

223
17030

PARTICIPATORY RESEARCH FOR PEOPLE'S EMPOWERMENT

A Study of people's needs and aspirations in the rehabilitation of pollution - affected villages in Visakhapatnam

Project Sponsored
By

**Society for
Participatory Research In Asia (PRIA)**

New Delhi - 110 062

**Dr. B. Devi Prasad
Project Director**

**Dr. K. Visweswara Rao
Project Co-Director**

People's Action for Rural Development (PARD)

Visakhapatnam - 530 003

1999

CONTENTS

draft

Acknowledgements

Chapter		Page No.
I	Introduction	
	Background of the problem	
	The study	
	The Locale	
II	Findings	
	The problem	
	What was lost	
	Compensation and people's perception	
	The new habitat : Facilities and services needed	
	Life in the new place	
	What they need now	
III	Summary	
IV	Recommendations	
	Appendices	
	i. Research methodology	
	ii. Question line - SSI	
	iii. Question line - FGD	
	iv. Village social map	
	v. Model cards used in R & S	
	vi. Raw data Tables of R & S	
	vii. Visuals	

Introduction

In most developing countries the fate of the poor and the environment are inextricably linked. In these countries the environment underpins the security, livelihood and sustenance of the poor and they suffer disproportionately from the problems arising out of it. The impact of development with its large scale migration, overcrowding and displacement is marked by unplanned growth of industries and the resultant industrial pollution on a large scale.

Presently the industrial pollution is not only affecting the quality of the air, water and soil but also threatening the fragile ecological conditions of the neighbourhoods of the poor leading to their displacement and eviction from their original habitats.

The case of Hindusthan Zinc pollution affecting the four suburban villages, that is Mulagada, Chinamulagada, Chukkavanipalem and Yeduruvanipalem of Visakhapatnam city leading to their displacement can be cited as an example. These villages having a population of about 4000 people, and a cultivable land of about 70 acres, have been totally destroyed by the gaseous, liquid and solid effluents

(See Appendix-iv)

discharged by Hindusthan Zinc Limited (HZL). The rich paddy fields have become fallow, about 20 children in these villages died so far and almost all the people in the proximate villages have been suffering from skin diseases and respiratory disorders. Besides HZL, there are 27 other small and major industries which are polluting the city's environment. A number of research studies on the impact of industrial pollution have time and again showed the hazardous levels to which the pollution in the city has grown. The Visakhapatnam branch of A.P. Pollution Control Board has been voicing its concern about the growing levels of industrial pollution in the city despite its stringent steps (June 6, 1997, The Hindu).

The background of the problem

Of all these, the gravest problem is faced by the group of Mulagada villages which are situated in the neighbourhood of Hindusthan Zinc Limited. These villages have been exposed to the ravages of industrial pollution for about a decade and a half. About 70% of the people from these villages have been suffering from high incidence of respiratory diseases and higher levels of lead concentration in the blood. The Standing Committee of Parliament on Science, Technology, Environment and Forests has recognised the

pollutants let out by the HZL as highly dangerous (August 21, 1997, Indian Express). Several studies have further indicated that the children in the age group of 0-15 years besides pregnant women and older residents were the worst affected. The damage done to the flora and fauna of the villages is extensive. Recently a study taken up by PARD with the Sponsorship of PRIA has revealed the wide range of damage being done to the social and community resources of these villages, as a result of the Zinc pollution (Devi Prasad, 1996).

The HZL Plant was established at Visakhapatnam in 1977 and within a few years the neighbouring villages started experiencing the effects of its pollution. As the problem of pollution. Jashuwa Youth Welfare Association (JYWA) is one such organisation. Later, in 1991, a broad based inter - village Pollution Sufferers' Welfare Association (PSWA) was formed. Since then, this inter village committee pioneered the cause of pollution sufferers of HZL. A critical event list (Table 1) in the results indicates the steps and strategies taken up by the people's organizations in this regard.

The study

As a result of the protracted agitation led by the CBOs, a Committee on petitions was constituted on 3rd October 1996 by the State Government to go into the details of the problems of these four villages.^a The Committee held discussions with the District authorities, HZL management, A.P. Pollution Control Board and visited the pollution-affected villages and submitted its report to the A.P. Legislative Assembly in July 1997 with its recommendations.

The following rehabilitation package was worked out:

- i, The HZL would pay Rs.4 crore in lieu of the 112 acre land of the villages including private land, structures etc.
- ii, An extent of 29.94 acres of government land at free of cost was identified at a place called Kurmannapalem by the district administration for the rehabilitation purposes.
- iii, A total of 975 families have been identified for resettlement and the CBOs have also assisted the District authorities in the identification process.

Unfortunately however, till todate the work on the rehabilitation package for the benefit of the pollution affected

^aA.P. Legislative Secretariat (1997). Third report of the committee on petitions (1996-97), Author, Hyderabad

villages has not been carried out. The issue took several twists and turns and it came again to the point where it began - no identified land and no decision on compensation (See Table 1).

Moreover, the villagers' contention was that their opinions were not taken into consideration at any stage. They moreover expressed their concern over the modus operandi of the compensation payment, shifting process, provision of services and facilities, layout plan of the new place and so on.

Significance of the study

The people of the villages kept in touch with PARD as they helped the villagers during their earlier PR study to assess the impact of Zinc pollution on their habitat. Discussions with a core group of village representatives revealed that they needed a document which reflect their version of the services and facilities needed by them in the rehabilitation package offered to them. They thought that such document can help them negotiate for a just settlement plan for the villagers. Though they were in an impoverished condition, they offered to make arrangements and facilities needed for conducting PR sessions in their communities.

In this context it is proposed to use participatory research methods in the present study.

Participatory Research methodology attempts to present people as researchers, themselves in pursuit of answers to the questions of their daily struggle and survival (Tandon, 1988). For Peter Oakley empowerment is essentially a political term and involves the development of abilities, skills and knowledge among people to enable them manage better and to have a say in or negotiate with different political and administrative systems.

Thus the study aimed to:

- * assist people in the prioritisation and planning of different services and facilities needed by them in the proposed habitat
- * help people arrive at a consensus about the major losses suffered by them
- * assist people develop data which will be useful to them to negotiate better with the authorities in regard to the rehabilitation package
- * facilitate among the people after the exercises, further community action with regard to the problem

One of the intended purposes of this research report is to convey information to decision makers about people's

perceptions regarding compensation, rehabilitation and resettlement process and about the services needed by them. Therefore the report is styled as a document to reflect their expectations and needs with reference to the current situation of compensation and rehabilitation.

Further the study provided the faculty and the students of Social Work with an opportunity to use PR methodology in this new area of rehabilitation studies.

LOCALE

DETAILS OF STUDY AREA

Visakhapatnam is the second largest city of Andhra Pradesh and one of the fast growing metropolis in India. The population of the city, currently at 12 lakh (Census of India, 1991) is estimated to crossover to one crore in another few decades. There are about 130 large and small scale industries in the city of which 15 are large industries. Visakhapatnam occupies seventh place in the list of highly polluted cities in the country, and second place in the State as a city exposed to severe industrial pollution.

There are a number of highly polluting industries in the city and the Hindusthan Zinc Smelter Plant Ltd (HZL) is one of them. The four villages viz., Mulagada, China Mulagada, Yeduruvanipalem and Chukkavanipalem comprise the study area. They were exposed to the gaseous, liquid and solid effluents discharged from the HZL since a decade and half which devastated their social, health and community resources. These villages are in the 45th Ward of Visakhapatnam Municipal Corporation and 25 kms away from the office of People's Action for Rural Development in A.U.Campus.

