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IN THE SUPREME COURT OF INDIA

CIVIL ORIGINAL JURISDICTION

IA NO. 22 OF 2011

IN

WRIT PETITION © NO. 888 OF 1996

IN THE MATTER OF:

ALMITRA H. PATEL & ANR PETITIONERS

VERSUS

UNION OF INDIA & ORS RESPONDENTS

APPLICATION FOR DIRECTION

PAPER BOOK

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ADVOCATES FOR THE PETITIONER : M/S KARANJAWALA & CO

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I.A.NO. _____ OF 2011

IN

W. P. (C) No. 888 OF 1996

IN THE MATTER OF :

ALMITRA H. PATEL & ANOTHER ... PETITIONER

VERSUS

UNION OF INDIA & ORS. ... RESPONDENTS

APPLICATION FOR DIRECTIONS

TO

THE HON'BLE THE CHIEF JUSTICE OF INDIA
AND HIS OTHER COMPANION JUSTICES OF
SUPREME COURT OF INDIA

THE HUMBLE APPLICATION OF THE PETITIONERS ABOVE NAMED

MOST RESPECTFULLY SHEWETH:

1 That the present application for directions is being filed at this juncture on behalf of Applicant/ Petitioner herein seeking indulgence of this Hon'ble court in W. P. (Civil) No. 888 OF 1996 The present interim application is a natural continuation of I.A No. 1/1996 in WP (C) No. 888/96, filed primarily to prevent the open dumping of urban waste all over India, along with constructive solutions.

It is submitted that, 94% of India's 4378 ULBs (as per 2001 census) still continue with this highly polluting and health-endangering practice of open dumping. Further, the various interim orders of this Hon'ble Court have not been followed and directions passed remain to be addressed. Hence the Applicant is constrained to file this present application.

1 BRIEF CHRONOLOGY OF WP(C) 888/96 AND STATUS OF COMPLIANCE WITH THE DIRECTIONS OF THE HON'BLE COURT TO DATE

1.1 That the present Writ Petition (C) No. 888/96 was filed after the Petitioners visited over 100 Indian cities by road in 1994 and 1995 to share best practices in waste management and found open dumping of waste outside city limits to be the norm. The plea in the present Writ Petition was for a speedy end to existing countrywide open-dumping of waste and its replacement by hygienic and eco-friendly processing and disposal of Municipal Solid Waste (MSW). The original prayers sought by the Petitioner in I.A. No. 1/1996 in W.P.(C) No. 888/1996 alongwith the I.A. No. 1/1996 are annexed herewith and marked as **ANNEXURE – A**. Pages 42 – 55.

1.2 That on 28.7.1997 the Petitioner filed an "Immediate Low-Cost Garbage-Sanitizing Option" before this Hon'ble Court, based on which, this Hon'ble Court passed interim pollution-abatement

directions on 28.7.1997. It is pertinent to mention that none of these directions have been complied with. It is submitted that these directions are still being totally ignored and disregarded everywhere. A copy of "Immediate Low-Cost Garbage-Sanitizing Option" filed by the Petitioner/Applicant on 28.7.1997 and a copy of the order dated 28.7.1997 passed by this Hon'ble Court are annexed herewith and marked as **ANNEXURE-B** Pages 56-60 and **ANNEXURE-C** respectively. Pages 61 – 62.

The Applicant/ Petitioner therefore seeks that this Hon'ble Court may be pleased to redirect all the Respondents as per the directions dated 28.7.1997 of this Hon'ble Court, for immediate waste stabilization and to submit their action taking reports to this Hon'ble Court including the four new states not in existence at the time of filing the PIL in the year 1996 (Prayer 2 in the present application).

1.3 That the Applicant states and submits that the Solid Waste Management Report 1999 submitted by the Barman Committee appointed by this Hon'ble Court needs to be widely circulated for compliance

That this Hon'ble Court in January 1998 had appointed an Expert Committee of eight members, chaired by Shri Asim Barman, which sought this Hon'ble Court's permission for four wide-ranging consensus-building meetings with over 300 Municipal Commissioners of cities over one lakh population, and thereafter

presented their Final Report titled "Solid Waste Management in Class 1 Cities in India" in March 1999, (hereafter referred to as the SWM Report). This Hon'ble Court on 13.8.1999 noted that the response of the States is positive, and on 15.2.2000 directed them to comply with the suggestions and directions of this SWM Report. Copies of the orders passed by this Hon'ble Court on the SWM report are annexed herewith and marked as **ANNEXURE- D (COLLY)**. Pages 63 – 71.

The SWM Report was written as a practical manual for city managers by the navaratna Municipal Commissioners in the Committee. It has not yet been translated by any State/UT/Central Government into regional languages for circulation to the junior city staff to help them understand and improve their waste-management practices. Hence, the Petitioner /Applicant seeks this Hon'ble Court to direct the Respondents to make regional - language translations of the SWM Report available to their second-level field officers to disseminate means of complying with the recommendations of the SWM Report and the MSW Rules

1.4 That the Applicant states and submits that the Municipal Solid Waste Rules, 2000 have not been complied with and there is a need for National Technology Mission.

That on 25th September 2000, the Ministry of Environment notified the Municipal Solid Wastes (Management & Handling) Rules 2000 which also required annual reports of progress to be sent by cities to their respective State Pollution Control Boards(SPCB), to be

compiled and sent to the Central Pollution Control Board (CPCB) for submitting an Annual Review Report to the Government of India (Ministry of Environment). A copy of the latest CPCB Report, for 2008-09, is annexed hereto and marked as **ANNEXURE- E** and discussed below. Pages 72 – 90.

1.5 It is submitted that the progress on waste-processing before disposal is abysmal. To facilitate this, both the prayer No 5 A (g) of the Petitioner's initial prayers in IA 1 of 1996 and Chapter 10 of the SWM Report 1999 sought a National Technology Mission to improve SWM practices in the country within five years. A copy of Chapter 10 of the SWM Report 1999 is annexed herewith and marked as **ANNEXURE- F**. Pages 91–92. However, this suggestion was not implemented. Instead, as a cost-saving measure, the CPHEEO (Central Public Health Engineering Organization) under the Urban Development Ministry was assigned this role. It has a skeleton staff and has been headless since 2003 and has never played a Technology Mission role for this vital aspect of citizens' right to a healthy life. Mission-mode action under a Technology Mission for SWM is a vital necessity now, especially for waste processing and disposal. This is twelve years overdue now. Hence the Petitioner/Applicant prays that this Hon'ble Court may be pleased to direct the Union of India to immediately constitute a National Technology Mission for Improving solid waste management practices in the country within Five Years" with the role, objectives and composition as specified in Chapter 10 of the SWM Committee Report 1999 (Prayer 1 in the present application)

A preventive rather than a reactive response to the magnitude of urban solid waste problem is the need of the hour

1.6 That on 17.9.1999 this Hon'ble Court permitted the Petitioner to file and plead for 12 Directions Sought, to complement the SWM Report, whose original terms of reference did not include these related and necessary aspects. A copy of the 12 Directions sought by the Petitioner and submitted to the Hon'ble Supreme Court on 17.9.1999 are annexed herewith and marked as **ANNEXURE- G**. Pages 93 – 98. This Hon'ble Court on 13.9.2002, proposed to send W.P (C) No. 888/1996 to the respective High Courts for monitoring after the 12 Directions Sought were dealt with, and on 28.10.2002 declared that orders would need to be passed on them. A copy of the order dated 13.9.2002 and 28.10.2002 passed by the Honble Supreme Court are annexed hereto and marked as **ANNXEXURE-H (COLLY)**. Pages 99 – 102. The 12th of these Directions sought now remains to be discussed. It is of vital importance to waste management and requires one or more Rules or Notifications for waste reduction and for prevention of pollution of city waste. It is submitted that the same are dealt with in paragraph 5 below. Further, several letters written by way of suggestions and explanations of 'Directions Sought No 12' are annexed herewith and marked as Annexure N to Annexure T.

It is submitted that all these letters and notes are unacknowledged, unreplied and not acted upon and hence the Petitioner/Applicant

seeks this Hon'ble Court's directions which are now necessary for progress.

