N.A. 1 co-operative store

Table 4.2.18: Total value of equipment, premises, land

Total Value	Retailer	Stockist	Wholesaler	Total
0	**11** **28.9%**	**2** **15.3%**	**6** **35.0%**	**19** **28.3%**
Less than 1000	**1** **2.6%**	**1** **7.6%**		**2** **2.9%**
1000-2500	**2** **5.1%**		**1** **5.8%**	**3** **4.5%**
2501-5000	**3** **7.9%**	**1** **7.6%**	**3** **17.6%**	**7** **10.4%**
5001-10000	**3** **7.7%**	**1** **7.6%**	**1** **5.8%**	**5** **7.5%**
10001-25000	**1** **2.6%**			**1** **1.5%**
25001-50000	**1** **2.6%**	**1** **7.6%**		**2** **2.9%**
50001-100000	**10** **26.5%**		**2** **11.7%**	**12** **17.9%**
More than 100000	**6** **15.7%**	**7** **53.0%**	**4** **23/5%**	**17** **25/4%**
Total	**38** **100.0%**	**13** **100.0%**	**17** **100.0%**	**67** **100.0%**

Table 4.2.19: Daily working capital of scrap traders

Daily working capital	Retailer	Stockist	Wholesaler	Total
Upto 1000	9 (23.1)			9 (12.5)
1001-3000	24 (61.5)	8 (57.1)		32 (44.4)
3001-5000	5 (12.8)	1 (7.1)	3 (15.8)	9 (12.5)
5001-10000		3 (21.4)	1 (5.3)	4 (5.6)
10000-25000			1 (5.3)	1 (1.4)
25001-50000		1 (7.1)	5 (26.3)	6 (8.3)
50001-100000			1 (5.3)	1 (1.4)
More than 100000			7 (36.8)	7 (9.7)
No Response	1 (2.6)	1 (7.1)	1 (5.3)	3 (4.2)
Total	39 (100)	14 (100)	19 (100)	72 (100)

Table 4.2.20 Purchase and Sale Prices at Various levels of Scrap Trade

Commodity	Retail Traders		Retailsers & Stockists		Wholesale Traders	
	Purchase Price	Sale Price	Purchase Price	Sale Price	Purchase Price	Sale Price
RS	0.89	1.16	1.02	1.38	1.40	2.15
Mixed Mein	2.02	2.46	1.92	2.54	3.00	4.00
Phuga	9.24	11.29	9.08	11.35		
White	3.48	4.44	3.86	5.18	5.00	7.00
Phuta	3.34	3.93	3.37	4.31	4.65	6.45
Patra	3.26	3.83	3.30	3.86	4.25	4.50
Bhangar	5.02	5.58	5.06	5.72	5.75	6.00
Glass	0.97	1.11	0.98	1.26	1.45	2.45
Beer	1.95	2.19	1.89	2.16		

Source: Survey Data.

Table 4.2.21 Modal Purchase Prices and Percentage of Retail Traders Buying At Modal Price

Commodity	Range of Price	Coefficient of Variation	Modal Price	Percentage of Traders Buying at Modal Price
RS	0.50-1.00	20	1.00	70
Mein	1.50-2.50	12	2.00	77
Phuga	3.00-12.00	17	10.00	60
White	2.00-5.00	21	4.00	41
Pushta	2.50-4.00	14	3.00	38
Patra	3.00-4.00	11	3.00	60
Bhangar	4.00-5.00	4	5.00	86
Glass	0.50-1.00	10	1.00	92
Quarter	0.50-0.75	16	0.75	41
Beer	1.50-2.00	6	2.00	87

Source: Survey Data.

Table 4.2.22 Average Trading Margins of Retailers, Stockists and Wholesalers

	Retail	Retail stockist	Wholesale
RS	30	35	53
Mein	22	32	33
Mein No.1	16	-	-
Phuga	22	25	-
White	28	34	40
Pushta	18	28	39
Patra	17	17	6
Bhangar	11	13	4
Glass	14	29	69
Quarter	25	29	-
Beer	12	12	-

Source: Survey Data.

Table 4.2.23 Mixed Income of Self-employed in Scrap Trade (Income earned)

Activity	Scrap Collection	Retail Trade	Retail Trade & Stocking	Wholesale Trade	Total
Total Rs. (Lakhs)	74.41 (59.64)	12.08 (9.68)	13.02 (10.44)	25.25 (20.24)	124.76 (100.00)
Per Enterprise (Rs.)	1620	5645	19155	31569	13682

Note: Estimated from the survey data**.**

Table 4.2.24 Average monthly Income of Wholesalers

Sr. No.	Commodity	Income Earned per Wholesaler per month(Rs)
1	RS	12350
2	Mein	13000
3	Phuga	58200
4	Kraft	26893
5	Bhangar /Patra	62375
6	Bottles	31780
7	Glass	6450
8	Milk bags	8725
9	Glass and Kraft	11598

Note: Computed as simple average of monthly earnings of wholesalers of the commodity from survey data.

Table 4.2.25: Perception of future prospects of the scrap trade in relation to category of scrap trader

Perception	Retailer	Stockist	Wholesaler	Total
Very Bright	**13 (33.3)**	**4 (28.6)**	**7 (36.8)**	**24 (33.3)**
Moderate	**13 (33.3)**	**4 (28.6)**	**7 (36.8)**	**24 (33.3)**
Bad	**13 (33.3)**	**6 (42.9)**	**5 (26.3)**	**24 (33.3)**
Total	**39 (100)**	**14 (100)**	**19 (100)**	**72 (100)**

Table 4.2.26: Views on forming an association in relation to categories of scrap traders

Views	Retailer	Stockist	Wholesaler	Total
Inclined to organise	**32 (82.1)**	**8 (57.1)**	**11 (57.9)**	**51 (70.8)**
Not inclined to organise	**5 (12.8)**	**3 (21.4)**	**6 (31.6)**	**14 (19.4)**
Neutral	**2 (5.1)**	**3(21.4)**	**2 (10.5)**	**7 (9.7)**
Total	**39 (100)**	**14 (100)**	**19 (100)**	**72 (100)**

Table 4.2.27 Employment and Income Generated in Scrap Trade Sector

Activity	Scrap Collection	Retail Trade	Retail Trade & Stocking	Wholesale Trade	Total
Income per enterprise	-	7812	25942	54086	21075
Total Income in Rs.Lakhs	74.41 (48.9)	16.72 (11.0)	17.64 (11.6)	43.27 (28.5)	152.04 (100.00)
Income per worker (Rs.)	1620	2675	5265	8484	2507
Employment	4595	625	335	510	6064

Note: Estimated from the survey data**.**

Employment and Income Generated in Scrap Trade Sector

Activity	Scrap Collection	Retail Trade	Retail Trade & Stocking	Wholesale Trade	Total
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Total Income in Rs.Lakhs	74.41 (48.9)	16.72 (11.0)	17.64 (11.6)	43.27 (28.5)	152.04 (100.00)
Income per worker (Rs.)	1620	2675	5265	8484	2507
Employment	4595	625	335	510	6064

Mixed Income of Self-employed in Scrap Trade(Income earned)

Activity	Scrap Collection	Retail Trade	Retail Trade & Stocking	Wholesale Trade	Total
Total Rs. (Lakhs)	74.41 (59.64)	12.08 (9.68)	13.02 (10.44)	25.25 (20.24)	124.76 (100.00)
Per Enterprise (Rs.)	1620	5645	19155	31569	13682

Modal Purchase Prices and Percentage of Retail Traders Buying At Modal Price.

Commodity	Range of Price	Coefficient of Variation	Modal Price	Percentage of Traders Buying at Modal Price
RS	0.50-1.00	20	1.00	70
Mein	1.50-2.50	12	2.00	77
Phuga	3.00-12.00	17	10.00	60
White	2.00-5.00	21	4.00	41
Pushta	2.50-4.00	14	3.00	38
Patra	3.00-4.00	11	3.00	60
Bhangar	4.00-5.00	4	5.00	86
Glass	0.50-1.00	10	1.00	92
Quarter	0.50-0.75	16	0.75	41
Beer	1.50-2.00	6	2.00	87

Source: Survey Data.


Wholesale traders specialise in specific commodities
Stockists are retailers who also purchase scrap from other retailers
General
Non-Bundle
General
Non Bundle
General
Retailers are at the cutting-edge level in the trade

CHAPTER IV
SECTION III

REPROCESSING ENTERPRISES

A wide variety of enterprises utilise scrap commodities as raw material. In terms of size the range extends from small, registered enterprises in the case of mixed mein to medium size labour intensive small-scale industries for RS to the large modern automated multinational factories in the case of paper and glass. Many are located in industrial areas though not necessarily in industrial estates. All the enterprises utilise power, the most common form of power being electricity. Their capital investment varies from a few thousands to several hundred crores of rupees.

The production processes in the enterprises are automated to varying degrees. Manual processes are relatively higher in the processing of all kinds of plastic scrap whereas there is a high degree of automation in the processing of other commodities.

The daily scrap requirement in each enterprise ranges between 1 MT to 70 MT. This is procured entirely through traders, either registered dealers (RD) or unregistered dealers (URD). The quantum of utilisation of different scrap commodities is determined by the role played by the scrap in the production process. Some industries utilise only scrap, in others it constitutes a proportion of the total raw material input. The use of scrap often reduces costs and is therefore preferred unless cheaper or better quality substitutes are available. Some enterprises process scrap as a preparatory stage to reprocessing. The procurement prices of the scrap commodities vary from Rs.1800 per MT to Rs.7500 per MT depending on the quality of the commodity, transport costs and the terms of payment. The longest credit period is 90 days.

The absorption of labour in the enterprises varies from 15 in the smaller units to 800 in the larger units. The proportion of male labour is much higher than that of female labour. Generally adult males are employed in mechanised production processes. Female labour is preferred in manual production activities. The terms of employment are relative to the size of the enterprise. Those covered by the Factories Act, 1948 offer more favourable employment terms. There is no child labour in any of the industries.

The products manufactured by the enterprises are intermediate products that constitute the raw material for further processing or the end product itself. The consumers of products span the low-end rural segment to the urban elite and other industries. The products are either sold directly to industry or to other consumers through distributors.

Glass

Location and nature of enterprises

There is a strong presence of large public limited companies and multinational corporations in the glass industry. They co-exist with smaller private limited companies. The companies are located in urban industrial areas in Mumbai, Pune and Nasik. The enterprises have been in existence for three to four decades and the capital investment in plant and machinery is upto 200 crores. Production is the main activity. They do not engage in any trading. They operate in three shifts, each of eight hours duration. There are estimated to be about 20 large glass manufacturers in India, each with a capacity of 150 MT per day.