Area and population characteristics

The four villages are situated in an area of 112 acres of which 31 acres is Government land, 65 acres belongs to private land and the remaining 15 acres belongs to Andhra Pradesh

Industrial Infrastructure Corporation (A.P.Legislative Secretariat, 1997, p.9). A considerable number of people from Chukkavanipalem village own agricultural lands. These lands now became uncultivable because of pollution from the HZL.

A majority of the houses in the villages are kutcha houses. Of the few pucca houses there are 40 in Mulagada, 7 in China mulagada 71 and 50 in Yeduruvanipalem and Chukkavanipalem respectively. The total population of the villages is estimated to be about 4,000. The distribution of the number of households per village is as follows:

Mulagada (300), Mulagada S.C.Colony (200), China Mulagada (50) Chukkavanipalem (300), and Yeduruvanipalem (200). Thus, according to the information gathered from the CBOs, approximately 1050 families are reported to be presently living in these four villages. The authorities on the other hand took up enumeration of affected families at different times such as in the years 1992, 1995 and again in 1997. The number of families as per their estimates ranged between 600 to 900 over the time. The petition's committee (A.P.Legislative, 1997) gave the following distribution of families by village: Pedamulagada (425), Chinamulagada (70), Chukkavanipalem(300) and Yeduruvanipalem (180). Thus a total of 975 families have been identified as on July 1997.

Almost all the villagers are Hindus. In terms of caste composition, Reddy caste is the predominant community followed by scheduled caste, backward classes and kshatriyas. Thus, in Mulagada there are approximately 200 scheduled caste families, and 250 families belonging to backward classes and other castes. In China Mulagada around 50 families belong to backward classes and other castes. In Chukkavanipalem backward classes and Kshatriyas comprise of about 300 families. In Yeduruvanipalem 221 belong to other castes while only 4 families belong to scheduled caste. There are also a few artisan communities in the study area.

Occupation-wise, most of the people of the villages are contract labourers or daily wage workers. A few are working as employees in Government offices and in other nearby industries such as HZL, Coromandel etc.

Regarding education, about 70% of the villagers have no education of any sort. About 50 students are studying technical and other vocational courses followed by 25 graduates, and 100 students from high school and primary schools. The students at high school and primary levels are studying in schools located 2 to 3 kms away in places such as Gajuwaka, Sriharipuram etc. The two primary schools in the study area have become dysfunctional long back. There is one Anganwadi

at Yeduruvanipalem. There is no playground for the children in the villages and the nearest Cinema hall is 3 kms away.

Infrastructural facilities

The internal roads in the villages are primarily kutcha type. They are in a deplorable condition. There is no proper drainage and the electricity supply was reported to be erratic. The main road is 1/2 km away and can be reached by walk, bicycle or by an auto-rikshaw.

There is one youth club at China Mulagada namely Savarkar Seva Sangham which is now dysfunctional. There is no library or reading room in these villages. Four Community Based Organisations are reported to be functional of which two are actively working on the problem of Zinc pollution. They are Pollution Sufferers' Welfare Association an inter village community based organisation, and Jashuwa Harijan Youth Welfare Association. The other two organisations are Bapuji Yuvajana Sangham in Yeduruvanipalem (1981), and Sri Rama Yuvajana Sangham (1980) in Mulagada.

Summary findings

The four villages have been exposed to pollutants from the HZL for over two decades and yet an amicable solution to the problem is eluding the authorities and the community people. The people of Mulagada group of villages have come to terms with the fact of their shifting from the present habitat. They are only waiting for the moment to materialise. The emergence and important events of the issue are presented in Table 1.

The following findings are based on three focus group discussions - one with CBO leaders and the other two with men and women's groups respectively. Data from semistructured interviews and from secondary sources are used to supplement the conclusions.

Of the two FGDs conducted on 5 July 1998, the men's group comprised of 12 participants with ages ranging between 18 to 67 years. Among this group, participants have different occupational backgrounds such as business, agriculture, daily labourer etc. In the women's group the participants ages varied between 20 years and 52 years. All most all of them are house wives, one an active leader of a mahila mandal and two students. In both the groups about 60% have little or no education.

What was lost

The major losses about which participants of both groups strongly felt were: impairment of health followed by pollution of water sources, loss of crops and cattle.

- Most of the participants were unanimous about ^{the fact that} the loss they suffered in human terms cannot be replaced.
- Health impairment is more visible among children and women.
- The CBO leaders made a repeated request to take up tests to ascertain levels of lead in the blood so that they can take medicines to prevent the long term effects of lead poisoning. Table 2 provides the people's ranking of the damage done by the pollution from HZL on the above mentioned aspects.

Compensation and people's perceptions

- Most of the participants felt that compensation offered to their structures and land was not reasonable and just.
- All participants voiced their feeling that they were not involved in the process of their own rehabilitation and resettlement.

- Lack of knowledge about these issues is more pronounced among women.
- There was suspicion as to why the authorities reduced the 150 sq. yards house site to 100 sq. yards per family.
- One participant said: "Instead of finding land to suit the finalised list of families, the authorities are trying to adjust the list of families to the available land."
- There is a total lack of knowledge about the criteria of selection of families, terms of compensation offered and so on.
- "Just a few kilometers away from us, families displaced by the National Thermal Power Corporation (NTPC) are offered 107 sq. yards, why we are offered only 100 sq. yards?"
- "What about daily wagers, artisans, single mothers, and never married women in the village? Don't they have any stakes in the compensation?"
- What compensation do they pay for community common property resources such as Temple, common land etc.
- One old man from Chukkavanipalem lamented:
"Nearly 30 people died during the last 15 years. Our women suffered all kinds of health problems. Infact our progeny was affected by the pollution. Still they are thinking about compensation interms of financial cost offered to the losses suffered by us. In that case, can they bring back those of our family members who were dead because of pollution from the HZL?"

The new habitat: facilities and services needed

The focus of discussion was first on the process of shifting.

Participants felt that they:

- need housing loans
- need sufficient time for shifting - 1 to 2 months
- shifting allowance and dismantling allowance
- vehicles to assist in carrying their materials to the new place
- women insisted first on provision of water, potable water, electricity, firewood, toilets, roads in the new place, before they are asked to move to the new habitat
- A majority of the women suggested that compensation money should not be given to the families especially where the husband is an alcoholic. The houses may be constructed and be given to them

A Sangham or ^{an} association can take up construction of houses, women felt.

As regards services and facilities— there was a clear preference for drinking water facility, electricity, hospital, street lights and so on. Table 3 shows the rank order given by the men's and women's groups of the services indicated to them. Though women preferred certain facilities differently from that of men, there seems to be an overall consensus.

Table # shows that:

- drinking water and electricity facilities are given top priority
- Park, Gram Panchayat, Community Hall figured as the least priority items.
- An old man pointed about the need for a grave yard which did not figure in the 17- list items. The other members of the group readily acknowledged his observation .
- Another participant suggested:
LPG connections may be arranged to be given to solve the cooking fuel problem in the new place.

Life in the new place

- first remark they made was there will be no polluted air in the new place and that their children will have clean environment
- specific identities seem to remain strong inspite of their united struggle as victims of pollution

they prefer to keep the caste seggregated wards as they are in the new place; women were more vocal and open in this regard as compared to men

- they choose to, if permitted, go by their respective village names in the new colony.

One participant suggested the following resettlement process:

- * Levelling of land and formation of roads
- * allotment of housesites
- * payment of compensation amount
- * After payment, six months time for shifting
- * planning for their employment, income generation schemes, etc. as most of the villagers are either contract labourers or daily wage earners
- * loans for petty business
- * training for the educated youth in trades such as typing, auto mechanism etc.
- * community/cultural integration programmes with the other people in the new neighbourhood

What they need now in the present place?

- * women said - "lead plant should be closed till we shift, otherwise many of us would die before we shift from this place"
- * health services are urgently needed
- * roads are in a very bad shape; they need a facelift
- * electricity is irregular
- * drainage facilities.