1.7 That the Applicant states and submits that "DHAKA RECOMMENDATIONS – 2004 ON SOLID WASTE MANAGEMENT IN THE SAARC REGION" needs to be implemented

That on October 2004 the Government of India's delegates from the Ministry of Environment played a key role in framing the excellent "Dhaka Recommendations – 2004 on Solid Waste Management in the SAARC Region". A copy of the "Dhaka Recommendations – 2004 on Solid Waste Management in the SAARC Region" is annexed herewith and marked as **ANNEXURE-I**. Pages 103 – 105. It is submitted that regrettably, the Union of India itself has yet to formally ratify these Recommendations at SAARC and needs to explain its tardiness to this Hon'ble Court. This Ratification will give a tremendous boost to good waste practices.

1.8 That Applicant states and submits that policies are required to organize persons working as ragpickers to enable the recovery of reusable/ recyclable material from Municipal Solid Waste

The Petitioner states and submits that the ratification of these "Dhaka Recommendations 2004 for SAARC Countries" and implementation of its point 5 will also improve the health and

welfare of waste-pickers, who are among India's poorest and most marginalized and for whom no poverty-alleviation schemes currently exist. It is pertinent to submit here that the Petitioner's original prayer No 5 A (f) sought the framing of "time-bound schemes to organize persons working as rag-pickers / waste separators to enable the recovery of reusable/recyclable material from MSW". The SWM Report in "Section 4.10 ENCOURAGEMENT TO NGOs AND WASTE COLLECTOR COOPERATIVES" also expressed the need to "encourage NGOs or cooperatives of rag pickers ... and provide them an opportunity to improve their working conditions and income" etc. It is submitted that the Secretary, Urban Development Ministry has promoted the same to the Chief Secretaries of all States/UTs, which however has not at all percolated even to the Directorates of Municipal Administration. A copy of the said letter dated 22.3.2010 from Secretary, Urban Development Ministry to Chief Secretaries of all States/UTs is annexed herewith and marked as **ANNEXURE-J**. Pages 106 – 111. It is further submitted that Peru by way of its recent law has formalized and benefited waste pickers. A copy of the text of Peru's recent law is annexed herewith and marked as **ANNEXURE- K**. Pages 112 – 117.

It is submitted that in consonance with Prayer No 5 A (f) in original IA 1/1996 the Petitioner seeks this Hon'ble Court's Directions to the Union of India to frame a similar inclusive policy, preferably in consultation with the Alliance of Indian Waste Pickers (AIW), who sent a memo on this to the MOEF in January 2011.

1.9 That the Applicant states and submits that there has been non implementation of the Inter Ministerial Task Force Report 2005 despite orders of this Hon'ble Court

The key to waste management is composting of urban India's biodegradable waste to return its nutrients and organic matter to revitalize Bharat's soils as in Vedic times. A Court-mandated Inter Ministerial Task Force on IPNM (Integrated Plant Nutrient Management) gave a very useful Report in May 2005, (hereafter referred to as IPNM Report). The Court directed its immediate implementation on 1.9.2006, but most of its recommendations remain to be implemented. A few chemical fertilizer companies, for financial reasons, have slowly begun adopting its key objective of co-marketing synthetic fertilizer with city compost for optimum cost-effective farm productivity. This needs to be circulated to all Urban Local Bodies (ULBs) .

2. PRINCIPAL ISSUES IN ORIGINAL WRIT PETITION AND DEVELOPMENTS TO DATE

2.1 That the Petitioner/Applicant states and submits this Application is principally concerned with the hygienic and eco-friendly processing and disposal of Municipal Solid Waste (MSW) and a speedy end to existing countrywide open-dumping of waste.

2.2 The gist of the original submissions and prayers in the IA No. 1/ 1996 was for:

(a) Respondents to acquire and operate waste Processing sites for 20-yr use in a scientific, nuisance-free manner and discontinue dumping elsewhere

(b) proper management of waste as per guidelines with Conversion into Re-usable / Recyclable products like compost etc.

(c) Respondents to frame time-bound schemes to organize persons working as rag-pickers/waste separators to enable recovery of reusable / recyclable material from MSW.

(d) create a Technology Mission for sanitation and environmental hygiene

2.3 That the Applicant states and submits that there has been non compliance of orders of this Hon'ble Court on Low Cost Waste Sanitization option, Barman Committee Report MSW Rules 2000 and that there is a need for National Technology Mission

That on 28.7.1997, this Hon'ble Court issued interim orders, directing Respondents to consider low-cost waste sanitizing option and avoid the use of pesticides on waste. The Hon'ble Court's order was based on a note on Bio-Treatment submitted by the Petitioner on 28.7.1997 indicating how the environmental damage of open-dumping could be immediately mitigated by simple sanitizing efforts. It is submitted that sadly, both of these directions are still ignored and open dumping of untreated mixed waste is still practiced in 94% of Urban Local Bodies (ULBs) as discussed in Para

2.7 of the present application below. It is submitted that orders passed by this Hon'ble Court and information filed never effectively filters down to operational decision-makers at the State/UT and ULB levels for implementation. Even Central Ministry circulars do not reach the concerned State Departments.

Hence the Petitioner/Applicant prays that these orders may be reiterated and enforced as an urgent pollution-abatement measure, by immediate "biological stabilization of wastes" of the entire present-level quantities of old and new waste, until implementation of any other scientific and hygienic methods of waste disposal. It is prayed that the Respondents may be directed to circulate copies of the Note on Low Cost Waste Stabilisation filed by the Petitioner in July 1997 and served on all of them on 28.7.1997, to the appointed and elected heads of all the ULBs in their State / UT so that they can fully understand and ensure compliance with this Court's Order dated 28.7.1997. The Intra-IAS website could be effectively used.

2.4 That the Hon'ble Supreme Court vide its order dated 15.2.2000 had directed all statutory authorities to "endeavour to comply with the suggestions and directions contained in the report prepared by the Asim Barman Committee". It is submitted that hardly any cities are following its detailed guidelines, because the Central and State governments have not made it available to all ULBs. To improve compliance, all States and UTs need to prepare a translation, in their regional language, of the SWM Report and distribute it

especially to the field level officers of all their Urban Local Bodies (ULBs) for its use and implementation as directed by the Hon'ble Supreme Court on 15.2.2000. It is a manual, written by city managers for all city managers, which will enable compliance with the MSW Rules. Reprints of the report, in English and in a UP-Hindi translation commissioned by the Petitioner, are available with the Petitioner for Respondents requiring them. The Petitioner therefore prays that this Hon'ble Court be pleased to direct the Respondents to make regional - language translations of the SWM Report available to their second-level field officers to disseminate means of complying with the recommendations of the SWM Report and the MSW Rules for meaningful compliance with the order dated 15.2.2000 of this Hon'ble Court as well as the MSW Rules 2000.

2.5 That the Petitioner states and submits that compliance with Municipal Solid Waste (Management & Handling) Rules 2000, called MSW Rules for brevity, is abysmal, as shown by the "Consolidated Annual Review Report on Management of Municipal Solid Wastes" for 2008-09 which is prepared annually as per section 8 (2) of the MSW Rules by the Central Pollution Control Board (CPCB) and sent to the Ministry of Environment and Forests (MOEF).

2.6 It is submitted that the MSW Rules 2000 require annual upward reporting systems to be complied with, as follows:

Sec 4 (4) requires every Municipal Authority to furnish its annual report in Form II by 30th June every year to the Secretary Urban

Development for metro cities and District Magistrate / District Collector for all other towns.

Sec 8 (1) requires the State Pollution Control Boards / Pollution Control Committees (SPCBs/PCCs) to compile the above data and submit to the Central Pollution Control Board (CPCB) by 15th September each year an annual report with regard to the implementation of the MSW Rules in their State / Union Territory.

Sec 8 (2) requires the CPCB to in turn prepare by 15th December each year a "consolidated annual review report on management of municipal solid wastes" in the country and "forward it to the Central Government along with its recommendations".

2.7 That the Applicant states and submits that there is an abysmal compliance with the MSW Rules 2000 as evident from the annual review report from Central Pollution Control Board (CPCB) to Ministry of Enviroment and Forest (MOEF)

That the Petitioner states and submits that the annual review report from the CPCB to the MOEF for the year 2008-09 shows the following glaring highlights:

2.7.1 That there is extrernely poor or non- compliance by Urban Local Bodies (ULBs) with these requirements, because the Government and the Environment Protection Act (EP Act) do not prescribe penalties for delay or default in either reporting or compliance with

the MSW Rules, nor any bonus/ incentives for compliance at an earlier date. Both SPCBs / PCCs and the CPCB spend enormous effort and unproductive time reminding, cajoling, bullying their Urban Local Bodies (ULBs) and the SPCBs / PCCs respectively, to file their statutory reports by the stipulated date.