Processes and production details

The production process is fully automated and perennial in nature. The daily production is determined by the capacity of the furnace and varies between 100 to 160 MT. The major processes are smelting and blowing. The standard batch time is 48 hours. Colour segregated broken glass scrap, commonly referred to as “cullet” in the industry constitutes the raw material apart from silica, lime, soda and other commodities. “Cullet” reduces the melting point by half from 1300 to 1400 deg. Celsius to 600 deg. to 700 deg.celsius thereby reducing the energy costs. The proportion of “collect” is about 40 per cent of the total raw material input. Scrap generated as part of the production process is reused and constitutes about 10 per cent of the

total scrap input. "Cullet" is procured only through registered dealers at prices ranging from Rs.2, 600 to 2,800 for supplies from Pune. The maximum credit period for purchase is 30 days.

Labour
The strength of the workforce is between 700 and 900 including skilled and unskilled workers. The labour involved in production is mostly adult male. Majority of the workforce is permanent with all the statutory benefits. The workers that are not permanent are paid the minimum daily wage and are protected by the Mathadi Act.

Products and market segment
The main products are glass containers such as bottles that are directly supplied to the cosmetics, pharmaceutical and beverage industry.

Factors influencing the market

Glass manufacture is eco-friendly and has a bright future. The demand for 'collect' is ensured because of its potential to reduce costs and no possible substitutes. The increase in the manufacture of unbreakable PET plastic containers as a result of liberalisation has negatively affected the product market. This is believed to be short-lived because of increasing environmental consciousness.

Mix Mein

Location and nature of enterprises
Malegaon in the Nasik distrcit of Maharashtra is the main reprocessing centre for 'mixed mein' from all parts of the state. Solapur ranks second. Located about 300 km. from Pune, Malegaon is equidistant from Pune, Mumbai and Ahmednagar. There is a concentration of processing units at Kusumbi Road and Devi ka Mulla along the old Agra Road and at Manmad Phata. Although the three locations were initially residential areas, they have apparently been converted to industrial plots, demarcated and sold as such. There are estimated to be 200-250 small enterprises in the area. The area is not considered industrially backward. Many of the units have been registered since 1980 and new units are still being started. There has been a boom for the last ten years.

The Bank of Maharashtra and the Malegaon Merchants Bank have provided loans to the enterprises at annual interest rates of 18-19 per cent. The District Industries Centre has also waived sales tax for those who applied for the concession. Twenty per cent of the entrepreneurs have also subsidised their units through various government schemes.

The entrepreneurs are generally between 25 and 40 years old, Hindu and Muslim, either illiterate or with a school completion certificate. At least some of them (half a dozen from Pune) were retail or wholesale scrap traders prior to their entry into reprocessing.

The minimum area occupied by each unit is about 5000 sq.ft., some of it enclosed with corrugated sheets or concrete walls. The land rates are approximately Rs.200 per sq.ft. The units are almost never located within household premises. The constructed premises vary between concrete buildings and corrugated tin sheds occupying part of a large open ground covered with nets to prevent the plastic from flying away.

The enterprises are usually registered as small- scale industries and are proprietary concerns. They are not ancillary to parent industries even if they have essentially been born out of 'splits' and are supplying largely to pre-determined industries. Most of the enterprises are involved in production as well as trading. In fact frequently production has grown out of a trading link.

There are 2 kinds of units:

1. Those that clean 'mixed mein' after it is manually sorted and process it into "gatti's' (lumps) that constitute the raw material for further processing.
2. Those that convert some of the lumps (HM, LD etc.) into shreds, granules and mein pipes.

There are also enterprises combining both functions and having multiple units for each.

Investment in machinery and installed capacity

The average cost of the ''Jhatak'' machine, 'gatti' machine and motor is Rs. 1,00,000. The average cost of a pipe plant and motor is Rs. 2,00,000. The machinery is electrically operated. Maintenance cost Rs.3000/- p.m.

	Machine	Capacity/ 12 hrs	Cost of machinery
1	'Jhatak' machine	500 kg.	Rs. 12000-20000 + Rs. 8000 (motor)
2	'gatti' machine	250 kg.	Rs. 35000-100000 + Rs.8000 (motor)
3	Pipe plant (grinder, Shredder, mixer)	350 kg.	Rs. 1,30,000-5,00,000+ Rs. 20,000 (motor)

The raw material is mix mein (H) of the lowest quality procured from all over Maharashtra. The proportion of scrap used as raw material is 100 per cent. The procurement price for mix mein from Pune is between Rs.3.00-4.00 per kg. Transport costs from Pune to Malegaon are between Rs. 2,300 and Rs. 3,000 per truck loaded with approximately 5 MT of raw material. The transport costs of Rs.0.50 per kg. are borne by the reprocessors. There are seasonal and regional variations in the procurement prices of the raw material. Coastal Mumbai has a humid climate and high rainfall so the purchase price is sometimes less than Rs. 1.50 per kg. The price offered for mein from some parts of Pune and Nashik in the dry hinterland is 7.50 per kg. The daily quantum supplied from Pune is estimated to be 25 MT or 5 truck loads.

Although reprocessors are known to make forays into Pune for purchasing raw material when there is a high demand, most often the agency of purchase is the scrap trader. Some reprocessors see truckloads to assess the retrievable quantity then quote a price for the entire load. Others have fixed dealers who are promised a commission of Rs. 0.25 to Rs. 0.50 per kg. in order to ensure regular supply of raw material. The 'commission agents' share the major losses on account of poor quality of raw material. Payment terms are cash on delivery or within a week of purchase at the latest. All purchases are URD (unregistered dealers). Usually, both agents and enterprises have a good assessment of retrievable quality in each retail scrap shop in Pune and the procurement prices are fixed accordingly. For instance whereas generally Pune truckloads have around 50% loss of weight, the KKPKP shop and some others are rated to have only 35%-40% of retrievable material. These could be conservative estimates.

Processes and production details

After unloading the raw material is manually sorted and then run through the 'Jhatak' machine in lots to rid it of dirt. Labour is hired on a contractual basis for the above activities. The contractual amount ranges between Rs.1200-2000 and averages Rs.1, 500 per truckload.

The sorting and 'Jhatak' machine work continues for 8-10 hours a day, depending on the urgency and the convenience of those contracted for the work. Normally a truckload would require 3 women working for 9

hrs each per day for 10 days. The daily wage would be approx. Rs.50 for gruelling work, in the afternoon sun, under plastic nets that retain heat. The 'Jhatak' machine spews out find dust particles that coat everything and everyone around it. It is estimated that at least 1000 women would be employed for this work in Malegaon. It is a conservative estimate presuming the involvement of five women in the ongoing processing of one truckload per functional unit. Local estimates of the generation of employment for poor Muslim women from Uttar Pradesh and Maharashtra however, are pitched at 30,000 persons.

The installed capacity of the pipe plant is supposed to be 350 kgs. /12 hrs. However, the actual average is 200-250 kgs. /12 hours. The same quantum of raw material goes in and is melted and expanded as lumps. Only 1 per cent carbon is added for the making of pipes. The price of carbon is very low and comparable to that of scrap. Each truckload provides about 2,000 kgs of raw material segregated into LD, HM, WHITE, POLY AND BARDHAN all of which are shown separately in the table below. LD and HM 'gatti' are used to make pipe. PP is directly sold to traders and sent to Delhi for reprocessing.

Commodity		Proportion	Rate of end product In Rs. Per kg.
LD	500 Quantum	25%(16)	15-20
HM	500 (700)	25%	
White poly	300-400	20 (14)	9-14
Bandha	250	12 (9)	9-12
PP	300	16 (14)	

The units for 'gatti's and pipes work in 12 hours shifts interrupted by a longish lunch break and frequent power cuts. Some of the units work in two shifts, day and night, depending on their working capital that determines the availability of continuous supply of raw material. Wage rates are usually Rs.80-100 per day for male labour operating the machines. Migrant labour from Uttar Pradesh constitutes a high proportion because of the reprocessors' belief that "they are the only hard working labourers in India". All the units are closed for one day of the week.

It is universally agreed that labour is very cheap in Malegaon. Since contract labour is used there are no fixed hours of work and no supervision is required because the terms of payment are based on piece rates. The ready availability of cheap labour positively influence profit margins. Tapping of electricity, irregular payment of electric bills and occupation of land at no cost also contribute to the profitability.

Continuity in the production process is affected by transport problems, frequent power cuts, general lack of demand for finished goods or seasonal fall in demand during the monsoons and inadequate supply of raw material to cash flow problems. Several enterprises are not working to full capacity and are in various stages of closure. The entrepreneurs also complained that although immediate payment had to be made for purchase of raw material, 15 days credit had to be given for sales. This leads to problems in cash flow.

Product and market segment
Finished product: Finished pipes made of HM and LD are sold at approximately 23-28/Kg. Pipes for agricultural use are supplied largely through local dealers to Maharashtra, Madhya Pradesh, Uttar Pradesh and Rajasthan.

Factors affecting the market
The future is uncertain because of the recent ban on the manufacture and use of plastic of less than 20 microns made of virgin plastic and bags of less than 25 microns made of recycled plastic by the Government of Maharashtra (Government order: Annexure). This coupled with the anti-plastic campaign initiated by environmental groups may have an effect on the availability of raw material and ultimately the demand for recycled goods.

Plastic (phuga kadak cable chappal) Intermediate products

Location and nature of enterprises

Plastic is the collective term used for several kinds of polymers. At the most basic level of scrap collection and retail trade they are segregated into 'fuga' (blow moulded/ soft), 'kadak' (injection moulded/ brittle), cable (PVC pipes and cables) and 'chappal' (PVC).

The enterprises are located in Kondhwa, a suburb of Pune that has recently been included in the city limits. The units are situated in plots owned by the entrepreneurs who had acquired them many years ago when the land prices were much lower. There are estimated to be around 70 grinding units in and around the city.

The units are situated in large open, walled plots of 10,000-20,000 sq.ft. in which there is a constructed factory shed made of brick with corrugated tin roofing or a tin shed. The shed has different compartments for storing the goods after sorting. They are intermediate processing units, some started by large scrap traders with a view to forward integration and managed by the subsequent generation. They are usually registered as small-scale industries or shops and are proprietary or family owned concerns. Some of the units have been in existence for over 25 years though not in the same location. Others are about a decade old. The major activities are processing and trading and production is perennial.

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The entrepreneurs are young, aged between 25 and 40 years, Hindu and Muslim, high school educated and with no technical qualification but with practical knowledge of all the processes and different plastic commodities that is essential for sorting, grading and trading.