Recommendations

Displacement from the original habitat involves a trauma which cannot be fully compensated. It potentially leads to the breakdown of the social order. A remedy is to try to preserve the old order as far as possible in the new environment. However, recreation of social institutions and the social environment requires a close interaction between the displaced persons and planners. Infact the rehabilitation package offered to the displaced persons need to aim at leaving the people displaced economically better off converting displacement into a positive opportunity.^a

Keeping this background in view, the following suggestions can be made with regard to the present study.

General

- 1, The people's feeling that Government authorities lack sincerity in hastening solution to their issue cannot be ruled out. An urgent solution to the problem will prevent further human and material loss.

^a Sinha, B.K.(1996 June 15). Draft National Policy for Rehabilitation: Objectives and principles, Economic and Political Weekly, 31(24), 1453-1485.

- 2, The strong feeling among the villagers about the inadequacy and lack of transparency in the processes relating to compensation is justified. More involvement of the people's representatives in the process will increase early solution to the problem, more transparency and accountability on the part of all.
- 3, More specifically women representatives need to be involved in the planning process
- 4, Health as the major area should be given priority interms of intervention and provision of services. This is more so for women and children.

Civic amenities

- 5, Priority needs to be given, as per the people's ranking, to such services as drinking water, electricity, toilets, hospital, street lights, school, roads and so on
- 6, The people should be encouraged to organise themselves. The present CBOs which have played a key role in fighting zinc pollution can^{now} be encouraged to take new roles in the new setting for improvement of amenities, maintenance of community resources and so on.

Social infrastructural facilities

- 7, In view of the major losses suffered in the areas of health, children's education; hospital, schools, recreational places are important in the new colony.
- 8, Roads, Transport, Fair price shop, market and other facilities have been listed out by the villagers.
- 9, Moreover facilities such as park, library, community hall should also be provided.
- 10, During the process of resettlement, studies show that problems of alcoholism, wife abuse, family breakdown, mental health problems are likely to increase. Keeping these in view, establishment of Family counselling centres and provision of counselling and guidance would be helpful.
- 11, During the transitional phase of resettlement and rehabilitation, women and children are bound to be affected in terms of health, nutrition, education and related aspects. They need to be given special attention and programmes such as credit groups, DWCPA, Anganwadi can be initiated for them.

Administrative measures

12, The CBO leaders made a suggestion that there can be a committee to supervise and guide the implementation process of the rehabilitation and resettlement of the villages.

The functions of the Implementation Committee could be:

- a, formulation of the rehabilitation plan
- b, allotment of house sites
- c, training and employment of the villagers
- d, overall supervision of the implementation of the program.

The suggested composition of the committee is:

Chairman - District Collector/ or his representative

Project functionary - Designated revenue official

Members - representative from HZL

- representatives of displaced persons

- officials from Department of Education, welfare, etc.

- representative from NGOs working with the DPs.

- officials of local administration (MRO)

Dedicated group of people in the district administration should be entrusted to deal with the rehabilitation.

13. The above committee can also function as a grievances redressal cell.

Table 1

Critical Event Chart and Time Line
(Mulagada and its neighbouring villages)

Year	Stage	Event	impact on	
			Social/health	Resources
1977	<u>Establishment:</u>	Establishment of the Zinc Smelter Plant in the neighbourhood		
1980	<u>Emergence of the problem:</u>	Villages started feeling the impact of pollution		-loss of crops -vegetation fading out -land started becoming fallow
1983		Growing inconvenience to people	Respiratory complications figured	
1987	<u>Awareness:</u>	All the villagers felt the severity of the pollution	*Health problems sprouted affecting children, women & elderly	*water quality started eroding *difficulty to maintain cattle *tried to clean drinking water wells
1991	<u>Action initiated:</u>	J.Y.N. Association was formed to fight pollution	*First death of child reportedly due to exposure to pollution	School attendance started falling down

Year	Stage	Event	impact on	
			Social/health	Resources
1992	<u>Unification for action:</u>	<ul style="list-style-type: none"> *Inter village pollution sufferers' Association (PSA) formed -the idea of shifting of villages figured *press war began -politicization of the issue 	<ul style="list-style-type: none"> -death of Lakshmi (2 yrs) (June '92) 	<ul style="list-style-type: none"> *One school closed down *PCB survey found HZL responsible for pollution (June '92)
1993	<u>Identification of solutions:</u>	<ul style="list-style-type: none"> -shifting of villages to safer place became a predominant alternative *enumeration for shifting began (July '93) *Villagers formed a committee to assist in shifting of villages 	<ul style="list-style-type: none"> *State Govt. announced decision to shift villages (June '93) 	<ul style="list-style-type: none"> -developmental works relating to the affected villages stopped
1994	<u>Struggle intensified:</u>	<ul style="list-style-type: none"> -padayatra in the affected villages by PSA (July '94) -met Chief Minister, submitted memorandum (Aug. '94) -press coverage became intensive 	<ul style="list-style-type: none"> -deaths of two more children and an old man -blue line on gums, problems to pregnant women 	<ul style="list-style-type: none"> -the functioning of other school became irregular

Year	Stage	Event	Impact on	
			Social/health	Resources
1995	<u>Solution to the problem in sight:</u>	<p>*2-year old Manisha's death (Aug. 95)</p> <p>-HZL agreed to buy land for the shifting within 3 months</p> <p>-PSA submits representation to Parliamentary Committee (Sept. '95)</p>	<p>*dharna before Zinc Plant in protest of Manisha's death; local MLA participated</p> <p>*lathi charge</p> <p>*Official enquiry into Manisha's death conducted (June '95)</p>	
1996	<u>State's intervention:</u>	<p>Petitions Committee constituted with Md. Farook as chairperson</p>		
1997	<u>Solution attempted:</u>	<p>*Petitions Committee recommended Rs. 4 Crore rehabilitation package for shifting of villages (July 1997)</p> <p>*PSWA filed a PIL in the A.P. High Court alleging loss of life and environmental degradation on account of HZL (11 Sept. 1997)</p>	<p>-houses to be built for 900 families in a 30-acre land in Kurmannapalem with compensation from HZL</p> <p>Lead plant's working suspended temporarily</p>	
1998	<u>Struggle continues:</u>	<p>*Relay hunger strike by the pollution sufferers demanding the immediate shifting of villages to a safe place (13 Nov. '98)</p>	<p>Rasta roko</p> <p>Submitted memorandum to the District Collector for an early action</p>	<p>Civic amenities in the villages deteriorating</p>

Year	Stage	Event	Impact on	
			Social/health	Resources
		Death of Ramulu(18) allegedly due to exposure to poisonous fumes from HZL	Angry villagers stage dharna in front of HZL	
		*Controversy over the list of beneficiary families (May 1998) CBOs allege that authorities are adjusting list to available land	District Collector makes a surprise visit to villages. The list is given a close scrutiny.	
1998	<u>End in sight?</u>	Petition Committee recommends District Collector's proposal for the enhancement of cost of rehabilitation in view of long delay	Of the 675 families identified by authorities, 570 were finalised for assignment of pattas at the 35 acre land at Aganampudi	
1998	<u>The issue to begin all over again?</u>	*controversy rose over the issue of pattas at Aganampudi due to certain technical reasons ~ *Government decided to cancel allotment of pattas (July 1998)	*Search for new land was on	

Year	Stage	Event	Impact on	
			Social/health	Resources
1998		<p>*District authorities made proposals for Rs.10 crore towards rehabilitation package (September 1998)</p> <p>MLA appeals for early solution to the problem to avoid further escalation of cost of compensation</p>	<p>PSWA goes to court asking for enhancement of compensation upto Rs.12 crore.</p>	