2.7.2 As a result, in the CPCB 2008-2009 Consolidated Annual Review Report to MOEF, the CPCB reports in para 4 that only 10 out of 34 SPCBs/PCCs (29%) filed their Reports in time by September 2009, and by 30th April 2010 only 17 of them (exactly half) eventually filed their Reports. Internal Annexure 1 of the CPCB Report shows that State Pollution Control Boards and Pollution Control Committees of Union Territories reported data on only 2757 ULBs (63% of total). So the Annual Review Report is an imperfect snapshot of national reality, which would probably be worse if fully reported.

2.7.3 That the Applicant states and submits that 94% of Urban Local Bodies ULBs are still open dumping their untreated garbage .

CPCB's Review report shows that some progress has been made in identifying sites for waste management, in 780 out of a countrywide total of 4378 ULBs, a meagre 18% even ten years after the MSW Rules were notified. A decade-long cumulative countrywide total of only 1899 ULBs (43 % of total 4378) even

have authorization (applied and received permission) to set up waste processing and/or disposal facilities.

2.7.4 Actual compliance is abysmally worse. Even an otherwise progressive State like Tamil Nadu reported 99.64% open-dumping, in 841 out of its total 844 ULBs. In ten years, as per all-India compilation in internal Annexure IVa of the CPCB Report, only 1% (53 ULBs) have actually set up composting facilities, while another 1% (52 ULBs) are still "planned / proposed". An additional 5% (229 ULBs) have set up small vermi-composting facilities, mainly in Goa and Gujarat, while another 3% (157 ULBs) of these are planned/proposed, mainly in Gujarat and West Bengal. This means that nationally, 12 years after the SWM Report showed the way and despite a 2003 deadline in the MSW Rules, 4097 out of 4378 ULBs or 94% (ninety-four percent of ULBs) are still open-dumping their untreated garbage Rainwater percolation through old and current waste-heaps pollutes nearby water sources and supports often-continuous fires. It is submitted that it was exactly this universal end-point neglect of waste that drove the Petitioners to file a PIL in 1996. It is inexcusable that this situation should persist after so much information and money and time has been made available for compliance.

2.8 That Applicant states and submits that there is no regular ground water test around polluting open dumps

This deliberate blindness to problems of open dumping is compounded by the attitude of SPCBs and PCCs. It is submitted that going by the alleged letter and not the spirit of the MSW Rules 2000, they do not regularly test groundwater quality around these polluting open dumps because they claim that the MSW Rules 2000 require groundwater monitoring only around proposed [scientifically engineered] "landfills" and not existing open dumps, even though all officials always wrongly refer to open dumps as 'landfills". It is far more important to monitor groundwater around unlined open dumps, usually in low-lying areas, than around engineered landfills with waterproof bottom and side liners which are to receive only post-stabilisation rejects. Hence the Petitioner/Applicant prays that this Hon'ble Court may be pleased to direct all SPCBs and PCCs to immediately start GIS mapping and coordinate-documentation of all existing former / recently-used waste-dumps and currently-used open dumping sites of ULBs, test the quality of open wells and/or bore wells all around them upto 500m distance from dump perimeter, prioritise remediation measures, monitor results and list action taken and required, which shall be reported annually to the CPCB for compilation as a separate report to the MOEF for pro-active interventions.

2.9 The CPCB's Review Report 2008-09 (internal Section 7.1) reiterates that "At Central level a Technical Cell may be set up to provide assistance to the State governments / UT administrations and Local bodies enabling them to take decisions on implementation of MSW Rules particularly relating to setting up of waste processing and

disposal facilities.... At State level, similar type of Group may be set up to assist local bodies." The Report recommends, in Internal Section 7.9, that "State governments may set up a solid waste mission..." This clearly confirms the futility of Govt of India having assigned this role to the CPHEEO.

2.10. That the Petitioner states and submits that this all-pervasive non-compliance with the MSW Rules 2000 clearly highlights the crying need and pressing necessity for the constitution of a National Technology Mission for Improving solid waste management practices, spelt out in great detail as to its role, objectives and composition in Chapter 10 of the Supreme Court Committee Report 1999 (SWM Report), which this Hon'ble Court on 15.2.2000 directed all to follow.

2.11 It is pertinent to point out here that such a Technology Mission was also prayed for in the Petitioner's initial Prayers in WP (C) 888/96 and IA No 1 of 1996. and the Petitioner/Applicant reiterates the urgent plea for Mission-Mode action on waste management, processing and disposal. (Prayer 1 of this present application)

2.12 An additional reason for a Technology Mission is to ensure implementation of the SWM Report (esp Chapter 11 Recommendations plus Chapter 12 Suggestions for Central and State Governments) as well as the May 2005 IPNM Report of the Inter-Ministerial Task Force (esp Recommendations in Chapter 12),

endorsed by the Court on 1.9.2006, which is also not available with almost all ULBs and needs to be widely circulated.

3. OBSERVED WASTE PROCESSING PERFORMANCE SINCE THE LAST 14 YEARS TO DATE

The Petitioner has since 1994 and until date been periodically visiting (and revisiting) cities and towns around India (150 to date) to interact with city officials and visit their dumpsites or waste processing and disposal facilities if any, to get a sense of progress on the SWM (Solid Waste Management) front, learn and share new success stories and pass them on to others. The observations below are her personal qualitative assessment of progress since the last 14 years and current status.

3.1 That the Applicant states and submits that though city streets look cleaner however dumping sites are still not managed.

It is submitted that city streets are everywhere visibly cleaner than a decade ago. Twenty-four-hour roadside dumping is mostly absent. Door-to-door collection of waste is partially in place in parts of many cities, but collection of unmixed waste (wet food wastes and dry recyclables separately) is virtually absent. This is not for want of citizen willingness to cooperate in giving their wastes unmixed but, almost everywhere, because of municipal indifference and unwillingness to physically receive and transport the wastes unmixed, for sensible recycling of both types of waste. Citizens

become cynical when they see their wastes, carefully delivered separately, being loaded mixed into the collection vehicle, even if painted in two colours with two separate compartments for Wet and Dry waste.

3.2 That the Applicant states and submits that time bound schemes are required to organize persons working as rag pickers to enable the recovery of re-usable / recyclable material from Municipal Solid Waste.

The Petitioner had sought directions in the original IA no.1/1996 to the govt. to "frame time-bound schemes to organize persons working as rag-pickers / waste separators to enable the recovery of reusable/recyclable material from MSW". On 22.3.2010 the Ministry of Urban Development & Poverty Alleviation finally took some action along these lines and wrote a letter to the Chief Secretaries of all States /UTs for inclusion of waste-pickers in SWM. The UD Secretary's letter (annexed herewith) sought feedback on action within 3 months. Instead, there is noticeably increased official unwillingness to allow, let alone help, the poor to profit from waste-collection and recycling, though such waste-reduction saves cities huge amounts in avoided transportation costs. Dry waste is never required to be unloaded first at nearby waste-buyer / kabadiwala centres although that would save much transport fuel and waste-disposal space. In door-to-door collection areas, traditional waste-pickers are edged out as city or contract sweepers get first pickings and keep saleable recyclables for themselves. So there is increased littering by non-recyclables such as multi-film

pouches and small sachets. Though open dumping is still the norm, there is increasing denial of access to dumps by waste-pickers whose efforts actually reduce waste volumes and flammability there. Meanwhile the Alliance of Indian Waste-pickers, with 71 member-organizations, met in January 2011 in Ahmedabad and sent a Memo for action to the Minister for Environment. Hence the Petitioner reiterates as sought in para 1.8 of the present application above its plea for inclusive policies for waste-pickers along the lines of the UD letter, Peru's 'Law to Regulate Waste-Pickers Activity' and the AIW Memorandum.

3.3 It is submitted that there has been a lot of money granted to ULBs and spent for collection and transport of waste outside the city to old dumpsites or to pollute newly-allotted ones which are not at all being managed as required. Citizens are rarely aware of where their waste ends up and how, so the new civic awareness of waste issues which can hold municipalities accountable remains confined to city streets and lanes and not beyond, to open dumps polluting the suburbs.