The cost of land and machinery is highly variable depending on the location and the type of construction. The electrically operated grinding machine itself costs only Rs. 30,000. The installed capacity of the grinder is 1 MTPD.

Processes and Production details

Plastic scrap is a low-weight high volume commodity and occupies a lot of space. It is first manually sorted by colour and type, and then mechanically ground, to facilitate transportation. The grinder is a low technology machine similar to the milling machine. It shreds the plastic so that it can be packed into sacks. Washing is also part of the process in some enterprises. Sorting is time consuming, fairly skilled work and done manually by adult women. The basic categories of sorting are.

'fuga': High density (HD), polypropylene (PP), low density (LD), high melting point (HM)
'kadak': polystyrene, HIP, ABS, SAM, acrylic
'cable': hard PVC, PVC toys, PVC conduit pipes, PVC agricultural pipes, water pipes
'chappal': hard PVC

Scrap constitutes 100 per cent of the raw material input. Each unit processes between 7 and 15 MT per month. The under utilisation of capacity is due to the time taken for sorting. Raw material is procured from retail traders. Sometimes the raw material requirement is also partly met through the direct purchase of industrial scrap. The proportion of industrial scrap never exceeds 50 per cent of the total scrap. Industrial scrap is of better quality but 'road scrap' is cheaper. The processor tries to achieve the optimum mix to ensure higher profitability. The procurement price from traders ranges between Rs. 6 and 8 for 'kadak' and Rs. 8 and 20 for 'fuga'. The terms of purchase are generally cash on delivery. Sometimes advances are also given to retail traders and stockists to ensure adequate supply of raw material. Some years ago fuga, kadak, cable and chappal were purchased as separate commodities because there was much greater demand for scrap and the prices were higher. With the sharp fall in prices and the near collapse of the plastic scrap market, processors now purchase all the items clubbed together as 'plastic' or as 'fuga' and 'kadak'.

Labour

Each unit employs between 8 and 15 casual, temporary or contract labourers either paid daily wages or according to piece rate. In any event the average wages work out to between Rs. 70 and 90 for male

workers and Rs. 35 to sixty for female workers. Generally, they work a single shift of 10-12 hours duration. Occasionally there is a night shift during which only grinding is carried out. A weekly holiday is given though not necessarily a paid holiday. Women are employed only for sorting. The men are primarily involved in machine grinding, washing, loading and unloading. Women are usually local while the men are migrants from Uttar Pradesh.

Shreds of different types of plastic are the products of processing. Only about 30 per cent of the products are reprocessed in Pune. The bulk is despatched to commission agents in New Delhi, the market centre for these commodities.

Factors influencing the market

Restrictions on the manufacture of plastic and other petroleum derivatives have been lifted in the post-liberalisation economy. Big players such as Reliance Petrochemicals and Indian Petrochemicals Limited started manufacturing Polypropylene (PP), PET and Polyvinyl chloride (PVC) from about 1994. The flooding of virgin plastic granules in the market at competitive prices has reduced the demand for plastic scrap. Even though the prices of the former are slightly higher, the product quality is better.

Imports of plastic scrap have been permitted in the post-liberalisation economy. Such imports depress the prices of locally available scrap. Reprocessors are able to import better quality plastic waste from developed countries by merely bearing the freight costs. This is an easy solution for countries unable to cope with the disposal of vast quantities of non-biodegradable garbage. The practice continues though it was banned after the intervention of environmental groups. The order states that the commodity cannot leave the port in the same form that it was imported. Several manufacturers have installed grinders at the Kandla Port in Gujarat in order to change the form into shreds and lumps.

New Delhi is the main centre for reprocessing of shreds into granules. Enterprises in New Delhi enjoyed several concessions till recently because of its status as a union territory. The leases taken at the time are still in place so land costs are less. Cheap migrant labour is easily available from the neighbouring state of Uttar Pradesh. Manufacturers in Pune demand high quality scrap and prefer to use virgin material, despite the cost differential.

Plastic (Granules) Reprocessing

Production of plastic granule is the first stage in the processing of plastic. Recycled granules are used as a basic raw material in the production of all types of plastic products that are used as parts of industrial and electronic items, packaging material and consumer goods. The enterprises recycling plastic fall into various stages of vertical integration in the production process. The lowest stage in the production process is granulation and the highest stage is the production of final products.

As per the estimate of Pune based key informants in the plastic industry, there are 32 to 40 small units around Pune producing recycled granules. The daily production capacity of these units varies between 0.2 and 0.5 MT per day. Most of the plastic enterprises at higher stage of integration of production activity are ancillary units. Some of them produce final products like containers the are middle range consumer items. Majority of the units are in the small-scale sector.

For the study one enterprise producing granules, one producing containers, caps etc. are selected. Both the units are small-scale and located in private industrial estates in the city.
The enterprise producing granules is a proprietorship registered under shop act. The production activity is spit in to two units separately in the same premises. This unit is in existence from 1978.

The enterprise is engaged in the production of recycled granules and the trade of virgin granules. The production activity is perennial. The unit works only in one shift of ten hours duration. Daily production is 0.2 MT. The raw material used is LD and HM. Raw material is directly purchased from bhangar feriwalas who collect the plastic bags from shops. Blow moulded items used as raw materials are mainly items rejected by factories. The purchase price of mein is Rs.15 per kg and that for blow moulded products is Rs. 25 per kg. The sale price of recycled granules ranges between Rs.25 and Rs. 40 per kg. depending upon the

quality. The daily requirement of raw material is 0.2 MT. All produce is marketed to plastic manufacturers in Pune.

The production process is relatively simple. The machinery costs around Rs 4.5 lakhs. The important stage to be monitored in the production process is degree of heat that determines the quality of granules.

The total employment is 6 comprising 4 males and 2 females. Male workers are paid Rs. 2700 per month while females are paid Rs 2200 per month. No other benefits are given to the workers.

The other unit studied produces multiple range of products ranging from containers to Rangoli pens. Its use of scrap varies from 50 to100 per cent depending on the product. The daily requirement of scrap is 0.45 MT out of which only 10 per cent of the granules utilised are produced within the factory. The price of virgin material is the decisive factor that determines the use of scrap in this sector. However, quality cost trade off is the ultimate determinant.

RS paper

Location and nature of enterprises

RS is processed both by small-scale as well as large industries. They are housed in 'pucca' factory sheds or buildings. Electricity is the motive power used in both kinds of units.

There are estimated to be at least 125 small units manufacturing grey board in Maharashtra, each having a capacity of 1-5 MT per day if operating in three shifts. They are usually proprietary concerns. They are usually low-technology, labour intensive, small-scale industries located in small towns. Production is perennial or seasonal depending upon their location. Those in high rainfall areas are closed during the monsoons. The cost of machinery and equipment is between Rs. 4, 00,000 and 7,00,000.

The larger composite units that manufacture mill board through automated processes are registered under the Factories Act, 1948. They are located in Aurangabad in Maharashtra and Tungabhadra and Ghataprabha in Karnataka. Each of these has installed capacity of between 10 and 30 MT per day and the production is perennial. They are either private or public limited companies. The investment is upwards of Rs. 1 crore depending upon the capacity and the technology.

Processes and production details

The composite mills use 100 per cent RS as raw material. The proportion of scrap used in the grey board mills ranges between 70 and 80 per cent, supplemented by bagasse sludge powder that is 17 per cent cheaper than RS. RS is considered to be irreplaceable because it aids the fibration process in the manufacture of paper. Both types of enterprises procure RS from unregistered scrap dealers. The purchase rates for the smaller units vary between Rs.1800/MT and Rs.2400/MT. The purchase price of the larger mills is about Rs. 3000/MT depending on the credit period. The maximum credit period for purchase is 30 days.

The processes involved in the manufacture of boards are pulping, rolling, pressing, drying and cutting. The smaller mills have more manual processes and the boards are sun-dried. The average daily production is 1 MT although the installed capacity is 2.5 MT per day. The entire process takes four days because a great deal of open space is required to spread the boards for sun drying. This is the main reason for the under utilisation of installed capacity.

Labour

The smaller mills work for a single shift of 8-9 hours duration and are closed for one day of the week. They employ between 12 and 20 casual and temporary workers. The daily wage rates range between Rs.60 and Rs.80 for skilled male labour and between 35-50 for unskilled female labour. Men are generally involved in the actual machine operation. Women perform the tasks of spreading the boards for drying and then stacking them.

The composite mills are automated to different degrees including the drying process. The more recently established ones have higher levels of automation. They work for three shifts, each of eight hours duration. They employ over 100 workers almost exclusively male and mostly permanent workers with all the attendant benefits. The wages average at Rs.150 for skilled workers and Rs.95 for unskilled workers. Local labour is employed in both kinds of mills.

The process generates about 20 per cent waste sludge. This is variously disposed of by drying and making fuel pellets or supplied to farmers for use as organic fertiliser.

Products and their market segment

The small-scale enterprises produce grey board for the low-end packaging market segment. This includes boxes for sweet meats and shoes. The sale price is about Rs. 4000/MT. The products are sold either to paper dealers or box manufacturers. The larger mills produce mill board, primarily for textile companies. The sale price of mill board is Rs. 12000 per tonne.

Factors impacting the market

Grey board and mill board have a huge market in terms of volumes. Seasonal factors influence the production process in small units relying on sun drying. The demand for mill board has been affected by the closure of textile mills. However demand from manufacturers of synthetic material still exists. Plastic carry bags are being used as substitutes for grey board boxes. The smaller units with more manual processes also complain of labour problems. Those units using scrap and producing upto 3500 metric tonnes annually did not have to pay excise until last year. The concession has now been withdrawn.

Kraft and white office record paper

Location and nature of enterprises

The are several manufacturers of corrugated board and newsprint located in rural areas within a 100 km. radius of Pune. They are public, private or deemed limited companies. They are modern automated enterprises and have been in existence for at least 15 years. The investment in plant and machinery ranges between 1 crore and 50 crores. One unit is ancillary to a parent enterprise. All have availed of term loans.

The units are registered under the Factories Act, housed in 'pucca' factory buildings and use electricity. Production is the main activity and it is perennial in nature.

Processes and production details

The processes involved in the reprocessing of kraft/corrugated board are pulping, rolling, pressing and corrugation. The larger units have corrugation machinery. Processing of white office record involves the same processes except corrugation.

The units work in three shifts, each of 8 hours duration. The installed capacity of the plants ranges between 12 MTPD to 60 MTPD, if operational for three shifts. The larger units are composite units processing both RS and Kraft or Kraft and white record. The percentage utilisation of scrap ranges between 80 per cent and 100 per cent depending on the size of the unit. The larger units import up to 70 per cent of their scrap requirement from Canada and Indonesia because of availability of high fibration value scrap in large

quantities, despite higher costs. They also use 20 per cent wood pulp. Local scrap is mostly procured from scrap traders at the rate of Rs. 7000- 7500/MT for white record and Rs. 5800-7000/ MT for kraft. The terms of purchase ranged between 60 and 90 days.