Events (*) asterisked had a strong catalytic effect in enabling the CBOs to intensify their agitation

Table 2

Weighted means of ranking given by women and men about impact of pollution from HZL on Mulagada group of villages

Area	Women (n=12)		Men (n=11)	
	Weighted mean	Rank	Weighted mean	Rank
1. Water	1.83	2	1.72	2
2. Cattle	3.08	5	3.00	5
3. Crops	2.41	4	1.90	3
4. Education	1.91	3	2.72	4
5. Health	1.25	1	1.00	1

$r_s = .9, p < .05$

Table 3

Weighted means of ranking given by women and men of services needed in the new colony

Services	Women ($n=12$)		Men ($n=12$)	
	Weighted mean	Rank	Weighted mean	Rank
1. Drinking water	1.17	1	1.08	1
2. Water	2.08	6	1.41	3
3. Electricity	1.58	2	1.08	1
4. School	2.08	6	1.41	3
5. Hospital	1.75	3	1.16	2
6. Temple	2.50	9	2.16	7
7. Market	2.00	5	2.50	10
8. Community Hall	2.83	11	2.41	9
9. Street Lights	2.41	8	1.16	2
10. Fair price shop	2.33	7	2.16	7
11. Transport	2.08	6	2.08	6
12. Bus stop	1.83	4	2.08	6
13. Park	3.16	12	2.66	11
14. Roads	2.08	6	1.58	4
15. Toilets	1.58	2	1.91	5
16. Cooking fuel/ Firewood	2.58	10	2.25	8
17. Gram Panchayat	3.16	12	2.16	7

$r_s = .67, p < .01$

Table 4

Women's and men's ranking of the four most and least important services^a needed in the new place

Priority ^b		Women	Men
Most	I	Drinking water	Drinking water Electricity
	II	Electricity Toilets	Hospital Street lights
	III	Hospital	Water School
	IV	Bus-stop	Roads
Least	I	Temple	Cooking fuel/ firewood
	II	Cooking fuel/ firewood	Community hall
	III	Community hall	Market
	IV	Gram panchayat	Park

^a Seventeen Services were offered for sorting and ranking by FGDs.

^b The services in the Cells are arranged in the descending order of importance.

Appendix - 1

Research Methodology

The study was taken up in a group of four villages; Mulagada, China Mulagada, Yeduruvanipalem and Chukkavanipalem, affected by pollution from HZL, Visakhapatnam. Though it has been decided to shift the people of these villages to a safer place, there was delay due to ambiguity relating to the amount of compensation, acquisition of land and about the process of resettlement. The purpose of the present study is to prepare a document reflecting the people's version of their needs and aspirations with regard to their rehabilitation and resettlement.

Participatory research methods were used to help the villagers to visualise and prioritise the different services and facilities they need in the proposed habitat. This exercise also resulted in documentation of information which, it is hoped, would help the villagers to negotiate better with the concerned authorities about the rehabilitation plan offered to them. More importantly, the study generated useful information for the CBGs which facilitated further community action by them with regard to the rehabilitation and resettlement offered to the villagers.

The study began with the following research questions.

- 1, what is the impact of pollution from the HZL on the health, education of the villagers and on their other resources such as land, cattle, crops and so on.
- 2, what are people's perceptions of the compensation offered to them
- 3, what kind of problems the people expect to face during the shifting
- 4, what services and facilities they need in the new habitat and how do they rank them in terms of their importance
- 5, what support services do they need currently till they move out of their present habitat and
- 6, what information inputs and other supports do the CBOs need to help them negotiate a better rehabilitation package.

People's Action for Rural Development (PARAD) had been working with these villages even prior to the commencement of this study. During their discussions with the villagers the Project Director and his team who are members of PARAD, came up with these research questions. Subsequently, these and people's apprehensions about the compensation

offered and the rehabilitation package, their anxieties about their children's health and education, their concern about the losses suffered by them so far - all put together formed the basis for the present study.

Thus, the specific objectives formulated for the study are:

- 1, to ascertain the impact of pollution from the HZL, on the villagers' health, education and other resources such as water, cattle, crops etc.
- 2, to find out the discrepancy between people's perception of what they lost and the compensation offered to them.
- 3, to help the CEOs identify and prioritise, themselves the services and facilities needed in their new habitat.
- 4, to help them identify the range of services needed in terms of medical, health and other services in the present habitat,
- 5, to find out, basing on the data gathered, information inputs and other support needed by the CEOs to enable them negotiate better over the rehabilitation and resettlement package.

Table 5 shows the PR techniques used to generate data to clarify the objectives of the study. These techniques are chosen with a view to facilitate participation by

the villagers so as to enable them articulate their needs and priorities and generate local specific alternatives.

Tables

Participatory research techniques used in the investigation to cover the objectives

Objectives of the study ^a	Techniques			
	SSI	FGD	R/S	EL
Ascertain the impact on community's health, education, land, other resources	X	X	X	X
People's perceptions - vs compensation offered	X	X		
Plan and prioritise the services & facilities needed in the new habitat	X	X	X	
Services needed in the present habitat till they move out	X	X		
Information inputs to enable them negotiate better		X	X	X

^a Secondary data analysis was used to provide supportive information to clarify objectives No.1,2,3 and 5.

SSI = Semi-structured interview; FGD = Focus Group Discussion; R/S = Ranking and Scoring; EL = Event listing.

The study commenced on March 1, 1998, was taken up in three phases. The first phase comprised of preparatory work which included preparation of profiles of villages, and the

existing status of civic amenities. Also on 22nd March 1998 the first FGD with the leaders of the four villages was conducted to identify broad issues.

During Phase II, additional information about the situation of villages under the impact of pollution, and number of families affected by it was collected. More over, thirteen semi-structured interviews were conducted with heads of households of selected families. The SSI were conducted in the four villages taking into consideration the caste, impact of pollution on the village, deaths reported in the families, ownership of land/house and extent of loss suffered. The purpose of SSI had been to ascertain, among other issues, the problems profile, the areas which came under the impact of pollution and identification of participants for the subsequent FGDs. Of the key informants covered under the SSIs, 8 are men and 5 are women, (Appendix-ii&iii). Thus, during the interviews, the investigators took up preparation of lists of participants for the ensuring FGDs. The team visited the villages on 3rd and 24th of May 1998 for these purposes during this phase.

Focus groups

A comprehensive list of participants for FGDs was prepared in consultation with the leaders keeping in view variables such as gender, age, caste, village, land ownership, and

extent of loss suffered. Thus 12 participants per group were finalised. At this stage, representatives of CBOs were discouraged to participate in the FGDs as the first FGD was conducted exclusively for them. Moreover, during the preparatory work it was thought that two FGDs based on gender would be more useful in terms of generating gender-specific information on the issues at hand and to ensure more participation from women.

During the IIIrd phase, the two FGDs and the Ranking and scoring sessions were conducted. As part of ground work for organising the FGDs, preparatory visits were made on 19th, 20th, and 28th of June 1998. A question line was prepared by the Project Director basing on the information from data gathered from SSIs, secondary data such as official reports, representations of CBOs, and newspaper reports. The question line was pre-tested on a few individual respondents and finalised for use in the FGDs (Appendix-iii).

Ranking and Scoring

During the SSIs, information was gathered about the range of services needed by the people in the new colony and about the major areas which suffered damage under the impact of pollution. Thus, from the interview data

17 services such as drinking water, electricity, school, community hall, fair price shop, transport etc., could be listed out as important in the new colony. Similarly five areas namely education, health, crops, cattle and water were identified from the data as the areas which suffered major damage due to pollution.

The purpose of ranking and scoring was to arrive at ranking of different services and facilities needed in the new colony and about the areas which suffered higher damage because of pollution. Gender-specific preferences and ranking of the issues was also attempted.