3.4 It is submitted that funding for SWM has been generous, especially through JNNURM, and is no longer a constraint for stopping open dumping and spending for hygienic end-point waste management. Unfortunately, either for lack of knowledge or an indifference to what happens to waste once it is outside their city limits, most JNNURM funding is spent on inner-city hardware for collection and transport, very often inappropriately, because the time and

manpower management and coordination needed for this is lacking. Heavy capital-cost spending has inherent attraction for both elected and some appointed officials, rather than a focus on good management practices.

3.5 That the Applicant states and submits that the Nasik and Suryapet model is an alternative for effective Solid Waste Management

The Petitioner states and submits that to comply with the MSW Rules requirement to "handle waste once only", one successful option is the Nasik and Suryapet model, where large or smaller waste-collection vehicles daily stop frequently along streets and lanes to directly receive waste from households. But very many cities have opted to purchase costly corrodible steel container-bins which can be mechanically lifted onto a very expensive dumper-placer vehicle, driven to the dumpsite where their contents are tilted out, and brought back to their original spot if an empty bin has not already been placed there by the dumper-placer. This works fine abroad with effective deployment. But in India with poor vehicle maintenance, poor roads, slow traffic and no application of mind, the results are dismal. Typically, a South Indian hill town which purchased 100 bins two years ago has 50 functional ones on roadsides now. Its two dumper-placer vehicles, which can carry two bins, make two trips a day each, thus lifting 8 bins a day, one-fourth of the total. So every bin is emptied on average once in four days. Since two crowded-area bins are lifted daily, some others

are cleared only once in seven days, leading to smell, pests, stray dogs and serious civic discontent with services.

3.6 One beneficial outcome of the PIL has been that many States and UTs have provided waste management sites for most of their ULBs (Urban Local Bodies), but this has come with the following

3.6.1 That the Applicant submits that there are disadvantages of waste management sites.

Very few sites are being properly used as intended for waste-stabilization or composting. Cities see this as a great new site for open-dumping in more concentrated quantities. This leads to more intense and concentrated pollution of groundwater and air, which as mentioned above is not monitored by SPCBs/PCCs. Frequent spontaneous or deliberate fires are common here.

3.6.2 Despite clear guidelines, some of the sites are really unsuitable : in a wetland upstream of a mega-city's major water-supply lake nearby, near a streamlet, or in small towns upstream of the only open well of a nearby village.

3.6.3 Gram Sabha consent as mandated under 73rd Amendment to Constitution, is never taken for selecting / acquiring / awarding sites on the outskirts to ULBs. Given a chance to object, there would be almost universal resistance by villages, because non-

polluting role models are so very few in the absence of waste-stabilisation and simple fish-net fencing to prevent plastic flying across nearby fields, which makes them impervious and less fertile.

3.6.4 That the Applicant states and submits that the buffer zones of no new development around notified waste processing and disposal sites have not been declared as per MSW Rules,2000(FORMAT)

It is submitted that no State / UT has officially declared a Buffer Zone of No New Development around its notified new waste-processing and disposal sites. This seriously interferes with progress on good waste-processing and disposal. Hence the Petitioner/Applicant prays that this Hon'ble Court may be pleased to seek explanation for their reasons for non-compliance with the mandatory declaration of Buffer Zones of No New Development around waste-processing sites and ask for solutions and time-frames for immediate compliance with Sch III sec 9 of the MSW Rules 2000 and Sec 3.16.6 of the SWM Report, by Notification of Buffer Zones around waste processing and disposal sites (Prayer 3 of the present application).

3.6.5 Buffer Zones are unfair to property-owners within it who are denied the surge in property values driven by city expansion into surrounding villages. They need to be compensated by way of TDRs (Transferable Development Rights) or other market mechanisms, and by major compensatory infrastructure in their villages. The Petitioner/Applicant therefore prays for directions from

this Hon'ble Court to the Respondents, the Planning Commission and Urban Development Departments to implement policies for compensatory measures to villages hosting waste-processing sites, to minimize NIMBY resistance to them. (Prayer 3 of the present Application).

3.6.6 That the Applicant states and submits that there is inaction regarding setting up compost plants and the existing compost plants are not properly maintained

Compost plants have been partially or fully completed in a few cities, either by the cities themselves or by private parties, but are often unutilized (since 3 years in one city-owned plant) or under-utilized, often intentionally to falsely claim Carbon Credits. The plants which are fully operating generally need some or a lot of improvement in their initial compost-yard management to optimize productivity and compost quality.

3.6.7 A major reason for inaction by ULBs to set up compost plants is that they are still seeking profits from those who come forward to help them fulfill their priority urban function. The May 2005 Report of the Inter-Ministerial Task Force on Integrated Plant Nutrient Management, which was endorsed by the Hon'ble Supreme Court vide its order dated 1.9.2006 clearly states in its "Financial Recommendations Section B (xx)" that "Composter should not be asked to pay royalty/tipping charges to ULBs for garbage supplied so as to reduce production cost of compost."

3.6.8 The magnitude of funding now allocated to the cleaning of urban India has inevitably magnified the historic corruption in this sector. The Petitioner/Applicant therefore seeks directions to ensure that JNNURM and similar funding is prioritized for statutory end-point waste management before its release for upstream aspects of waste handling. (Prayer 4 of the present application).

3.6.9 That the Applicant states and submits that all tipping fees contracts should be cancelled and only those should be allowed which commence payments for compost rejects only after completion of compost plants

A new avenue for corruption is corporate demand for and sanction of "Tipping Fees" to private parties. In the West, this is paid to firms which invest massively in buying huge acreage and providing it with expensive lining, drainage and gas-venting arrangements, then recover their investment by charging cities a tonnage or volume-based Fee for permission to "Tip" (unload) their waste on these pollution-containing landfill sites. In India, this concept is being badly abused by paying private parties at taxpayers expense to unload unprocessed waste on undeveloped sites already publicly owned, in effect paying them heavily to do exactly what ULBs were doing earlier. The Petitioner/Applicant seeks directions to all respondents to immediately cancel all such Tipping-Fee contracts and allow only those which commence payments for compost

rejects (subject to maximum 20% of total raw waste) only after completion of compost-plants and development of lined landfill-sites at the composter's expense. (Prayer 4 of the present application)

3.6.10 That the Applicant states and submits that the Capping of Unlined old dumps without Bio-mining should be prevented.

Another recent avenue of corruption is the "Capping" (covering with a rainproof layer) at enormous unnecessary and fruitless cost, of old heaps of untreated waste on dumpsites without bottom or side liners, to claim Carbon Credits. Experience at Malad in Mumbai has proved that this is a highly dangerous practice. Landfill gases which earlier diffused upward over the entire dump area and dispersed are now trapped and forced out at the capped edges into surrounding habitations (the Mindspace IT Park), resulting in failure of varied electronic equipment and ill health among residents, noticed after 2-3 years.

3.6.11 In most towns now, the inerts content in mixed waste, which was upto 45% in the nineties, has come down with separate collection timings and routes. But payment for transport by weight is defeating this effort and needs to be changed to payment by weight-cum-volume, based on a bulk density of half-ton-per-cubic-meter of lorry space.

3.6.12 The SWM Report endorsed by this Hon'ble Court in section 3.16 requires land filling of domestic hazardous wastes. Nowhere was this observed being done. In fact tube-lights are the commonest domestic hazardous waste found in mixed municipal waste. Besides their mercury content addressed in para 5.2 below, they regularly cause expensive punctures of transport vehicles and compost-yard equipment.

4. SUCCESSFUL NEW DEVELOPMENTS :

Two significant new developments are Biomining and Plastic Roads, described below.

4.1 That the Petitioner states and submits that as an alternative to the ill-advised capping of unlined old dumps, a very cost-effective, well-proven, eco-friendly solution since 1998 is Bio-Mining, the windrow treatment of layers of old waste resulting in its near-total removal after conversion to usable material. This stops all generation of leachate and landfill gases and enables beneficial recovery of valuable land, either for continued long-term waste-processing and disposal or for alternative land-use for public benefit. A note on Bio-mining for the healing of old waste-dumps is annexed herewith and marked as **ANNEXURE-L**. Pages 118-134.