About 20 per cent of the output is waste sludge. Since it is organic it was sold to local farmers for use as fertiliser or fuel.

Labour
The size of the workforce varies between 100 and 400 depending on the size of the enterprise. All those employed for production are men. Women are engaged in office administration. Most are local residents, though some preferred labour from Uttar Pradesh because they "work harder".

Products and their market segment
The units produce plain or corrugated kraft paper. Some also produce newsprint. One unit also produces cream weave. The sale price of newsprint is about Rs. 23,000/MT, for Kraft paper is Rs. 12,000/MT and that for corrugated Kraft is Rs. 22000-28000/MT. 25 per cent of the products are reportedly sold in Maharashtra and 75 per cent outside the state.

Factors affecting the market
The units reported that earlier a refundable interest free capital incentive of upto Rs. 40 lakhs was made available to this sector. This is no longer in existence. Excise exemption to this sector has also been withdrawn in recent years. The Indian Association of Paper Manufacturers has been lobbying the government for re-instituting the exemption through the Mahratta Chamber of Industries and Agriculture.

Substitution of locally available scrap by imported scrap affects the demand for local scrap.

Iron and steel.

The total number of enterprises reprocessing bhangar and patra in the vicinity of Pune are around 8 and are all in the formal sector.

The two enterprises studied are located in the industrial zone outside the municipal corporation is demarcated as "C" zone. In terms of ownership one is family ownership while the other is a private limited company. One is registered under Factories act and the other under the Companies Act. Both are registered as small-scale units and thus have investment below Rs. one crore. The administrative offices are located in 'pucca' construction and the production is carried out in a factory shed. Both the enterprises have been started around the same time in 1995-96.

Both are basically production units and their production activity is perennial. The commodity produced is M.S.(mild steel) ingots and the scrap used is M.S. scrap. The rolling mills producing steel bars are the forward linkage for the M.S. ingots. The forward linkage for the bars is the construction industry. Thus fluctuations in the level of construction activity are transferred in to the demand for M.S. ingots. In the rainy season the demand for the product declines up to 10 percent.

The process of production is continuous and the average batch size is 5.5 MT, which results in to output of 5 MT within 2 to 3 hours depending upon the quality of the scrap. The standard batch size consists of a total of 2 MT of heavy iron, 1 MT turning, 0.5 MT patra, 1 MT sponge iron, 0.5 MT sponge iron chips and 0.5 MT tin. The daily capacity of the furnace is 48 MT per day. One enterprise works to full capacity in three shifts of eight hours each while the other works in two shifts producing two thirds of installed capacity.

For both the enterprises 80 per cent of input is scrap. Thus the daily requirement of scrap is around 42 MT and 28 MT respectively. The scrap is purchased from the wholesale traders in Pune. The scrap is purchased by paying cash or at the most on terms of one day credit. Out of total scrap ten percent is household scrap and 90 percent is industrial scrap. The rate of purchase per MT varies between Rs.6, 500 for heavy to Rs. 5000 for tin. The rate for patra is Rs. 6000 per MT.

The employment on the production floor is 70 and 80 in these two enterprises. The labour is from Uttar Pradesh , Bihar and Orissa. All labour is contract labour. Average wage is between RS. 2000 and RS. 4000 depending upon the level of skills required for the job. Besides wages, workers are given Diwali bonus. Both enterprises provide medical facilities to employees.

Bottles

Location and nature of enterprises

In the case of bottles there is no reprocessing in the real sense of the term. The bottles are washed and reused, primarily by soft drinks manufacturers and breweries and distilleries. In the latter segment there are franchisees of large Indian Made Foreign Liquor (IMFL) companies or country liquor manufacturers. Several bottling plants are located in Pune district itself, some even in the city. Many have been in existence for more than a decade. They are registered under the Factories Act, housed in 'pucca' factory buildings and use electricity. Production is the only activity carried out and the nature of operation is perennial. The investment in plant and machinery is in the range of about a crore of rupees. Production is the main activity. Ownership is generally private and the units are private limited companies.

Process and production details

The installed capacity is around 50,000 cases a month (1 case = 12 'Full' bottles or 24 'Half" bottles or 48 'quarter' bottles). The percentage of utilisation of used bottles varies between 20 and 100 depending on the market segment that the enterprises cater to. The franchisees are more particular about quality because they manufacture branded products. About 85 per cent of the requirement is for 'quarter' bottles. Capacity utilisation depends on the bottling contracts. The agency of purchase is the wholesale scrap trader and the credit period varies between 30 and 45 days. The procurement price of 'quarter' bottles Rs.1.10 –per unit, that of 'half" is Rs.1.60-1.65 and 'full' is Rs.3.20. The purchase price of used bottles is half that of new bottles. The process involves the washing of bottles prior to filling. The washing process is fully automated.

Labour

The units work a single shift of 8 hours duration. Each employs about 25-30 male workers all of whom are either permanent or minimum wage earning casual workers.

Products and market segment

Those without franchises from established breweries cater mainly to the rural segment and the urban poor. Those with franchises cater to more upmarket consumers.

Factors influencing the market

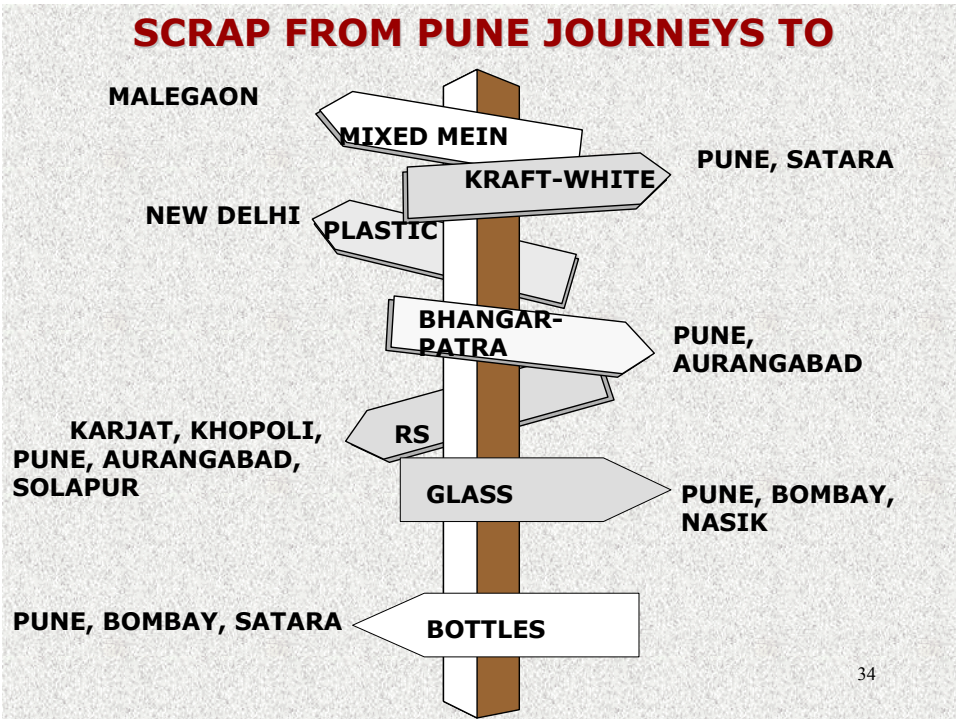
There is no dearth of a demand for liquor. Replacement of glass bottles by plastic bottles does exist but is not perceived as threatening the demand for used bottles. Seasonal differences in the consumption and consequent demand for liquor are factors that affect the market.

Figure 4.3.1

SCRAP RECYCLING ENTERPRISES

	Glass	Bottles	Bhangar -Patra	Mixed Mein	Plastic	RS	Kraft-White
Type	Factory Co.	Factory Co.	Factory Co.	SSI Prop.	SSI Prop.	SSI Prop.	Factory Co.
Process	Smelt Blow	Wash Fill	Smelt Cast	Clean Melt Granule	Sort Grind Melt Granule	Pulp Roll Dry Press	Pulp Roll Dry Press
Tech	Auto	Auto	Auto	Manual	Manual	Manual	Auto
% scrap used	40	20-100	70	100	100	70-100	30-100
Product & Market Segment	Containers Mid-High	Bottles Low-High	Ingots Mid-High	Granules Low	Granules Low	Grey Board Low	News-print Paper Mill Board Low

Figure 4.3.2



CHAPTER V

REVIEW OF LEGISLATION

In this chapter we will review all the laws, rules and regulations pertaining to the recycling sector and the respective implementation machinery. They deal with Municipal Corporation and urban solid waste, Environment and Labour respectively. The salient features of the laws are set out and the implications examined in the context of this study.

Section I: Laws, rules and regulations in respect of garbage collection and disposal

The Bombay Provincial Municipal Corporations Act (BPMC) of 1949

The Bombay Provincial Municipal Corporations Act (BPMC) of 1949 applies to the Pune and Pimpri Chinchwad Municipal Corporations. The civic bodies in these cities are mandated by the Act to provide for public receptacles for garbage, transport of garbage and its final disposal in such manner that is not detrimental in the interests of public health. Citizens are required to deposit garbage in the receptacles provided by the municipalities and placed in public areas. The municipalities are also required to undertake sweeping of public areas such as roads, markets and other open spaces; cleaning of gutters, drains and the sewage channels; and fumigation.

The Health Department of each municipality implements the provisions pertaining to conservancy (garbage collection, transport and disposal). A Health Officer assisted by several Assistant Health Officers heads the department. The other levels of staff include the Sanitary Inspectors, the Mukadams (supervisors) and the conservancy workers. Conservancy workers include sewage workers, sweepers and garbage workers.

Solid Waste Management in Class I cities in India
(Report of the Committee Constituted by the Hon. Supreme Court of India, March 1999)

The Hon. Supreme Court constituted a Committee for suggesting improvements in solid waste management practices following a Writ Petition filed by Ms Almitra Patel and another vs the Union of India (1996). The eight member committee was constituted in 1998 and was chaired by the then Municipal Commissioner of the Calcutta Municipal Corporation, Mr Asim Burman. The Committee had sought the recommendations of the Kagad Kach Patra Kashtakari Panchayat. These were forwarded both to the Chairperson of the Committee as well as to the Registrar of the Supreme Court. Other organisations such as SEWA (Self Employed Women's Association, Gujarat) were also asked to send recommendations.