Method

The method adopted was card-sorting by the participants on the basis of preference ranking. Picture cards (6"X4") representing services and facilities and the major areas which suffered damage because of the impact of pollution were prepared. Thus, the Team prepared 12 sets of 17 cards each for services and facilities, and 12 sets of 5 cards each for areas of impact.

The ranking choices adopted for services and facilities varied from 1 to 4 i.e., from most important to least important in that order. Similarly the rankings used for

assessing the extent of loss suffered in the identified areas were 1 to 4 i.e., from loss to a great extent to loss to some extent (Appendix-v).

The picture cards along with the ranking choices written in the local language (Telugu), were displayed on posters prior to the commencement of focus group sessions. This helped the participants to familiarise themselves with the themes.

Conducting the sessions

Focus Group Discussions. During the preparatory visits, the date and time of the FGDs were arranged. A majority of the participants chose the Mulagada primary school as the site for attending the sessions. The listed participants were informed about the meetings a day earlier. Both the FGD and R/S sessions were conducted on 5 July 1998. Dr. Devi Prasad and Professor Vijayalakshmi moderated the men and women groups respectively (Appendix-vii).

Each group had two observers matched by gender of the group and they took notes of the focus group discussions. These transcripts formed the basis for further analysis and for drawing conclusions. The use of two observers ensured inter-observer reliability of the transcripts obtained.

Ranking and Scoring

The R/S exercise took place after the completion of the FGDs. In this session each participant in the group was first given a set of cards covering the 17 services and facilities. After a brief explanation of the procedure, the participants were asked to sort and rank the services and facilities in terms of 4 ranks as indicated to them in the posters displayed. They were given about 5-10 minutes and were asked to place the cards according to their preferences in the large covers marked 1 to 4.

Privacy was allowed to the participants while sorting the picture cards into the covers, so that they can exercise their ranking without being influenced by others' choices. At the conclusion of the exercise, the observers took out the cards from each cover and noted down separately the priority of services on a code sheet. This exercise was repeated for the areas which suffered losses. Samples of picture cards used for each category, the code sheets along with lists of participants are appended (Appendix v and vi). The use of posters to supplement the brief explanation given about the procedures of the exercise, helped the participants feel comfortable during the sessions.

Next day, in the office, a de-briefing session of the focus group exercise was conducted with the team members. Aspects such as quality of the session, checking of responses, missing information were reviewed and the transcripts were finalised.

Appendix - ii

Guidelines for Semi-structured interviews

(30 May 1998)

I. Key informants

- * 2 or 3 leaders of CBO's
- * 1 or 2 women per village
(house wives)
- * 2 youth respondents per village

Note down:

II. a. Name of village

- * 2 elderly men and women per vill.

b. Details of key Informants such as- Gender, age social status etc.

- * VAO (Village administrative Officer)

- * If available 1 local merchant

III. 1. Self Introduction by the Investigator

(Mention about University, PARD, recent painting competitions conducted by PARD and about our contacts with the CBO's)

2. Enquire about the basic civic amenities in the village (availability/Quantity/Quality)

- Water, drinking water, roads, electricity, sanitation

3. Questions about infra-structural facilities in the village

- School, Post-office, fair-price shop; Market-yard (bazar) Vegetable, fishmarket etc. Hospital - (Govt. or Private)

(Ask questions where these services are available & how far are they from the village and problems, if any)

4. a. Broach questions about impact of Zinc pollution on their health followed by questions about the relocation of the villages (Gramala Taralimpu); questions about their knowledge about the issue; No. of families identified for relocation, their fears & anxieties about relocation and resettlement (probe); the time by which they would wish to move out.

b. Enquire about their opinions about: the compensation offered, procedures of identification, size of house plot they expect to have etc.

5. What kind of services and infrastructural facilities (Hospital, School, Market, Post Office, Roads, Community hall, street-lights, toilets, drains) do they need in the new place.
 - * Do not hint at the services mentioned above but probe.
 - * Ask women respondents about the nature of cooking fuel they are using; whether they expect to face any difficulty in the new place.
 - * Ask questions about water for other purposes, drinking water, and their expectations and fears about this facility in the new place.
6. Any other specific expectation or suggestion they can offer with regard to facilities in the new place.
7. Ask questions about the general physical illnesses prevalent in the villages, either because of pollution or other-wise.
8. Ask whether there was any death of a member or a child in the family/village because of pollution from HZL.
- 9, a, Enquire about their village deity (details), festival or jatara which they have organised recently and in general about the festivals they organise in the village.
 - b, Whether they have a temple/mosque/church in the villages. If yes how many?
10. Find out whether he/she is willing to participate in the FGDs. If consents, take the location particulars.

Additional information to be sought from specific Key Informants such as CBO leaders, VAO

- a. No. of families (Village wise) identified for relocation, the cut off date adopted.
- b. Their division by gender of HOF, asset/assetless families for eg. house & land, house only, land only, by caste, whether any artisans in the list?
- c. No. of educated youth (13-25); those of 10⁺ and college degree and above.

- d. Existing occupational pattern of the village population
- e. Whether any NGO working in the village with them.
- f. Whom they think can help in finding a solution to the problem.
- g. About the legal battle initiated by Pollution Sufferers' Welfare Association; its present stage, details, financial aid for the court cases; from where and how? What would be their future course of action?

Appendix x- ii^a

List of key informants for semi-structured interviews

Name	Gender	Age	Occupation	Village
<u>Date: 3-5-98</u>				
1. G.Appala Reddy	M	28	Kalasi Steel Plant	Chinamulagada
2. Muralikrishna	M	20	Private job	Yeduruvanipalem
3. Ch.Appa Rao	M	40	Electrician	Ch.Mulagada
4. Pilaka Appa Rao	M	30	Store keeper Shipyard	Chukkavanipalem

Date: 24-5-98

5. T.Veeramma	F	35	Housewife	P.Mulagada
6. Y.Nookaratnam	F	25	"	P.Mulagada
7. G.V.Appalanarasamma	F	60	Widow	P.Mulagada
8. G.Chella Rao	M	58	Retired employee	Ch.Mulagada
9. N.Nooka Reddy	M	40	Business	Ch.Mulagada
10. Pilaka Sanyasi Rao	M	60	-	Chukkavanipalem
11. P.Appa Rao	M	46	Welder Shipyard	Chukkavanipalem
12. Appalanarasamma	F	55	Housewife	Chukkavanipalem
13. Seethamma, G.	F	55	Housewife	Yeduruvanipalem

Gender	Village			
	Ch.Mulagada	P.Mulagada	Chukkavanipalem	Yeduruvanipalem
Men	4	-	3	1
Women	-	3	1	1