The Petitioner/Applicant seeks directions to all Respondents to provide statutory encouragement to, and proactively adopt, this pollution-removal technology for environment protection and to

avoid the hazards of capping unlined dumps. (Prayer 4 of the present application)

4.2 Further, another exemplary development which deserves country-wide replication is 'plastic roads' which is a win-win use of discarded plastic in asphalt roads with doubled road life and decreased cost. 'Plastic Roads' for plastics disposal and doubled asphalt road life, are well-documented by the CPCB in their Publication "PROBES/101/2005-06 Indicative Operational Guidelines on Construction of Polymer – Bitumen Roads for Reuse of Waste Plastics". CPCB has further endorsed the excellent performance of such Polymer-Bitumen Roads in their August 2008 Publication No. PROBES/122/2008-2009 titled "Performance Evaluation of Polymer Coated Bitumen Built Roads". Extracts from the said publication of the Central Pollution Control Board(CPCB) is annexed hereto and marked as **ANNEXURE- M**. Pages 135 – 138.

In this win-win method of making asphalt roads, assorted thin-film plastic litter is finely shredded and mixed for half a minute with hot stones to coat them with a plastic layer before addition of liquid bitumen (tar). This greatly improves adhesion of bitumen to stone, so road life increases upto two-fold, potholes are minimal, and enormous land area is saved which would otherwise be needed for land filling of bulky unrecyclable or unwanted plastics like multifilm sachets and thermocole. Since shredded plastic can replace upto 8% of costlier bitumen in road mixes, there are actually cost savings possible in adopting this pollution-prevention technology. It is pertinent to submit here that the State of Himachal Pradesh

has adopted this technology as State policy in July 2010 and it deserves mandatory replication countrywide. (Prayer 5 of the present application)

4.3 Also, a couple of Model 'zero-waste towns' like Suryapet have become fully compliant with MSW Rules and hence almost zero-garbage. This was achieved by sincerely, and visibly, collecting and transporting wet food waste and dry recyclables separately and processing them separately, for net profit. Inerts like debris and drain silt, again collected separately, were used for pothole-filling and road-shoulder widening. This left less than 10% of total raw waste collected that needing land filling. It shows that where there is administrative will and sincerity, urban India can really clean up its act. At Nandyal, the same Commissioner achieved 100% doorstep collection within ten days of assuming office, and plans to keep most plastics out of waste by purchasing them at schools.

5. PRINCIPAL NEW ISSUES IN THE PRESENT IA :

5.1 Few realize how many indirect wastes and hazardous pollutants enter the municipal waste stream, and how necessary and easy it is to minimize these. As submitted above, Direction No 12 of the Directions Sought seeks pro-active, preventive measures for Waste Reduction and Prevention of its Pollution in the waste stream. Hereto annexed and marked as **ANNEXURE N** is the Petitioner's letter dated 22.3. 2005 to the Chairman CPCB suggesting a very comprehensive list of such measures for consideration by the

CPCB and MOEF in advance of their being taken up in Court. Pages 139 – 148. It is submitted that there has been no reply or action till date and hence the Petitioner/Applicant seeks this Hon'ble Court's directions to the CPCB, MOEF and Govt of India to respond pro-actively to the Court on progress on these measures, for which Notifications / Regulations / Rules are necessary. (Prayer 5 of the present application).

Some of these problems for which urgent redress is sought are summarized below pointwise from 5.2 to 5.7 and explained more fully through the corresponding Annexures O to T hereto annexed for reference.

5.2 That the Applicant states and submits that LOW - MERCURY TUBE - LIGHTS are a good alternative.

Tube lights are the greatest hazardous item in municipal waste. Apart from regularly causing punctures to waste-transport trucks and compost-yard equipment, the mercury content of Indian tube lights is very high. When broken for resale of their aluminum caps, the mercury vapour released from each tube light within 8 hours equals the safe daily exposure limit of 4000 persons. In the European Union, such high-mercury fluorescents have to go to expensive hazardous-waste landfills. Only tube lights with less than 5 mg mercury each can go to municipal waste landfills. Such imported low-mercury tube lights are available in India at somewhat higher cost. All the major tube light suppliers in India

are MNCs who produce low-mercury versions abroad but not in India for want of any mandatory regulations. It is submitted that the Applicant has through email dated 28.10.06 to the Chairman KSPCB, sought MERCURY POLLUTION PREVENTION through mercury-content labeling and phase-out of high-mercury tubelights. A copy of the said e-mail dated 28.10.2006 sent by the Petitioner to Chairman, Karnataka State Pollution Control Board (KSPCB) is annexed herewith and marked as **ANNEXURE-Q**. Pages 149 – 152. It suggests mandatory public-sector purchase of only low-mercury tubelights to create adequate demand, economic incentives for the switch to low-polluting production within India, take-back of high-mercury fluorescents and / or mandatory use of low-cost equipment now available for pollution-free recycling at the waste-producer's cost.

The Petitioner/ Applicant states and submits that no acknowledgement to the said email has been received or any action has been taken upon the suggestion contained in it.

5.3 That the Applicant states and submits that lead-free paints and pigments are a good alternative.(FORMAT)

5.3.1 That the Petitioner states and submits that in the present time it is difficult to produce city compost with acceptable lead levels to prevent the entry of lead into the food chain. Lead enters the waste stream mainly through discards having high-lead paints, and products like toys with cheap high-lead pigments. The hazards posed by lead (Pb) in the environment, especially to children, are

well known, hence the ban on leaded fuels in India since March 2000. But paints and pigments continue to cause lead-poisoning. A 12-country collaborative study in 2007 by C. Scott Clark et al (clarkcs@ucmail.uc.edu) of 337 new-enamel-paint samples from Asia, Africa and South America found an Average level of 29,660 ppm in 72 Indian samples, with the highest 85,000 ppm in yellow paint, against a Voluntary BIS standard of 1000ppm. The lowest lead content was in Singapore where lead-content regulations are enforced.

5.3.2 The study showed a maximum price increase of 10% in India for low-lead paints even with a 7000-fold decline in lead content. Companies selling in multiple countries supplied the same shade with differing lead contents. The study's findings that "almost one-third of the samples would meet the new United States standard for new paint of 90 ppm, suggests that the technology is already available in at least 11 of the 12 countries to produce low lead enamel paints for domestic use. The need remains urgent to establish effective worldwide controls to prevent the needless poisoning of millions of children." A WHO-cum-UNEP-led Global Alliance to Eliminate Lead in Paints, held in May 2010 reported that 120 million persons globally are over-exposed to Lead, 99% in the developing world, thrice the number of HIV/AIDS cases.

5.3.3 A recent October 2010 Report by the National Referral Centre for Lead Poisoning in India (NRLCPI), a Centre of Excellence on the subject under the Quality Council of India (QCI), on analysis of 23 Indian domestic and decorative paint samples shows that they still

have lead levels as high as 126,600 (in golden yellow enamel, which is a mandatory colour for school-buses). This proves that Voluntary BIS standards do not produce responsible corporate behaviour. NRCLPI wrote to 39 paint companies with their findings, asking about the need for high lead on technical or cost grounds and inviting suggestions. Not one replied. This clearly highlights the urgent need to officially add the BIS standard for lead and heavy metals in paints to the existing "LIST OF [81] INDIAN STANDARDS UNDER MANDATORY CERTIFICATION".

5.3.4 The study also showed that some paints carrying eco-friendly icons with "no added lead" actually exceeded the voluntary BIS lead levels of 1000 ppm in paints, which is already higher than most countries' maximum of 600 ppm lead and the US maximum of 90 ppm lead. Hence there is also urgent need for the Government Of India to require Mandatory Disclosure of the Content of toxic heavy metals in all consumer products, especially paints and pigments for domestic and decorative use, toys and cosmetics, and to limit their heavy-metal content. Content-labelling will allow all citizens free choice in safeguarding their constitutional right to life and health.

The Petitioner in June 2010 had written to QCI by e-mail with a copy to MOEF explaining the issue with a five point action plan for the TESTING, LABELLING AND PHASE-OUT OF LEAD CONTENT IN PAINTS & PIGMENTS and COSMETICS. A copy of the e-mail dated 6.6.2010 of the Petitioner to QCI is annexed herewith and marked as **ANNEXURE-P**. Pages 153 – 156.

It is submitted that QCI replied positively however MOEF did not reply but phoned the Petitioner to deny the seriousness of the problem, which had also been raised in Parliament. The Petitioner/Applicant therefore seeks directions for strict Rules with enforceable deadlines to be framed by CPCB for the MOEF in consultation with the NRCLPI.