These are reflected in the above report as under:

Waste- pickers and informal recycling and reuse

In India there is a large informal sector of rag-pickers who earn their livelihood from waste-picking from the streets, dust bins and waste dumps. It is estimated that these waste pickers pick up about 5-10% of the total waste produced in large urban areas and pass it on to the recycling industries through various levels of intermediaries. These rag pickers thus reduce the burden of local bodies by several million rupees a year in collection, transport and disposal costs, as well as the resultant saving of landfill space. This will also give value addition to recyclable waste and help in conserving national resources but their role has not been recognised by the society or by the authorities. Hundreds and thousands of rag pickers start picking up waste in the early hours from 4 am and carry on this work throughout the day. Despite this voluntary service which benefits both citizens and municipalities, waste-pickers are regularly driven out by the police and viewed with distaste and suspicion by the public at large and even some Courts. A large number of waste purchasers by this recyclable material from them at a very low cost and pass on the material to industry at a good profit. In spite of this the waste-pickers earn something between Rs. 15 and 50 per day. They generally pick up papers, plastic, metal, glass, rags etc. Besides the waste-pickers there are several

waste purchasers who move from house to house for buying reusable materials. A large network exists in the informal sector for the re-use and recycling of waste. An effort to organise the waste pickers is a difficult task as the people involved in purchasing recyclable material work against the interests of the waste pickers. Therefore, quite often efforts made to organise rag pickers are sabotaged by such vested interests. However, examples at Ahmedabad, Rajkot, Mumbai, Chennai, Bangalore etc. show that waste-pickers can be organised and can get better quality waste from the door step to give them a better living and much higher dignity of work as waste collectors (p.25).

Incentives to recycling industry

Over 10 % of the non-biodegradable waste produced is either reusable or recyclable. Part of this waste is collected by rag pickers yet a sizeable portion goes to landfill. In a poor country like India, such a huge quantity of recyclable material should not be allowed to go waste. Collection of recyclable waste can be encouraged. Besides encouraging rag pickers to collect such waste door to door, steps may be taken for promoting the recycling industry through several incentives such as the priority allotment of land, power and water, tax holiday for a few years, preferential purchase of recycled products by government and semi-government bodies etc. This will promote the recycling industry, provide employment opportunities in the informal and formal sector, help in the utilisation of waste and simultaneously save the cost of collection, transportation and disposal of such waste (p.75).

Legal Aspects

Duty of occupier of household/shop/establishment to hand over the recyclable material/ non-bio-degradable waste to the waste collectors/ waste purchasers/ recyclers

It shall be incumbent upon households,/shops/establishments to hand over their segregated recyclable waste/non-bio-degradable waste to waste collectors, waste purchasers or recyclers as may be convenient or as may be notified by the local body from time to time. Such waste shall not be disposed of on the street or in the municipal bins or open spaces along with the organic/food/bio-degradable waste (p.81).

Notwithstanding the above the Municipal Solid Wastes (Management and Handling) Rules issued by the Ministry of Environment and Forests, while noting the need for segregation of garbage at source, overlooks the role played by waste pickers in the collection of recyclable material (The Gazette of India: Extraordinary p.30).

Environment Protection Act, 1986

The Bio-Medical Waste (Management and Handling) Rules under the above Act came into effect in July 1998, following a directive issued by the Supreme Court of India. The rules apply to all persons who generate, collect, receive, store, transport, treat, dispose or handle bio-medical waste in any form. They prescribe the standards for and the methods of segregation, packaging transport and storage of bio-medical waste. The municipalities are the prescribed authorities empowered for the implementation of the Rules.

The Government Order banning the production and use of plastic bags of thickness of less than 20 microns made of virgin material and bags of less than 25 microns made of recycled material came into effect in March 1999. The municipalities are the bodies that are required to enforce the ban.

Wastepickers collect scrap from municipal bins placed in public areas according to the provisions of the above Act. Today they are able to access it because there are no other claimants for it. The ‘right’ of the wastepickers to collect scrap from the bin will be in jeopardy if garbage collection is privatised and/or if mechanical means are used for segregation. The question that arises is, “who owns garbage”. There seems to be no clear legal position on this. It can be logically argued that garbage belongs to the householder till it is deposited in the municipal bin. Thereafter, it is the property of the Municipality according to Section 291 of the BPMC Act, 1949. To the extent that the right to livelihood is a civil right, it would apply equally to contractors, in the event that garbage collection is privatised. The question of whose right prevails will be critical. It is possible to argue that waste-pickers have established their customary right to collect recyclable scrap and that should be protected.

Welfare measures that can be instituted by the municipalities for the welfare of scrap collectors

This study has established that even though the scrap collectors are not employees of the Pune and Pimpri Chinchwad Municipal Corporations, they are an integral but informal part of the solid waste collection system. Their contribution in economic terms is summarised below. The municipality is well within its rights vide section of the Bombay Provincial Municipal Corporation Act, 1949, to levy a welfare cess as part of the conservancy tax for institution of health and insurance welfare measures for scrap collectors.

Section II: Laws, rules and regulations in respect of labour in the recycling sector

A. Reprocessing enterprises

The reprocessing enterprises are mostly registered under the Factories Act, 1948. Those that are not are registered under the Shop and Establishments Act, 1948. The Factories Act regulates employment in any premises "where ten or more workers are working on any day of the preceding twelve months, and in any part of which a manufacturing process is carried on with the aid of power, or is ordinarily so carried on", or "where twenty or more workers are working, or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on without the use of power, or is ordinarily so carried on".

Broadly, the Factories Act provides for health, safety, welfare and leave to workers. It also regulates the working hours of adults and prohibits the employment of children. Most of the enterprises complied with the stipulations of the Act. The prescribed minimum wages are being paid to workers employed in all the enterprises registered under this Act. However, those that are registered as shops do not necessarily pay the prescribed minimum wages.

The other labour laws that are applicable to enterprises are presented in the table below along with the salient features. The status of implementation of each Act in recycling enterprises is beyond the scope of this study. It will suffice to say that the larger enterprises are more likely to comply with the provisions.

Title of the Act	**Salient features**
The Workmen's Compensation Act, 1923 (Applies to shops and factories)	Provides for payment of compensation by employers to their workmen for injury by accident
The Contract Labour (Regulation and Abolition) Act, 1970 (Applies to establishments employing more than 20 workmen as contract labour)	Regulates the employment of contract labour in certain establishments and provides for its abolition in certain circumstances
Payment of Bonus Act, 1965 (Applies to establishments employing more than 10 workers)	Provides for the payment of bonus to persons Employed in certain establishments on the basis of profits or on the basis of production or productivity
Maternity Benefits Act, 1961 (Applies to every factory and establishment)	Regulates the employment of women in certain establishments for certain periods before and after child-birth and provides for maternity and certain other benefits
Equal Remuneration Act, 1976 (Applies to all establishments)	Provides for the payment of equal remuneration to men and women workers and for the prevention of discrimination, on the ground of sex, against women in the matter of employment
The Employees' Provident Funds and Miscellaneous Provisions Act, 1952 (Applies to factories, trading and other establishments)	Provides for the institution of provident funds
Employees State Insurance Act, 1948	Provides for certain benefits to employees in case of

(Applies to factories)	sickness, maternity and employment injury
Payment of Gratuity Act, 1972 (Applies to shops and establishments and factories)	Provides for payment of gratuity to workers
Child Labour Prohibition and Regulation Act, 1986	Prohibits the employment of children below the age of 14 years in certain scheduled hazardous occupations and processes and regulates the conditions of work and wages in other establishments

The State Labour Department is the implementing authority for all the Acts pertaining to labour. In the Pune region, the Additional Commissioner, Labour assisted by several Assistant Commissioners and Inspectors enforces the provisions of the Act.

B. Scrap Trade Establishments

Almost all the scrap trade establishments are registered under the Bombay shops and Establishments Act, 1948. The Act extends to the entire state of Maharashtra and has been in force since 1961. It purports "to consolidate and amend the law relating to the regulation of conditions of work and employment in shops, commercial establishments, residential hotels, restaurants, eating houses, theatres, other places of public amusement or entertainment and other establishments".

The act provides for,

1. Regulation of hours of opening and closure to 8.30 a.m. and 8.30 p.m.
2. Daily and weekly hours of work not exceeding 9 hrs. per day and 48 hrs. per week.
3. Interval for rest: At least 1 hour of rest after 5 hrs. of continuous work.
4. Weekly holiday: 1 day per week
5. Weekly off to be a paid holiday even for daily wage labourers and piece rate workers provided he/she has been employed continuously for 6 days in that week.
6. Prohibits employment of children <15 years of age, applied also to family labour.
7. Young person to have break a 1 hr after 3 hours of work equivalent to daily wages.
8. Leave: 5 days paid leave after 60 days of work.
1. 21 days paid leave after 240 days of work
9. Compulsory paid holidays on 26 Jan, 1 May, 15 Aug and 2 Oct.
10. 1/2 payment for leave period to be made prior to commencement of leave.
11. Workmen's compensation Act, 1923 to apply to employers.
12. Application of Maternity Benefit Act 1961 for women employees

Conditions of work

1. Cleanliness
2. Ventilation
3. Lighting
4. Precautions against fire
1. First Aid

The Equal Remuneration Act, 1976 stipulates that "no employer shall pay to any worker employed by him in an establishment or employment, remuneration, whether payable in cash or in kind, at rates less favourable than those at which remuneration is paid by him to the workers of the opposite sex in such establishment or employment for performing the same work or work of similar nature."

The basic minimum monthly wage rates as provided for by the Minimum Wages Act, 1948, for workers in establishments covered under the Shop Act for Pune (Zone I) are Rs.1900 for skilled workers, Rs1800 for semi-skilled workers and Rs.1700 for unskilled workers. The special allowance payable to such workers is Rs.385 per month. There is no separate notification for scrap trade establishments.

The data show that whereas the male workers are paid the prescribed minimum wage or above that the female workers are not. The provisions of the Equal Remuneration Act are also not complied with. The Shop Act provides for a weekly and other paid holidays. Only the male workers are given a weekly holiday that too with half-pay. No other paid holidays are given even if the worker has been employed continuously for more than 60 days as provided for in the Shop Act. Since even the most basic provisions related to wages and paid holidays are not complied with it is unlikely that those pertaining to Maternity Benefits and Workmen's Compensation will be.

The conditions of work in the scrap establishments have already been described in the previous chapter. They do not meet with the requirements stipulated in the Shop Act. Actually, the workers employed by the traders in these establishments fall very much within the ambit of the Mathadi Act as the work performed by them is similar to that of the hamals.