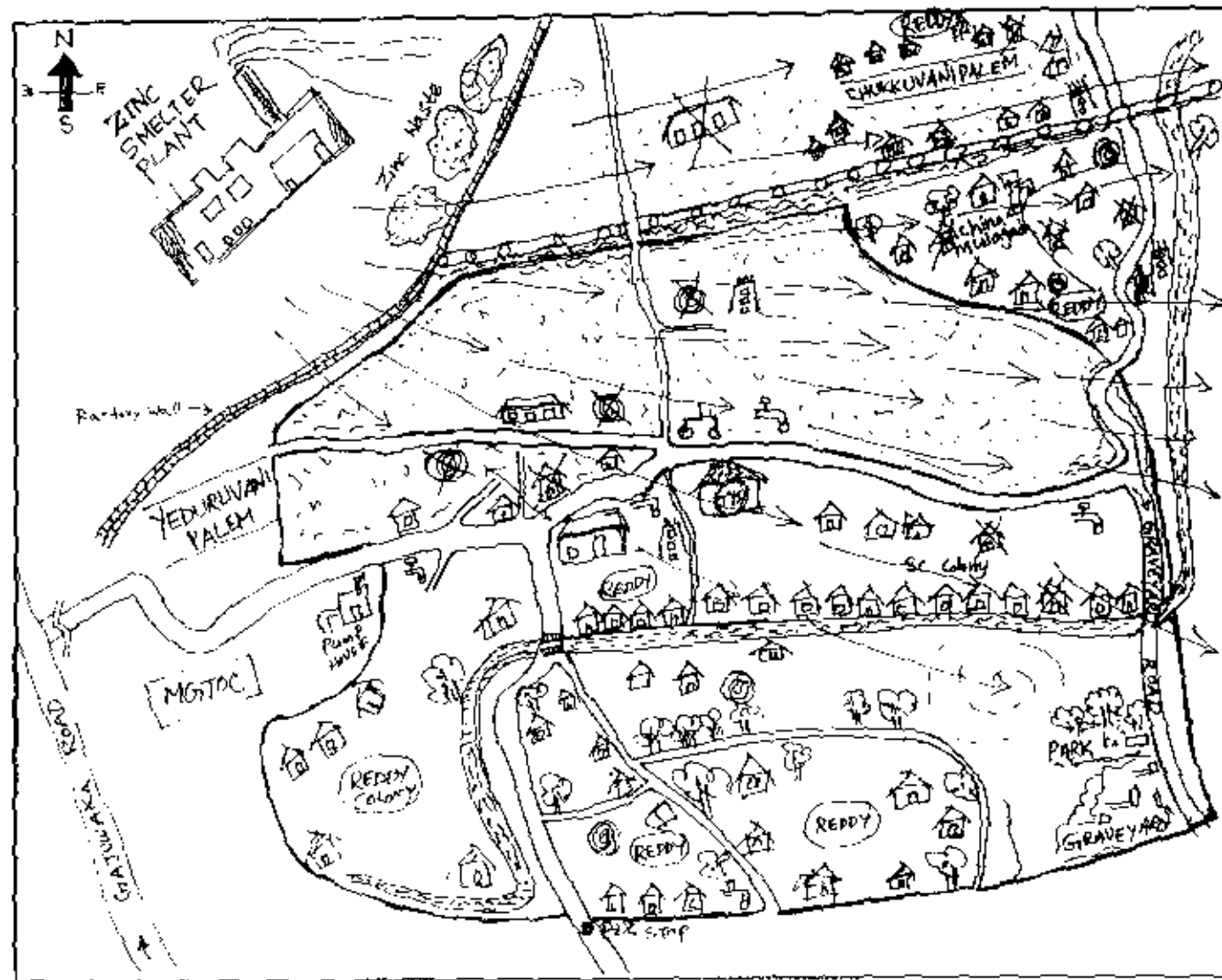
Appendix - iii

Question line used for FGDs

(5 July 1998)

1. Introduction and background.
2. You have been exposed to the pollution from HZL for about 15 years. What are the major losses your village and your family suffered during this period?
3. Broadly what are the features of compensation and settlement offered to you (interms of extent of land and compensation for land and type of house, agricultural land, payment for shifting, housing loan).
 - a) How do you feel about the compensation with reference to various aspects such as the extent of house site, compensation paid for land, buildings, etc.
 - b) Are you negotiating anything further regarding this?
4. When and how do you propose to shift from this place? Are you expecting any problem during the shifting phase? If so, what support and services do you need during the shifting phase? How much time do you think would be sufficient for you to settle completely in the new place?
 - a) Do you think some organisation or sangham needs to help villagers during the shifting process and during the settlement?

5. When you are going to the new colony, you are expected to be provided with certain facilities and living conditions which are almost similar or better than those in the earlier place. What services and facilities do you need in the new colony? Be as exhaustive as possible in your listing of these services.
 - a) What are the most important services do you need in the new colony in the first place? and what other services do you see as important and necessary?
6. While you settle for living in the new colony, do you foresee any problems - social, economic, family-related, occupation and employment-related in the new place? If so,
 - i) what problems do you visualise and
 - ii) what services and facilities you may need?
7. Whom do you think should be mostly responsible for your resettlement and provision of services and facilities at the new colony? Government? Yourself/villagers? Any other organisation? (name)
8. On the brighter side, what better things and new hopes you are visualising about your life in the new colony?
9. Have you thought of any name for your new colony?
10. What are the most pressing services or facilities you need now in your village till you move out from this place?
11. If any one of you wish to add any thing more, over and above what has been said so far, you are free to say.
12. (Conclude the session and announce the commencement of Part II session of card sorting)



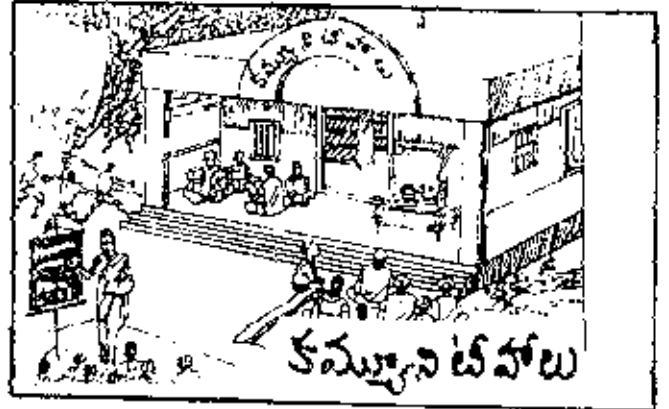
Village Social map of Mulagada group of villages

Source: Devi Prasad, 1996

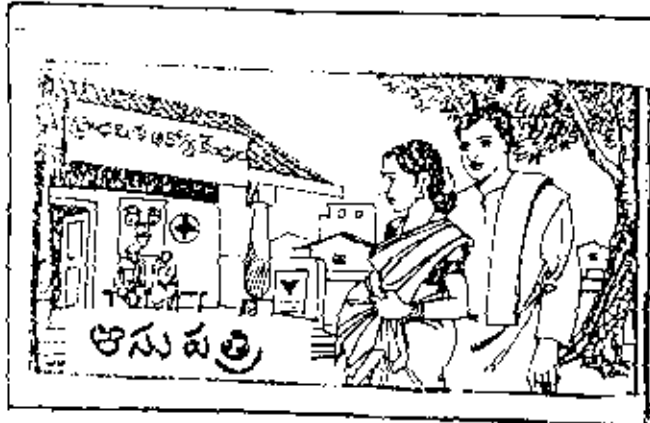
Picture cards (facilities and services) used in the Card-sorting and ranking session