5.4 That the Applicant submits that low-phosphate soaps and detergents are a good altenative

The Petitioner further submits that one major voluminous waste which is not considered Municipal Solid Waste but which is a major financial and managerial burden for all Local Bodies is the annual removal of excessive growth of weeds in water-bodies, which thrive on the high phosphate content in soaps and detergents. Costs apart, this has led to choking of waterways and water-bodies worldwide and depletion of their oxygen content needed for survival of fish. Phosphates are a limiting nutrient for growth of water-hyacinth, other aquatic weeds, and algae which choke urban water-supply systems. Lake Erie between USA and Canada, "dying" by such eutrophication, was saved and revived by a treaty in 1970 capping the phosphorus content in detergents to 8.7% in 1970, 2.2% in 1973 and resulting in no phosphate detergents being found around Lake Erie now.

The Petitioner through its letter dated 7.3.2010 to the Hon'ble Minister for Environment, Govt of India (CC Secy MOEF) sought to MINIMISE POLLUTION BY DETERGENTS by progressively reducing

to 2.2% their permissible Phosphorus content. This legislation is vital to reduce the burden on municipalities of annually deweeding their storm-drains and lakes to prevent flooding. Its implementation is technically very easy now as the detergent industry in India is currently controlled by the same three multinationals who have 80% share of the US detergent market, where they produce only low-phosphorus and even zero-phosphorus detergents. It is submitted that no reply has been received from the MOEF Minister or Secretary to the letter written by the Petitioner.

A copy of the said letter dated 7.3.2010 is annexed herewith and marked as **ANNEXURE-Q**. Pages 157 – 160.

5.5 That the Applicant states and submits that the Short Life PVC should be phased out.

Municipal waste is chronically burnt countrywide on street-corners and at open dumps. Dioxin is formed whenever chlorinated polymers like PVC are burnt. Globally known as "poison plastic", PVC which is 40% chlorine is being steadily phased out worldwide as its role in harming human health becomes ever clearer. Petitioner's note dated 9.10.2007 annexed hereto as **ANNEXURE-R** seeks PHASE-OUT OF SHORT-LIFE PVC in India too. This paper was initially presented on 23.2.2007 at the Indian Plastic Institute's Asia Pacific conference on Recycling of Plastics, addressed by the

Secretary MOEF and Jt Secy Union Ministry of Chemicals and Fertilisers. Pages 161 – 164.

Similarly, there is urgent need for a phase-out of nuisance polymers like EPS (Expanded PolyStyrene / Styrofoam / Thermocole) which litters all open dumps as it is not collected by waste-pickers, being too voluminous, expensive to transport and difficult to recycle. Today there are eco-friendly easily-recyclable alternate packaging materials to replace EPS, like papier-mache, folded-cardboard, air-trapping bubble-plastic films, soluble packing-fill and others, in extensive use abroad.

5.6 That the Applicant states and submits that fully-compostable garbage bags should be used.

A major new problem in composting municipal waste is that households now discard their daily food waste tied up in plastic bags. These kill cattle and animals that everywhere eat such bags at open dumps, and make waste-stabilising and composting difficult as each bag needs to be slit open to permit good decomposition. They defeat both carry-bag bans and the purpose of asking households to keep their compostable and non-biodegradable wastes unmixed. Even 8% by weight of such plastic bags in waste exceeds in volume the compost produced in compost plants. Where there is doorstep collection, the poor empty and retrieve their plastic bags, but even middle-income homes now buy packs of plastic garbage-bin-liners and use 365 of them a year. The

Petitioner vide its letter dt 7.3.2010 to the Hon'ble Minister for Environment, Govt of India (CC Secy MOEF), sought a mandate that all plastic garbage-bags sold must be of fully-compostable plastic conforming to ISO 17088 adopted by BIS in 2010. It is submitted that once this is done, with some economic incentives, the supply of fully-compostable bags will soar to meet demand. Oxo-degradable and other falsely-claimed biodegradable bags not conforming to IS 17088 should not be allowed for such sale.

It is submitted that no reply has been received from the authorities to the letter written by the Petitioner. A copy of the letter dated 7.3.2010 of the Petitioner to the Hon'ble Minister for Environment is annexed herewith and marked as **ANNEXURE-S**. Pages 165 – 166.

5.7 That the Applicant states and submits that fly ash in urban areas is a costly nuisance..

As cities grow, often towards suburban thermal power plants, their fly ash becomes an urban waste that fills up urban drains and becomes a costly nuisance for municipalities to clear, as in Kanpur and Faridabad. The Petitioner wrote a letter dated 6.2.2011 to the Secretary-General, Quality Council of India, explaining this and sought remedies. Importantly, it requests that all fly ash sold as partial replacement of cement in concrete and mortar shall mandatorily carry BIS certification for quality standards conforming to IS 3812 (Part 1): 2003 for Pulverised Fuel Ash, just as BIS certification is mandatory for all 15 types of cements. This is

because rampant use of unprocessed, uncertified as-is fly-ash endangers construction and leads to building collapses, especially in publicly-constructed housing for the poor.

It is submitted that QCI has responded verbally, but no replies or concrete actions have been forthcoming received from MOEF, CPCB or BIS. A copy of the letter dated 6.2.2011 of the Petitioner to the Secretary General, Quality Council of India is annexed herewith and marked as **ANNEXURE-T**. Pages 167 – 171.

PRAYERS

It is therefore humbly prayed that this Hon'ble court may graciously be pleased to :-

1. direct the Union of India, Respondent No.1 to immediately Constitute a National Technology Mission for Improving Solid Waste management Practices in the Country within Five Years" with the role, Objectives and composition as specified in Chapter 10 of the SWM Committee Report 1999, and for considering immediate Ratification by India of the "Dhaka Recommendations – 2004 on Solid Waste Management in the SAARC Region"

2. redirect all the Respondents including the four new states formed after 1996 to comply with the directions dated 28.7.1997 of this Hon'ble Court for immediate waste stabilization and to submit their action taking reports to this Hon'ble Court, and also pass directions restraining raw waste being deposited in new or existing waste-

processing sites or in landfills without first stabilizing the waste in wind-rows or by bio-methanation,

3. direct immediate compliance by all Respondents and new States with the mandatory declaration of Buffer Zones of No New Development around waste-processing sites as per Sch III sec 9 of the MSW Rules 2000 and Sec 3.16.6 of the SWM Report, by Notification of Buffer Zones around waste processing and disposal sites, and to formulate policies to compensate through economic instruments those villages hosting waste-processing sites and those properties falling within their Buffer Zones,

4. direct the Central and State Governments to ensure the application of urban funding as a first priority for statutory end-point waste stabilizing, processing and disposal before funding upstream aspects of waste handling and not to release or permit payment of Tipping Fees except for land filling of compost rejects (upto maximum 20% of total raw waste) only after commissioning of compost-plants and development of lined landfill-sites at the composter's expense and not to fund the Capping of old waste heaps and unlined landfills instead of biomining,

5. direct the Union of India (Respondent No.1), CPCB and BIS to consider the issue of proactive Notifications, Rules and/or Regulations to Minimize Waste and Prevent its Pollution, e.g. for use of unrecyclable plastic in roads, use of Low-Mercury Fluorescents, Lead-Free Paints and Pigments, Low-Phosphate

Detergents, phase-out of Short-life PVC products and Expanded Polystyrene Packaging, sale of fully-compostable Garbage Bags as suggested in the present application.

6. Pass such other and further orders and directions as this Hon'ble Court may deem fit and proper under the facts and circumstances of the present case.

AND FOR THIS ACT OF KINDNESS THE APPLICANT AS IS DUTY BOUND SHALL EVER PRAY

[M/S KARANJAWALA & CO]
ADVOCATES FOR THE PETITIONERS

FILED ON : 18.8.2011

IN THE SUPREME COURT OF INDIA
CIVIL ORIGINAL JURISDICTION
I.A.NO. _____OF 2011
IN
W. P. (CIVIL) NO. 888 OF 1996

IN THE MATTER OF :

ALMITRA H. PATEL & ANOTHER ...PETITIONERS

VERSUS

UNION OF INDIA & ORS. ... RESPONDENTS

AFFIDAVIT

I, Almitra H. Patel, W/o Hoshang C Patel, aged 75 years, R/o 50 Kothnur, Bagalur Road, Bangalore – 560 077, do hereby solemnly affirm as under:-

1 That I am the Petitioner / Applicant in the present application and am well conversant with the facts and circumstances of the present case and as such am competent to depose by way of this Affidavit.