C. Scrap Collectors

Scrap collectors are not protected by any labour legislation. An overview of the existing laws pertaining to the informal sector is necessary if some form of legislative protection for scrap collectors is to be considered. While the first two are central legislations, the others are applicable only to the respective states specified in the title. The relevant Acts are listed below.

1) Beedi and Cigar Workers (Conditions of Employment) Act, 1966 provides for the welfare of the workers in beedi and cigar establishments and regulates the conditions of their work.

2) Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 regulates the employment and conditions of service of building and other construction workers and provides for their safety, health and welfare measures.

3) The Tamil Nadu Manual Workers (Regulation of Employment and Conditions of Work) Act, 1982 regulates the employment and conditions of work of manual workers listed in the schedule of the Act. Ragpicking is listed in the schedule (p.24). From January 2000 onwards domestic work has also been included in the schedule. However, the welfare schemes instituted under the Act apply only to construction workers (1994), rickshaw and taxi drivers, washermen, hair dressers workers, tailoring workers, handicraft workers and palm tree workers (2000).

4) The Kerala Headload Workers Welfare Board regulates the employment of head-load workers. It acts as the agent for supplying head load workers to employers as and when they require. The wages payable by the employers to the workers, are paid to the board. In addition to the wages, the board collects a levy from the employers which is a percentage of the wages payable. The amount of levy is determined by the board and is collected to meet the commitments towards EPF,ESI, Bonus, Maternity Benefits etc. Boards also exist for abkari workers, cashew workers, construction workers, handloom workers, motor transport workers, toddy workers, agricultural workers, artisans and skilled workers, auto rickshaw workers, tailoring workers, coir workers and labour workers. Every board is created under a separate Act and the Rules and Schemes framed thereunder.

5) The Maharashtra Hamal Mathadi and Other Unprotected Manual Workers (Regulation of Employment and Welfare) Act, 1969 was enacted by the Maharashtra Government with the specific intention of protecting manual workers in insecure employments. The Act purports to regulate the employment of unprotected manual workers such as Hamal, Mathadi etc., to make better provision for their terms and conditions of employment, to provide for health and safety measures where such employments require these measures; to make provision for ensuring an adequate supply to, and full and proper utilisation of, such workers in such employments to prevent unavoidable unemployment; for these and similar purposes, to provide for the establishment of boards in respect of these employments in the different areas of the state.

The Mathadi Act defines the category of 'unprotected worker' as a 'manual worker who is engaged or to be engaged in any scheduled employment'. It further defines worker as, "any person who is engaged directly

or through any agency, whether for wages or not, to do manual work in any scheduled employment and***, includes any person not employed by any employer or a contractor, but working with the permission of, or under agreement with the employer or contractor***; but does not include members of an employer's family" (italics are by the authors).

The 'nature of work' as defined by the Mathadi Act specifies operations and includes 'catching, collecting, sorting, packing, unpacking, loading, unloading, weighing, measuring, stacking, carrying, stitching, cleaning, filling or any such other work including work ***preparatory or incidental*** to such operations'(italics are by the authors).

The Act provides for compulsory registration of employers and workers, with a Statutory Board. The constituents of the tripartite Board include representatives of the employers/traders associations, the trade unions of employees and the State. The costs of administering the Board are defrayed through a levy payable by the employers. Wages are deposited with the Board by the employers along with the levy. The levy includes the employers' contribution towards provident fund, paid leave, gratuity and other statutory benefits. The Board deducts the workers contribution and makes the wage payment to the worker. Since traders do not require a constant number of workers, the Act allows for multiple employers and payment on the basis of work done (piece rate). Engagement of unregistered workers by unregistered employers is prohibited under the Act. The wage rates are negotiated between the trade unions and the employers associations.

The Act applies to a list of scheduled employments specified in the Act, in industries, factories, markets, shops and other establishments notified by the government. Those covered include grocery, iron and steel, railway yards and goods sheds, agricultural produce, timber, chemicals and fertilisers, goods transport, fishing, salt pans, metals (excluding iron and steel) and paper.

The Act provides for inclusion of other employments in the schedule with suitable modifications as may be specified in the notification, if there is a demand from either the employers or the workers.

In the three decades since its enactment, the Act has greatly benefited the workers registered under it. Till March 1995, 29 Boards had been established in the state with 1,62,838 registered workers and 53,086 registered employers (Hamal Mapadi Varta, 1995). Other states have tried to emulate the Act with lesser degree of success. Even within Maharashtra, the efficacy of the Act is directly proportional to the organised bargaining strength of the workers. The implementation has been difficult in districts where the trade unions have been weak.

To that extent the Mathadi Act is the only Act that by intent is committed to the protection of otherwise unprotected workers. It is not sector specific, but applies to various commodity markets in specific geographical areas. It has a very broad and inclusive definition of 'worker'. For example a 'hamal' who carries goods purchased by a customer from the establishment to the transport vehicle is paid by the customer or by the employer who recovers it from the customer. The Act regulates employment and the conditions of work and the welfare measures but does not prescribe wages. Wage rates (daily, monthly or piece rates) are determined by negotiations between the trade union and the employers. This allows for variability in wages according to diversities in each commodity market. The rate of levy payable by the employers also varies from district to district. The present rate for Pune is 30 per cent. This means that if a worker is paid a daily wage of Rs.100 the employer has to deposit a sum of Rs.130 with the Mathadi Board. The 30 per cent is distributed between employers contribution to provident fund (3 per cent), Gratuity (7 per cent), Paid leave (5 per cent), holidays (5 per cent), Diwali 'bohari' (40 per cent), compensation (medical and insurance 3 per cent) and administration (8 per cent).

The State Labour Department implements the Mathadi Act and the Additional Labour Commissioner is Chairman of the Board.

Salient features of scrap collection and the supply of scrap to recycling enterprises

Scrap collectors are generally believed to be self-employed because there is no explicit, legally tenable employer-employee relationship between the scrap collector and the scrap trader. Nonetheless, this study has established that there does exist a regular, continuous and long-term relationship between the scrap collector and the scrap trader. The facts are reiterated below.

- 65 per cent of the itinerant buyers receive their daily working capital from retail scrap traders and 28 per cent are provided push-carts by the latter.

- 60 per cent of the scrap collectors have been transacting with the same retail scrap trader for more than five years and only 12 per cent have been transacting with the same trader for less than a year. This has been corroborated by the responses of the scrap traders. Fifty out of 55 scrap traders reported that they had scrap collectors with whom they had been transacting for more than five years.

- 35 per cent of those who have been transacting with the present retail scrap trader for less than three years did so only because the former trader either closed the business or shifted the establishment to another location.

- 59 per cent of the scrap collectors receive an annual festival 'bakshish'/ bonus from the retail scrap trader.

- 55 per cent of the scrap collectors were given small need based advances by the retail scrap traders and 14 per cent received large advances during extended periods of closure. 18 per cent received monetary assistance during death or bereavement in the family. 21 per cent of the scrap collectors have been assisted by the retail scrap trader in resolving work related conflicts.

- The scrap market is a commodities market similar to trade in other commodities. Some of the commodities traded such as paper and metal, are already included in the Mathadi Act.

At this point it is important to make a distinction between self-employed workers such as owner-rickshaw operators and street vendors, and those workers such as scrap collectors, piece-rate garment workers, contract construction workers, piece rate assemblers of electronic and other goods, piece rate packers of a variety of products, beedi rollers and domestic workers who have a regular, continuous, long-term relationship with traders/contractors/industries that is not an explicit employer-employee relationship.

Prior to the enactment of the Mathadi Act, the traders disclaimed the existence of any employer employee relationship between themselves and the hamals. It is the Act that established and formalised the relationship between them. In fact the ‘employers’ sought legal recourse each time the Act was applied to a trade. The courts have successively upheld the rights of the workers.

Based on the above the authors' argue that there is a relationship between the scrap collectors and the scrap traders that has the elements of an employer-employee relationship. It could therefore be considered an implicit relationship that can be established by the application of the Mathadi Act to scrap collectors. This is the Act that seems to hold the most promise for scrap collectors.

CHAPTER VI

INTERVENTIONS INTRODUCED DURING THE STUDY

The interventions undertaken during the study are related to health and occupational health and institutional waste segregation. In each area, the interventions that pre-date the study have been mentioned separately to place the interventions undertaken during the course of the study in a proper context.

Area I: Health and Occupational Health

Interventions that pre-date the study

1. Mobile Health Clinic

The Spicer Memorial College extended the services of a fully equipped mobile health van staffed by a doctor to wastepickers from 1994 to 1997. Initially the van frequented two slum areas with high density of wastepickers. The wastepickers were at work in the mornings and did not find it convenient. The location was changed to select work sites. However, mornings being the peak hours for scrap collection, wastepickers were reluctant to take time away from scrap collection. The problem was compounded by the dispersed location of work sites. The doctors were unable to change the timings and the service was discontinued.

2. Provision of face masks and gloves

The Spicer Memorial College gave a few women at the Kothrud dumping ground face-masks and gloves. They were too embarrassed to wear the masks and found the gloves inconvenient.

3. **Extension of facilities of the General Wards** at the Jehangir Nursing Home and Bharati Hospitals to certain needy wastepickers. The service still continues.

4. **Reducing costs incurred by the wastepickers** at the Sassoon General Hospital and Aundh Chest Hospital through linkages with the Medical Social Worker. The service still continues.

5. **In-situ medical check-ups of wastepickers through a team of doctors from Sassoon General Hospital.** Several hundred women underwent the medical check-up. However, it was impossible to conduct a complete medical check-up in the slum itself. Medical records could not be maintained because of the pressure of numbers. The doctors were seen to be prescribing without checking the patient thoroughly because of the pressure. The practice was discontinued.

6. **Free treatment of wastepickers** living at Pimpri-Chinchwad at the Yeshwantrao Chavan Memorial Hospital of the Pimpri-Chinchwad Municipal Corporation. The service still continues.

Interventions introduced during the study

1. Empanelment of Private Medical Practitioners

The Ranade Foundation, a local philanthropic body approached the Kagad Kach Patra Kashtakari Panchayat with a proposal for the above. The Foundation procured kits consisting of basic generic formulations from Locost, Ahmedabad. Three doctors have been empanelled as part of the experimental scheme as follows.

Dr. Abhijit Vaidya, Consulting Physician
Dr Makarand Paranjpe, Consulting Surgeon
Dr (Ms) Paranjpe, Consulting Gynaecologist

No consultation fees will be charged from wastepickers. Medications from the kits will be dispensed. Prescriptions will be provided for medications other than those in the kit. Diagnostic tests will be carried out at subsidised rates whenever required.

The scheme began in July 2000. Thirteen wastepickers have been referred.