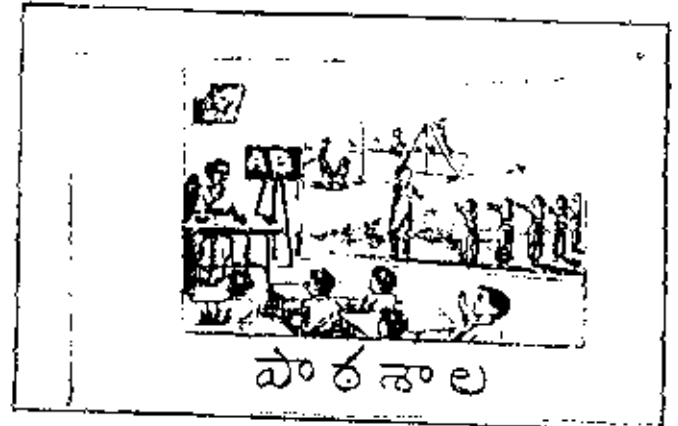
WATER



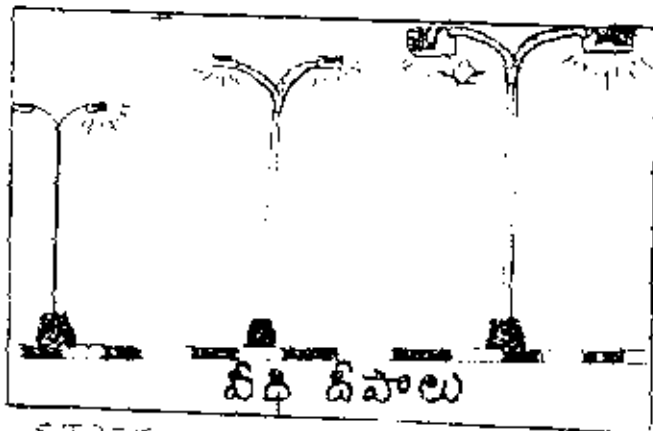
COMMUNITY HALL



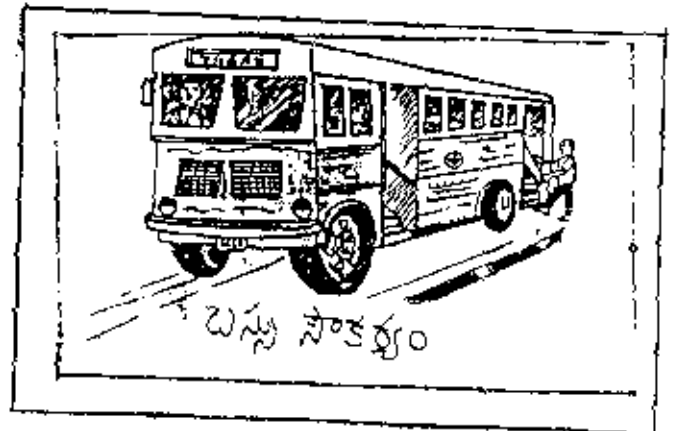
HOSPITAL



SCHOOL



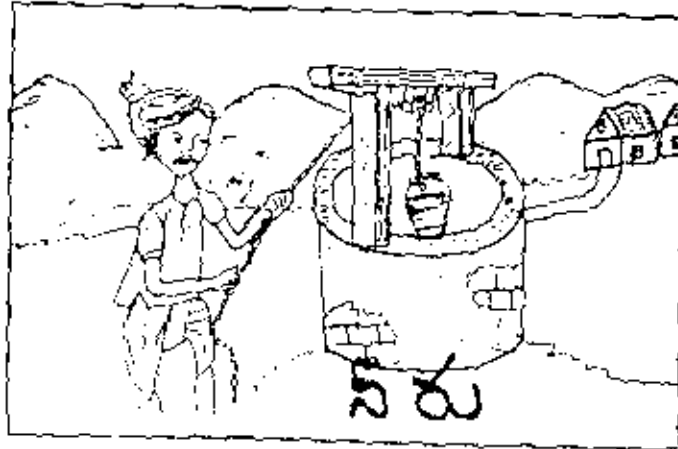
STREET LIGHTS



BUS FACILITY

Appendix - v (contd...)

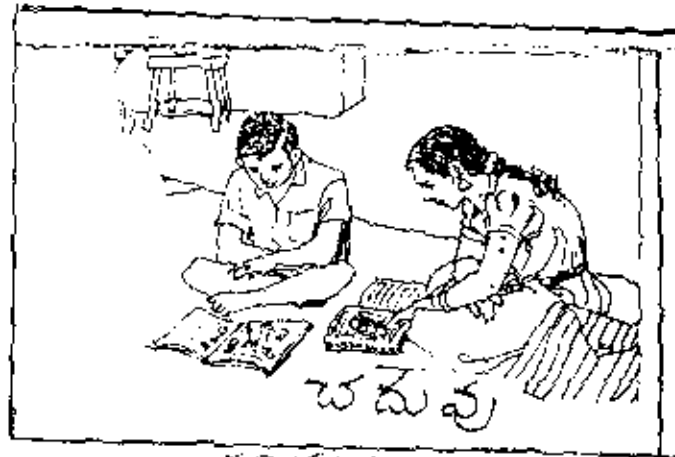
Picture cards (areas of the impact of pollution) used in the
Card-sorting and ranking session
(used for identifying the impact of pollution)



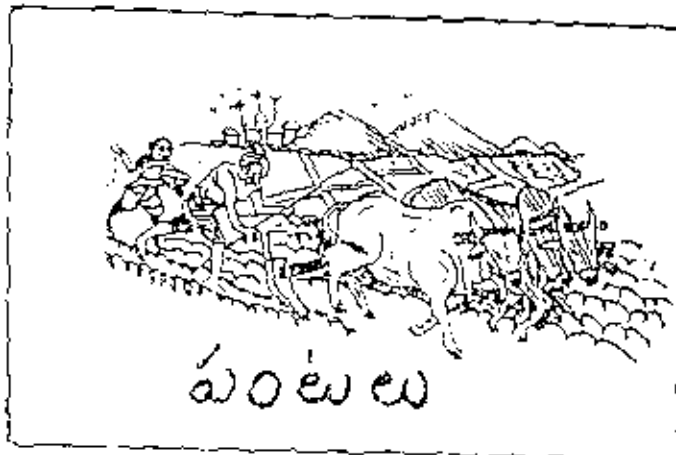
WATER



HEALTH



EDUCATION



CROPS



CATTLE

Appendix - vi

Men's ranking of services needed in the new colony

Services	Rank				Weighted mean	Rank
	1	2	3	4		
1. Drinking water	11	1	-	-	1.08	1
2. Water	8	3	1	-	1.41	3
3. Electricity	11	1	-	-	1.08	1
4. School	8	3	1	-	1.41	3
5. Hospital	10	2	-	-	1.16	2
6. Temple	4	4	2	2	2.16	7
7. Market	3	3	3	3	2.50	10
8. Community Hall	3	3	4	2	2.41	9
9. Street Lights	10	2	-	-	1.16	2
10. Fair price shop	5	1	5	1	2.16	7
11. Transport	4	5	1	2	2.08	6
12. Bus stop	3	6	2	1	2.08	6
13. Park	3	3	1	5	2.66	11
14. Roads	7	3	2	-	1.58	4
15. Toilets	5	4	2	1	1.91	5
16. Cooking fuel/ firewood	5	1	4	2	2.25	8
17. Gram Panchayat	4	3	4	1	2.16	7

FGD No. : 2

Location : Mulagada Primary School

Village : Mulagada Group of villages

Date : July 5, 1998

Moderator: Dr.B.Devi Prasad

Observers: 1.Dr.K.Visweswara Rao
2.Dr.S.Haranath

No. of participants: 12

Time taken: From To

FGD : 10-30am-11.50

Card sorting and Ranking: 12noon-12.30

Appendix - vi (contd...)

Women's ranking of services needed in the new colony

Services	Rank				Weighted mean	Rank
	1	2	3	4		
1. Drinking water	11	-	1	-	1.17	1
2. Water	5	2	4	1	2.08	6
3. Electricity	8	2	1	1	1.58	2
4. School	5	3	2	2	2.08	6
5. Hospital	7	2	2	1	1.75	3
6. Temple	3	3	3	3	2.50	9
7. Market	3	6	3	-	2.00	5
8. Community Hall	1	3	5	3	2.83	11
9. Street Lights	3	4	2	3	2.41	8
10. Fair price shop	1	8	1	2	2.33	7
11. Transport	5	2	4	1	2.08	6
12. Bus stop	4	6	2	-	1.83	4
13. Park	1	1	5	5	3.16	12
14. Roads	2	7	3	-	2.08	6
15. Toilets	6	5	1	-	1.58	2
16. Cooking fuel/ Firewood	4	1	3	4	2.58	10
17. Gram Panchayat	1	2	3	6	3.16	12

FGD No. : 3

Location : Mulagada Primary School

Village : Mulagada Group of villages

Date : July 5, 1998

Moderator: Professor B.Vijayalakshmi

Observers: 1. Ms.A.Sree Lakshmi

2. Ms.A.Vesavila

No. of participants: 12

Time taken: From To

FGD : 10.15am-11 a.m

Card sorting and Ranking: 11 am - 11.50a.