2 That I have read the contents of the application which have been drafted under my instructions and state that all the facts stated therein are true and correct to the best of my knowledge and belief.

3 The annexures annexed to the instant application are true copies of their respective originals.

DEPONENT

VERIFICATIONS

Verified at Bangalore on the 1st day of March, 2011 that the contents of the above affidavit are true and correct to my knowledge, that no part of it is false and that nothing material has been concealed therefrom.

DEPONENT

[Ref para 1.1, 1.5, 1.8, 2.2, 2.11, 3.2] **ANNEXURE- A**

Original Prayers of Petitioner in WP(C) 888/96 & IA No 1 / 96:

ORIGINAL WRIT JURISDICTION I.A. NO 1 of 1996

IN WRIT PETITION (C) NO 888 OF 1996

IN THE MATTER OF

Mrs Almitra H Patel & Anr. ...Petitioners

vs

Union of India & Ors ... Respondents

APPLICATION FOR INTERIM RELIEF

To

HON'BLE CHIEF JUSTICE & HIS COMPANION JUSTICES OF THE SUPREME COURT OF INDIA

The Humble Petition of the Petitioners abovenamed

MOST RESPECTFULLY SHEWETH:

1. The Petitioners abovenamed have filed the accompanying Writ Petition in this Hon'ble Court as public interest litigation under Article 32 of the Constitution of India in view of the violation of the right to life of the Petitioners and other citizens of urban India, guaranteed under Article 21 of the Constitution of India.

2. The Petitioners by way of Writ Petition seek appropriate writs, orders and directions from this Hon'ble Court against the Respondents, for urgently taking steps to improve the practices presently adopted for the collection, storage, transportation, disposal, treatment and recycling of Municipal Solid Wastes

("MSW") popularly known as "garbage", generated in various cities across India.

3. The detailed facts leading to the filing of this Application are set out in the accompanying Writ Petition and may be read as part and parcel of this application and the same is not being repeated herein for the sake of brevity. The Petitioners repeat and reaffirm all the statements, contentions and submissions made in the said Petition as if the same were set out and form part thereof.

4. The Petitioners submit that the failure, neglect and inaction on the part of the Respondents 1 to 38 to take appropriate steps and measures for the collection, storage, transportation, hygienic disposal, treatment and recycling of municipal waste is illegal and liable to be remedied by appropriate orders and directions of this Hon'ble Court.

5. The Petitioners submit that the action of the Respondents is violative of their fundamental right guaranteed under Art 21 of the Constitution of India and it is of utmost necessity and urgency that inaction on the part of the Respondents may be stopped otherwise it will result in severe degradation and despoliation of the urban environment and/or areas at the periphery of urban centres.

In view of the facts and circumstances of the case, the Petitioners most respectfully pray that this Hon'ble Court may be pleased to:

(A) Pending final hearing and disposal of this **Writ Petition [No 888/96]**, issue a writ of mandamus or a writ in the

nature of mandamus or any other appropriate writ, order or direction under Article 32 of the Constitution of India, ordering and directing:

(i) Respondent No 1 in relation to Union Territories;

(ii) Respondent 2 to 26 in respect of the respective States;

To issue appropriate directions and orders under Section 5 of the Environment (Protection) Act, 1986 to each and every Municipal Corporation/Municipality of class I cities (with a population of over 1 lakh persons) falling within the respective territory/jurisdiction to:

(a) identify, designate, notify, purchase / acquire and operate waste processing sites adequate for use as waste-yards over a rolling 20-year period in respect of management and handling of MSW;

(b) forthwith discontinue the dumping of untreated MSW in areas other than designated sites;

(c) take appropriate steps and measures for the collection, storage, transportation, disposal, treatment and recycling of MSW including proper transportation to the designated sites; conversion into re-usable / recyclable by-products such as compost, biogas, etc,

(d) operate the MSW sites in a scientific and nuisance-free manner;

(e) direct all local bodies to implement the guidelines issued by the Central Pollution Control Board & Planning Commission Report 1995 action Plan;

(f) frame time-bound schemes to organise persons working as rag-pickers / waste separators to enable the recovery of reusable/recyclable material from MSW; and

(g) implement guidelines and directives if any of a National Programme on sanitation and environmental hygiene on the lines of a **Technology Mission.**

(B) pending final hearing and disposal of this Petition Hon'ble Court may be pleased to issue a writ of mandamus or a writ in the nature of mandamus or any other appropriate writ, order, or direction under Article 32 of the Constitution of India directing the Central Pollution Control Board to forthwith direct all State Pollution Control Boards to implement and enforce the recommendations enumerated in the "Management of Municipal Waste (Sewage and Solid Waste)' issued by CPCB and Planning Commission 1995 Action Plan

(C) Pending final hearing and disposal of this Writ Petition this Hon'ble Court may be pleased to issue a writ of mandamus or a writ in the nature of mandamus or any other appropriate writ, order or direction under article 32 of the Constitution of India ordering and directing Respondent Nos 28 to 41 [= 14 Municipalities] to:

(a) identify, notify [.....etc, similar to A (ii) (a) to (g)]

(D) pass such further and other orders as this Hon'ble Court may deem fit in the facts and circumstances of the present case.

And for this act of kindness, the Petitioner as in duty bound, shall ever pray.

New Delhi 9.11.1996

Manik Karanjawala,
Advocate for the Petitioners"

PRAYER

Under the facts and circumstances stated above, the petitioners, therefore, pray as follows:

A. That this Hon'ble Court may be pleased to issue a Writ of Mandamus or a Writ in the nature of Mandamus or any other appropriate Writ, Order or Direction under Article 32 of the Constitution of India, ordering and directing –

[I] Respondent No. 1, in relation to Union Territories and the States.

[II] Respondent Nos. 2 to 26 in respect of respective States:

[a] To make budgetary provision for purchase/acquisition, fencing and development of adequate long-term waste-yards for all Class I Cities, and annual budgetary provision for end-point MSW management at these waste-yards, in addition to cost-based budgetary funding for MSW collection and transport;

[b] To financially strengthens their Class I Cities by linking penal interest for non-payment of property taxes and similar municipal fees to 2% above prevailing bank rates of interest;

[c] To issue appropriate directions and orders under Section 5 of the Environment [Protection] Act, 1986 to each and every Municipal Corporation/Municipality of Class II Cities, [having a population of over one lakh persons] falling within the respective territory/jurisdiction to:

[i] identify, designate, notify, purchase/acquire and operate waste processing sites adequate for use as waste-yards over a rolling 20 years period in respect of management and handling of MSW;

[ii] forthwith discontinue the dumping of untreated MSW in areas other than designated sites;

[iii] take appropriate steps admeasures for the collection, storage, transportation, hygienic disposal, treatment and recycling of MSW including proper transportation to the designated sites and well-managed placement the for conversion into reusable/recyclable by-products such as compost, bio-gas, fuel pellets, etc.;

[iv] operate the MSW. sites and ultimate land fills in a sanitary, scientific and nuisance free manner;

[v] direct all local bodies to implement the guldelines issued by the Central Pollution Control Board a copy whereof is annexed as Annexure – 13 along with National Workshop recommendations in Annexure – 14;

[vi] frame time bound schemes and/or fiscal instruments to organize, encourage, support and facilitate persons working as rag-pickers/waste separators to enable the recovery with dignity and without health hazard of reusable/recyclable material from MSW, along the lines of Ahmedabad's SEWA and similar initiatives in India and Abroad;

[vii] ensure the exclusion of hospital and nursing home wastes from MSW and monitor or provide safe and sanitary incineration thereof.

[d] To introduce legislation to regulate and/or ban and/or impose punitive eco-taxes on excessive packaging and on the use of non-recyclable packaging like Styrofoam, foil coated plastic, plastic-coated paper, or to impose take-back/recall conditions on such packaging.

B. That this Hon'ble Court may be pleased to issue a Writ of Mandamus or a Writ in the nature of mandamus or any other appropriate writ, order or direction under Article 32 of the Constitution of India directing the Central Pollution Control Board [Respondent No. 27] to forthwith direct all State Pollution Control Boards to implement and enforce the recommendations enumerated in the publication, "Management of Municipal Waste] Sewage and Solid Waste" issued by the CPCB [Annexure – 13 hereto.