2. HIV-AIDS testing by National Aids Research Institute

Since wastepickers are considered to be a high-risk group, the NARI approached the KKPKP for testing of members. The idea was put to the wastepicker representatives at the monthly meeting. After they agreed, 59 representatives were tested on June 16, 2000. Three out of fifty nine tested positive. Since the proportion of 5 % is quite high it is proposed to extend the facility to the slums with high populations of wastepickers.

3. Free Medical check-up and treatment of wastepickers and their families in Pimpri Chinchwad

The service earlier provided to wastepickers has been extended to their spouses and two children. The number of hospitals has also been extended to 4 hospitals in order to cover a greater geographical area including Pimpri, Chinchwad, Nigdi and Bhosari from 14 August 2000.

4. Creating a Data base on Health of Scrap collectors

Discussions are underway with the PCMC Health Department to ensure complete health check ups of all scrap collectors in their jurisdiction. A system of cards to document their current health status and update it at regular intervals is being developed.

Area II: Collection of Segregated Garbage

Interventions that pre-date the study

1. Promotion of garbage segregation at source and its collection by wastepickers**,**

was started by the Department of Adult Education, SNDT Women's University in 1991. This was even before the formation of the Kagad Kach Patra Kashtakari Panchayat. Initiated primarily in residential areas, the wastepickers found it more convenient and lucrative. It assured them access to better quality scrap that could be collected in a shorter period of time in better working conditions. Subsequently, the scheme was extended to institutional generators of scrap such as hospitals, hotels, offices and educational institutions. Three major problems were encountered.

a) Inability on the part of the implementing organisation to undertake a sustained campaign due to the imperatives of grass-root action and inadequacy of personnel
b) Lack of institutional commitment to waste segregation and the need for constant follow-up
c) Sale of scrap by institutional generators of scrap

This was addressed by encouraging wastepickers to bid for scrap. This was not necessarily successful because of unfair business practices used by the traders. However, wastepickers do continue to collect or buy scrap from certain offices and institutions.

2. Collection of segregated hospital waste

Based on the Supreme Court directives on disposal of medical waste and the Rules passed by the Ministry of Environment and Forests on the same subject in 1998, the Pune Municipal Corporation issued a notification to hospitals. Wastepickers bearing identity cards endorsed by the Pune Municipal Corporation were assigned to hospitals for the collection of segregated and mutilated plastic and other scrap. A list of 487 registered hospitals was provided by the PMC in June 1999. While about half still continue to give scrap to the wastepickers, the rest prefer to sell it to itinerant buyers or traders.

Interventions introduced during the study

1. Collection of segregated scrap from schools and other educational institutions

The recent ban on the use of plastic bags of less than 20 microns and the anti-plastic campaign has led to a great deal of public discussion about the use and appropriate disposal of plastic. Using this opportunity a fresh attempt to initiate waste segregation in schools was introduced in July 2000. One person has been employed specifically for the purpose. Till date 50 schools have been contacted. At least three visits per school are required to convince the school authorities and contact and assign a wastepicker to set up the system. Each school has been given two-three sacks carrying the relevant message, in which the scrap is to be deposited. As word is spreading, schools as well as other institutions are expressing their willingness to buy these sacks themselves. The process has also helped to strengthen the image of wastepickers in the public eye.

III. Trade related interventions

Interventions that predate the study

The Association of scrap collectors has been running a scrap cooperative in the PCMC area for its members. The 50 members who sell their scrap in this store get an annual

bonus of around 8% from the profits of the shop. The shop has already registered a profit of more than 100% in the two years of its functioning.

Interventions undertaken in the course of the study

Discussions at the preliminary level with traders, wholesalers and reprocessors have demonstrated their willingness to purchase directly from the scrap store at competitive rates. Although no direct tieups have been finalised with any reprocessor, some of the items are fetching a higher rate due to the transparency in the rates now.

D. Strategising Intervention: Some debates

All research studies such as this should feed into policy. When interventions that pre-date the study already exist, the findings of the study would be expected to add to those interventions. The research study of the recycling sector substantiates the insights gained in the course of organising scrap collectors. It also adds new dimensions to the existing interventions being implemented by the Kagad, Kach, Patra Kashtakari Panchayat and the S.N.D.T. Women's University. At this stage of the draft report the authors prefer to raise issues and table some of the dilemmas regarding possible interventions for discussion, rather than recommendations.

XVI. Recognition of scrap collectors as socially useful, economically productive and unprotected manual workers

The environmental and economical contribution of scrap collectors is clearly established and quantified by this study. As also their unpaid assistance to Municipalities, in dealing with the problem of urban solid waste. The logical outcome of this recognition should be the registration of scrap collectors as ***'unprotected manual workers'*** and endorsement of their status by Municipalities. This has in fact been one of the recommendations of the Supreme Court Committee on Solid Waste Management. The Pune and Pimpri Chinchwad Municipal Corporations have already recognised scrap collectors in the city by endorsing the identity cards issued to them by the union. However, extending the same scheme to other municipalities is not an easy task. Administrators of other local self-government bodies are anxious that such an act will open the door for larger demands by scrap collectors for absorption as conservancy staff in the municipalities. In the light of zero recruitment and downsizing of existing staff, they are reluctant to take even such a basic move as endorsement of identity cards to improve the status of scrap collectors.

Improvement in the Conditions of Work (GRASP)

appalling conditions of work of scrap collectors, wastepickers in particular, generate much concern and sympathy. ***Source segregation of garbage and doorstep collection by wastepickers is an alternative that assures them access to scrap without having to forage through putrefying garbage.*** It offers them access to better quality scrap with fewer hours of work, as well as relatively more hygienic working conditions. Campaigning for garbage segregation has also been recommended by various committees. Such an intervention (GRASP) has been initiated in Pune since 1991.

The hidden risks of promoting compulsory source segregation of garbage are already becoming obvious to the Scrap Collectors' Trade Union in Pune.

2. Ensuring complete source segregation of garbage necessarily means effecting a change in the long established garbage disposal practices of 25,00,000 citizens varying in age, culture, socio-economic status, education and language by convincing them about the benefits of such a programme. In order to succeed any such campaign has to be long-term, decentralised and mandated by the local self-government.

3. At another level, wastepickers themselves have to be convinced that segregation of garbage at source is useful. Citizens expect them to adhere to a strict work routine that they are not accustomed to. Wastepickers are used to less structured hours of work and take the day off whenever necessary. A strict work routine does not always seem attractive to them initially.

4. Payment of a service charge by citizens to wastepickers for daily doorstep collection of garbage, helps in regulating habits of both wastepickers and citizens. While it formalises the relationship between them, it also introduces the question of accountability. When the street wastepicker becomes a regular morning feature at the doorsteps of middle class citizens, their sympathy for her is gradually replaced by displeasure at her impunctuality or irregularity. It is not uncommon to hear citizens say "wastepickers take advantage of us although we are paying them well".

5. If 100 % segregation of garbage does become a reality, the wastepickers' claim, to segregated "dry" recyclable waste will need to be protected. No one but a poor Matang, Buddh or Mahar woman will go into garbage foraging through garden cuttings and sanitary napkins to retrieve scraps of paper and plastic from dal, rice, hair. However, segregated recyclable waste is an attractive source of income to the Maratha domestic help/ watchman/ gardener and maybe even the Brahmin housewife.

Regulating entry into scrap collection

Access to scrap is the most frequently voiced problem of all scrap collectors. "Every other person takes a sack and becomes a wastepicker" they complain. In the context of limited generation of garbage and the consequent access to scrap, limiting the number of entrants or at least restricting entry seems to be a necessary alternative. Municipal corporations would also require a specific number if they are to endorse the status of scrap collectors.

This raises ethical issues about the justification for such a move. In most occupations/professions, the older players are threatened by competition from new entrants. That does not prevent fresh entry. In the case of engineers, doctors, lawyers and rickshaw drivers entry is automatically regulated to some extent because of the entry level requirements and costs, limited absorption capacity of the educational institutes or licences issued by the State or the availability of jobs in the labour market.

Restricting entry could also be seen to reinforce the caste-occupation link that exists in the occupation. All scrap collectors are Matangs, Mahar or Neo- Buddhists. By

precluding entry of newcomers (who theoretically at least could belong to the upper castes), the caste-occupation link will continue to persist. Attempts in the initial years to organise scrap collectors in Pune, were thwarted by political groups claiming that such an intervention reinforces caste linkages.

E. Legislative protection for scrap collectors

Scrap collectors are forced to continue working till their last days due to the complete absence of labour legislation ensuring them any future benefits like old age pension or Provident Fund. Any proposed legislation can fall within the realm of 'welfare' (Welfare Cess Act) or 'worker rights' (Mathadi Act). Ideologically most Trade Unions would opt for the latter.

As it is interpreted today, the Mathadi Act applies to those occupations where there is some employer-employee relationship. Scrap collectors on the other hand are considered to be 'self-employed'.

The act would require registration of both scrap traders and scrap collectors. The former would be made liable to pay P.P.F., Gratuity and Bonus to the latter from the surplus generated. They would also have to pay Income Tax and Sales Tax to the government. Eventually the smaller retail units, out of economic logic, will be forced to give way to larger, more viable ones, to ensure profitability and reduction in other infrastructure costs. In effect, the lowest layer in the retail scrap trade, one step up from the scrap collectors, or the petty bourgeoisie of the trade as they are called (Bremen 1994) will be wiped out. If this does happen, it will be accompanied by the risk that if fewer retail traders buy directly from scrap collectors they will eventually form a lobby against scrap collectors. Logistically, the process of lobbying with scrap traders itself could initially provide them a platform to rally around and organise against the scrap collectors. Experiences in the struggle against scrap traders have shown such platforms to be very effectively exploited by traders. Those who are uncertain of the risks and benefits in coming together for common interests, easily recognise the advantage in lobbying against a common enemy.

F. Market intervention in the trade

The study highlights the economic contribution made by scrap collectors and the increasing margins at higher levels of the trade. Lobbying for labour legislation to ensure proportionate returns for scrap collectors, is a long-term intervention that may not pay immediate dividends.

A trade co-operative to take over the retail trade seems a logical, viable and challenging alternative. It may be the quickest way to ensure uniform and standard rates for scrap and old age benefits to scrap collectors. With the co-operation from the municipal corporations, such an enterprise could become a collaborative effort. Direct supply to reprocessors would translate into higher profits to scrap collectors or better rates for scrap.

Scrap reprocessing enterprises however, are often small-scale units. Some of them function seasonally and they sometimes service a lower market segment. They are subject to manipulation by larger industries and market forces. In plastic reprocessing they compete with large MNCs offering raw material substitutes for a larger industry. Large-scale generators of scrap themselves usually undertake metal processing.