Appendix - vi (Contd..)

Men's ranking of impact of pollution from HZL on Mulagada group of villages

Area	Rank				Weigh- ted mean	Rank
	1	2	3	4		
1. Water	4	6	1	-	1.72	2
2. Cattle	-	3	5	3	3.00	5
3. Crops	5	4	-	2	1.90	3
4. Education	2	2	4	3	2.72	4
5. Health	11	-	-	-	1.00	1

FGD No. : 2

No. of participants: 11

Location : Mulagada Primary
School

Time taken: From To

Village : Mulagada Group
of villages

FGD : 10.30am - 11.50am

Date : July 5, 1998

Card-sorting: 12 noon-12.30pm
and ranking

Moderator: Dr.B.Devi Prasad

Observers:

1. Dr.K.Visweswara Rao

2. Dr.S.Haranath

Appendix - vi (Contd..)

women's ranking of impact of pollution from HZL on Mulagada group of villages

Area	Rank				Weigh- ted mean	Rank
	1	2	3	4		
1. Water	7	2	1	2	1.83	2
2. Cattle	1	3	2	6	3.08	5
3. Crops	1	7	2	2	2.41	4
4. Education	5	4	2	1	1.91	3
5. Health	9	3	-	-	1.25	1

FGD No. : 3

No. of participants: 12

Location : Mulagada Primary
School

Time taken: From To

Village : Mulagada Group of
villages

FGD : 10.15am - 11 am

Date : July 5, 1998

Card-sorting: 11 am - 11.50 am
and ranking

Moderator: Professor B.Vijayalakshmi

Observers: 1. Ms.A.Sree Lakshmi

2. Ms.A.Vesavila

Appendix - vi (contd..)

List of men participants of the Focus group and Card-sorting and ranking^a sessions

Name	Age	Village
1. Mr.Pilaka Sanyasirao	54	Chukkavanipalem
2. Mr.P.Appa Rao	50	"
3. Mr.P.Appa Rao	47	"
4. Mr.Ramana Murthy	40	"
5. Mr.A.Nagireddy	18	"
6. Mr.Potapalli Appa Rao	55	Pedamulagada
7. Mr.Yellabilli Mahalakshmi	31	"
8. Mr.P.S.Appa Rao	31	"
9. Mr.K.Appa Rao	60	"
10. Mr.J.Yerru Naidu	67	Yeduruvanipalem
11. Mr.K.Srinivas	18	"
12. Mr.K.Jagga Rao	58	Chinna Mulagada

^a One participant abstained from the Card-sorting and ranking session

Date: July 5, 1998

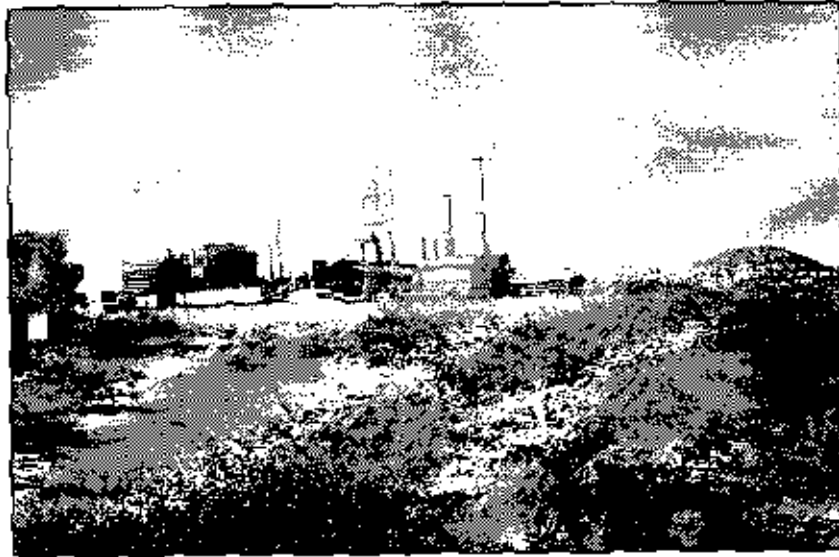
Appendix - vi (Contd..)

List of women participants of the Focus group and Card-sorting and ranking sessions

Name	Age	Village
1. Mrs D.V.S.Lakshmi	35	Yeduruvanipalem
2. Mrs N.Nookamma	52	P.Mulagada
3. Mrs Janaki Devi	35	Chukkavanipalem
4. Mrs Venkayamma	38	P.Mulagada
5. Mrs Chinchamma	53	P.Mulagada
6. Miss Eswaramma	20	Chukkavanipalem
7. Mrs Mariyamma	40	P.Mulagada
8. Mrs S.Paidamma	35	P.Mulagada
9. Mrs Suryakantham	32	P.Mulagada
10. Mrs Shakuntala	40	Chukkavanipalem
11. Mrs Ramanamma	30	Yeduruvanipalem
12. Mrs Rama Devi	32	Yeduruvanipalem

Date: July 5, 1998

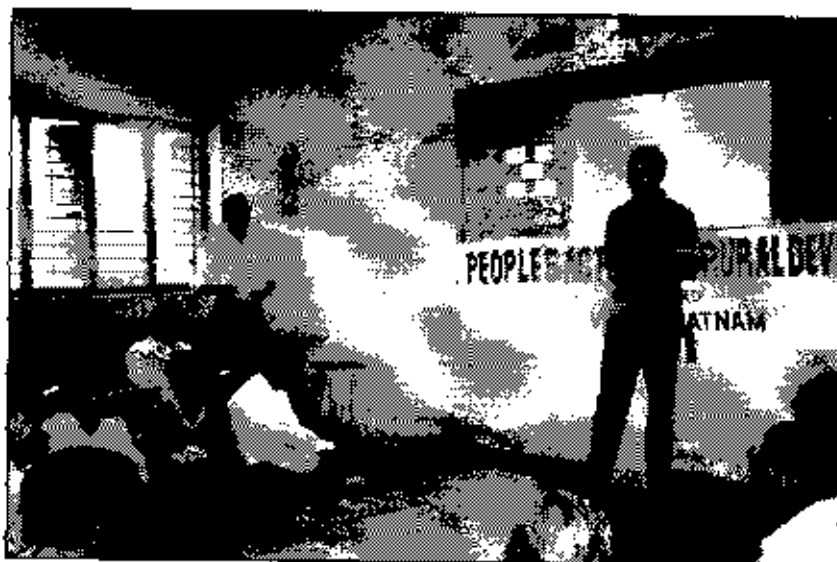
APPENDIX - vii



THE HINDUSTHAN ZINC LIMITED PLANT : THE SOURCE OF POLLUTION



RELAY HUNGER STRIKE BEFORE THE DISTRICT COLLECTORATE DEMANDING FOR SHIFTING OF VILLAGES



Dr. DEVI PRASAD MODERATING THE FGD OF MEN



Professor VIJAYLAKSHMI MODERATING THE FGD OF WOMEN



A VILLAGER IN THE FOCUS GROUP MAKING A POINT



A WOMEN PARTICIPANT OF THE FOCUS GROUP EXPLAINING AN ISSUE



MEN DOING CARD-SORTING AND RANKING



WOMEN DOING CARD-SORTING AND RANKING



THE RESEARCH TEAM



THE TEAM AND THE PEOPLE