The overall risks of investment are rather high even if profit margins are commensurate. For an entire co-operative structure to take over the trade and "improve" the margin for 5000 odd scrap collectors is no mean task.

G. Health Care

Private health care is prohibitively expensive and a single illness episode per person costs an average of Rs.500/- for treatment (diagnosis and medication). Public hospitals are not popular for the following reasons.

- Doubts about the quality of care provided
- Cost of travel to government facilities located far away from the place of residence
- Unsuitable timings and the consequent loss of the day's earnings
- Costs of medication and treatment that are no longer provided free

Access to private health care through the support and free services of socially committed medical doctors, is one of the alternatives that has been explored.

This raises some issues

It is not a simple task to co-ordinate decentralised services to enable maximum outreach. Just setting up the initial infrastructure for the same has significant financial implications. On the other hand, there is almost no guarantee of the long- term continuity of such an intervention because it is dependent on volunteers.

There is a dearth of committed doctors, who are willing to give of their time and services, regularly and continuously, for no direct gain to themselves. Additionally such doctors are required to be "rational", in the context of the increasing phenomenon of irrational drug prescription and unnecessary medication.

The costs of medication and further treatment requiring hospitalisation or surgery are prohibitive. Effective, decentralised mechanisms to disburse medicines produced by non-profit, voluntary bodies such as "Locost" are almost non existent.

The larger implications relate to the limited outreach of such an intervention even if it is presumed that all scrap collectors are covered. Scrap collectors constitute one rung of the informal sector, albeit the lowest. All informal sector workers, in fact all the poor should be ensured access to quality, free/subsidised health care. The State is clearly the best contender for provision of the same. It has the largest existing decentralised network and infrastructure. Strengthening the outreach of the State facilities with increased budgetary allocations would be the best option. However this requires political advocacy and is not an immediate, practical intervention.

H. Education

The illiteracy levels of scrap collectors, particularly women wastepickers, are dismally low. Their children are irregular in formal school for several reasons. The quality of education in municipal schools is believed to be poor. Besides, children are invaluable assets in the home and at the work place as child carers. Both these factors work against the parents' commitment to educate their children. The limited opportunities available to educated youth in the community is however the strongest disincentive. "At least if our children are illiterate, they will survive by collecting scrap. If they are educated, they think it is below their dignity to do so and prefer to be unemployed than to accept any work!" is a common response of many scrap collectors.

Non-formal education as an alternative, has more or less been completely rejected as a long- term alternative by NGOs. First, having two parallel systems of education automatically isolate the "lower" stream and its members. Second, the costs of running an effective, decentralised, need based and non-formal programme, can be quite high. NFE serves as a useful bridge between illiteracy and the formal education system. Ultimately, the formal system needs to be more need based and vocational universally.

However, as in the case of health, it is the responsibility of the State to ensure universalisation of elementary education. Myron Weiner emphasises the need to change the attitudes of academicians and policy makers for universal primary education to succeed.

The other, more important, issue is that of providing employment to such first generation educated youth. Their overall lack of exposure affects their performance and automatically constitutes a barrier to their entry into formal employment. Further, the time taken by first generation formal sector employees to adjust to the system is rarely acceptable to the higher, more educated staff within the system. Irregularity and impunctuality on account of family and kin related reasons are not tolerated. For the families of informal sector workers, the only real existing support system is that of family, kin and other informal sector workers. Severing them is not an option that they wish to exercise. It can be presumed for the sake of argument that their work habits will "improve" and "worker productivity" will be at its peak. Given the present economic scenario, the more relevant question today is "where are the jobs in the formal sector?"

Draft Recommendations

1. Scrap collectors should be recognised as 'unprotected manual workers' who contribute to the economy and the environment in significant ways. All Municipal Corporations are assisted in their Conservancy tasks by this large work force. It is essential that they enjoy the above status that is endorsed by the municipalities.

2. There is also a direct economic gain to municipalities, in terms of reduction in their expenditure. This should translate into monetary compensation which could take one of the following forms
   - Creating a corpus towards the welfare of scrap collectors
   - Offering them Life and Health Insurance cover
   - Recognising the municipality as part employers of scrap collectors and making necessary financial contribution to the Mathadi Board.

3. Issue of receipts to scrap collectors for each transaction should be made compulsory. The large margins in the trade increase at each higher level. Scrap collectors do not have any share in this margin despite their significant labour contribution to it. This should be recognised by regulating the scrap trade. All traders should be made to pay a percentage of their surplus based on the value of the transaction to scrap collectors. This could be regulated by appropriate legislation.

4. The conditions of work of scrap collectors, particularly wastepickers are abominable. Widespread and intensive campaigning should be undertaken to educate citizens about the advantages in segregation of garbage. Segregation of garbage and direct access to wastepickers should be mandated by the local self-government.

5. Child labour in scrap collection is hazardous, and should be included in the schedule of Hazardous Occupations as listed in the Child Labour Prohibition and Regulation Act. The withdrawal of children from this sector should be encouraged, by offering parents incentives to educate their children. This could take the form of sponsorships, scholarships or special hostels for them.

6. In the absence of credit facilities, scrap collectors borrow money at usurious rates of interest from moneylenders. Formal, institutional channels of credit should open their doors to poor groups by promoting self-help groups and offering them loans at low rates of interest.

Glossary of terms

1.	Ambabai	Female Hindu deity of Maharashtra
2.	Anna	Indian Currency not in use currently
3.	Aradhi	Caste related cultural role of Maharashtra
4.	Aranya	Forest
5.	Babul	Deciduous tree
6.	Bagwan	Muslim sect in India
7.	Balutedar	Artisan/provider of village service in rural Maharashtra
8.	Bazaar	Market
9.	Beer	Beer bottles of 750ml
10.	Bhaiya	Term used to refer to male native of Uttar Pradesh
11.	Bhakri	Bread made with millet
12.	Bhandari	Trading caste of Maharashtra
13.	Bhangar	Ferrous metal
14.	Bhangarwalla	Male itinerant buyer
15.	Bhangi	Backward caste of Maharashtra
16.	Bhishi	Locally managed kitty fund
17.	Cable	PVC pipes
18.	Chambar	Caste of Maharashtra
19.	Chappal	A kind of PVC
20.	Chawl	Lower middle class Tenement
21.	Chindhi	Cotton rags
22.	Dabbabatliwali	Female itinerant buyer
23.	Dal	Pulse
24.	Dalit	Term used by Dr Ambedkar for oppressed classes
25.	Dhor	Trading caste of Maharashtra
26.	Dhoti	Traditional attire of menfolk in Maharashtra (ankle length cloth draped around the waist)
27.	Diwali	Major Hindu fesival
28.	Doodh thaili	Milk pouches made of plastic
29.	Dushkal	Drought
30.	Dussera	Major Hindu fesival
31.	Gunny bag	Bags made with jute
32.	Half	Alcohol bottles of 500 ml
33.	Hamal	Headloader
34.	Haq	Entitlemnts
35.	Jain	Trading caste of Maharashtra
36.	Jogthin	Caste related cultural role of Maharashtra
37.	Jogwa magne	Caste related cultural role of Maharashtra
38.	Jowar	Cereal
39.	Juna	Old
40.	Kach	Glass
41.	Kachwaali	Wastepickers who collect metal scrap with a magnet
42.	Kadak	Injection moulded plastic
43.	Kagad	Paper
44.	Kagdipura	Paper settlement
45.	Karanja	Deciduous tree
46.	Kashtakari	Manual labourer
47.	Khaki	Brown colour cotton drill cloth
48.	Khan	Muslim sect in India
49.	Khoja	Muslim sect in India
50.	Kraft	Corrugated paper
51.	Kumkum	Vermillion

52.	Kunbi	Agriculturist of Maharashtra
53.	Kureshi	Muslim sect in India
54.	Kutcha	Make shift construction, easily demolishable
55.	Laxmiaai	Female Hindu deity of Maharashtra
56.	Loafer	1 litre alcohol bottle
57.	Lok Adalat	People's Court
58.	Mahalaxmi	Female Hindu deity of Maharashtra
59.	Mahar	Scheduled 'untouchable' caste of Maharashtra
60.	Maharwada	Geographical settlement of mahars
61.	Malwari	Local moneylender
62.	Mang	Matang/scheduled caste of Maharashtra
63.	Maniyar	Muslim sect in India
64.	Mariaai	Female Hindu deity of Maharashtra
65.	Mastak	Forehead
66.	Matang	Scheduled 'untouchable' caste of Maharashtra
67.	Mehtar Mahar	
68.	Mein	Poly ethylene
69.	Memon	Muslim sect in India
70.	Mukadam	Supervisor
71.	Mullani	Muslim sect in India
72.	Murali	Caste related cultural role of Maharashtra
73.	Nagari	Civic
74.	Neem	Deciduous tree
75.	Niradhar	Destitute
76.	Nizam	Erstwhile ruler of princely state
77.	Oswal	Trading caste of Maharashtra
78.	Paan	Betel leaf
79.	Panchayat	Locally created governing body
80.	Patel	Muslim sect in India
81.	Path	Credit
82.	Pathan	Muslim sect in India
83.	Patra	Non ferrous metal
84.	Peepul	Deciduous tree
85.	Peshwa	Erstwhile Brahmin ruler of Pune
86.	Phuga	Blow moulded plastic
87.	Pothraj	Caste related cultural role
88.	Pucca	RCC construction
89.	Puranpolis	Sweet bread made for Hindu festivals
90.	Pustha	Corrugated paper
91.	Quarter	Alcohol bottles of 250 ml
92.	Rathi	Trading caste of Maharashtra
93.	Rishi	Sage
94.	RS Road Scrap	Low grade quality mixed paper
95.	Rum	1 litre alcohol bottle
96.	Salgadi	Bonded agricultural labourer
97.	Sangh	Collective
98.	Sanstha	Organisation
99.	Sawala	Dark/tanned (used to describe the 'untouchables')
100.	Sharma	Trading caste of Maharashtra
101.	Sheikh	Muslim sect in India
102.	Shetgadi	Agricultural wage labour
103.	Soda	1 litre alcohol bottle
104.	Swayamsevak	Volunteer
105.	Tale	A kind of PVC

106.	Tamboli	Muslim sect in India
107.	Tatli	Plate
108.	Wada	Old houses of Pune with central courtyard
109.	Wadari	Backward caste of Maharashtra
110.	Waghya	Caste related cultural role of Maharashtra
111.	Watan	Land granted to Mahars
112.	Watandar	Holder of watan land
113.	White record	Sheets of white office paper
114.	Yojana	Scheme
115.	Zhadne	Sweeping

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