C. That this Hon'ble Court may be pleased to issue a Writ of Mandamus or a Writ in the nature of mandamus or any other appropriate writ, order or direction under Article 32 of the Constitution of India ordering and directing Respondent Nos. 28 to 41 to:

[a] identify, designate, notify, purchase/acquire and operate waste processing sites adequate for a rolling 20 years period in respect of management and handling of MSW;

[b] forthwith discontinue the dumping of untreated MSW in areas other than designated sites;

[c] take appropriate steps and measures for the collection, storage, transportation, hygienic disposal, treatment and recycling of MSW including proper transportation to the designated sites, conversations into reusable/recyclable by

products such as composts, biogas, fuel pellets etc. and adopt sanitary landfill methods for non-compostable and non-biodegradable wastes;

[d] operate the MSW sites in a scientific and nuisance free manner;

[e] implement the guidelines issued by the Central Pollution Control Board a copy whereof is annexed as ANNEXURE – 13 along with the National Workshop recommendations in ANNEXURE – 14; and

[f] frame time-bound schemes to organize, encourage, support and facilitate persons working as rag-pickers/waste separators to enable the recovery with dignity and without health hazard of reusable/recyclable material from MSW, along the lines of the SEWA model in Ahmedabad;

[g] ensure the exclusion of hospital and nursing home wastes from MSW and monitor or provide safe and sanitary incineration thereof.

D. Pending the hearing and final disposal of the petition this Hon'ble Court be pleased to direct that:

[i] Respondent Nos. 28 to 41 be restrained by an order or injunction from disposing off MSW at any place other than at the designated sites for waste disposal;

[ii] Respondent Nos. 28 to 41 furnish a list of presently used and designated sites for the management and disposal of MSW together with particulars in relation to the area occupied by each site and infrastructure available there; the nature of disposal and recycling facility available at the site; the methods adopted for disposal of MSWs, whether the site is walled, fenced and segregated, what measures are adopted in respect of public health, details of the areas of the city serviced and the population serviced by each particular site; the total percentage of the city/town waste MSW which is dumped, processed or disposed of at the particular site, the percentage of generated MSW collected and transported daily and the frequency of calculations, and whether waste handlers/beautifiers/rage pickers have been organized in the area.;

[iii] That Respondent Nos. 38, 39, 40 and 41 being the Municipal Corporations of Ahmedabad, Rajkot, Chandigarh and Surat file a detailed affidavit containing details of schemes and methods adopted by them for MSW disposal and biomedical waste disposal and the financial layouts and budgets for such disposal methods.

E. That pending final hearing and disposal of this petition this Hon'ble Court may be pleased to issue a writ of mandamus or a writ in the nature of mandamus or any other appropriate writ, order or direction under Article 32 of the Constitution of India, ordering and directions:

I. Respondent No. 1, in relation to Union Territories and the States.

II. Respondent Nos. 2 to 26 in respect of the respective States:

to issue appropriate directions and orders under Section 5 of the Environment [Protection] Act, 1986 to each and every Municipal Corporation/Municipality of Class I Cities [with a population of over one lakh persons] falling within their respective territory/jurisdiction to:

[a] identify, designate, notify, acquire and operate waste processing sites adequate for a rolling 20 years period in respect of management and handling of MSW;

[b] forthwith discontinue the dumping of untreated MSW in area other than designated sites;

[c] take appropriate steps and measures for the collection, storage, transportation, hygienic disposal, treatment and recycling of MSW including proper transportation to the designated sites and well managed placement there for

conversion into reusable/recyclable byproducts such as compost, biogas, etc.;

[d] operate the MSW sites and ultimate land fills in a sanitary, scientific and nuisance free manner;

[e] direct all local bodies to implement the guidelines issued by the Central Pollution Control Board a copy whereof is annexed as ANNEXURE – 13 along with National Workshop recommendation in ANNEXURE – 14;

[f] frame time-bond schemes to organize persons working as rag-pickers/waste separators to enable the recovery of reusable/recyclable material from MSW; and

[g] implement guidelines and directives if any of a National Program on Sanitation and Environmental Hygiene on the lines of a Technology Mission.

F. That pending final hearing and disposal of this Petition this Hon'ble Court may be pleased to issue a writ of mandamus or a writ in the nature of mandamus or any other appropriate writ, order or direction under Article 32 of the Constitution of India directing the Central Pollution Control Board [Respondent No. 27] to forthwith direct all State Pollution Control Boards to implement and enforce the recommendations enumerated in the publication "Management of Municipal Waste: [Sewage

and Solid Waste] issued by the CPCB [ANNEXURE – 13 hereto] and National Workshop recommendations in ANNEXURE – 14.

G. That pending final hearing and disposal of this Petition this Hon'ble Court may be pleased to issue a writ of mandamus or a writ in the nature of mandamus or any other appropriate writ, order or direction under Article 32 of the Constitution of India, ordering and directing Respondent Nos. 28 to 41 to:

[a] identify, designate, notify, acquire and operate waste processing sites adequate for a rolling 20 years ;period in respect of management and handling of MSW;

[b] forthwith discontinue the dumping of untreated MSW in area other than designated sites;

[c] take appropriate steps and measures for the collection, storage, transportation, hygienic disposal, treatment and recycling of MSW including proper transportation to the designated sites and well managed placement there for conversion into reusable/recyclable byproducts such as compost, biogas, etc.;

[d] operate the MSW sites and ultimate land fills in a sanitary, scientific and nuisance free manner;

[e] Implement the guidelines issued by the Central Pollution Control Board a copy whereof is annexed as ANNEXURE – 13 along with National Workshop recommendations in ANNEXURE – 14;

[f] frame time-bond schemes to organize persons working as rag-pickers/ waste separators to enable the recovery of reusable/recyclable material from MSW;

[g] Implement guidelines and directives if any of a National Program on Sanitation and Environmental Hygiene on the lines of a Technology Mission; and

[h]. Pass any other order deemed fit and expedient in the circumstances of the case.

AND FOR THIS ACT OF KINDNESS THE PETITIONERS AS IN DUTY BOUND SHALL EVER PRAY.

PETITION DRAWN BY:

[SHYAM A DIVAN]
ADVOCATE, HIGH COURT,
MUMBAI.

FILED BY:

[MANIK KARANJAWALA & COMPANY]
ADVOCATE FOR THE PETITIONERS

PLACE: NEW DELHI
DATED: NOVEMBER 8, 1996.

[Ref Para 1.2, 2.3, 6.4]

ANNEXURE- B

WP(C) 888/96 BIO-TREATMENT: [Filed in Court on 28.7.1997]

Annexure A: **Immediate low-cost garbage-sanitisation option**

For the sake of convenience the method described below may be called "Bio-treatment". This method can be immediately started at all the existing locations where city garbage is currently dumped. Since no leachate is generated during aerobic composting, no site preparation is required and the process is pollution-free. It makes the garbage free of smell and germs and pests, and involves the following steps:

1. Organic garbage should be collected and transported separately from debris or construction and demolition wastes[1]. Plastics should be removed for better results.

2. Garbage collected as at present should not be thrown in pits or deep depressions. It needs to be placed on level or open ground in long high heaps called wind-rows, parallel to each other with working space between for people or machinery to turn and aerate it at intervals[2]. Heaps or rows should be minimum 4-10 ft high for best results.

3. During unloading and placement of garbage in each wind-row, it should be moistened (by splashing, sprinkling or spraying) at every 6-inch layer or so with any one or more of the following Bio-Treatment starter solutions[3] to trigger the aerobic composting process and give it a direction that prevents formation of foul smell and methane gas. The choice depends on local availability, transport costs, convenience and

the result of successful practical field trials, judged by rapid reduction of foul smell in the garbage.

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1. House –to- house garbage collection by bell-system in mobile dustbins is the most effective means of segregated garbage collection and need not entail additional cost in most municipalities. A separate note on this will be filed later.

2. Turning garbage heaps at intervals is necessary to allow air to reach the compost-forming microbes. Garbage piles without air will stink as they rot.

3. Cowdung, village compost and commercial biocultures all contain aerobic (air-needing) microbes that can digest cellulose. Most organic garbage is vegetable matter which is mostly cellulose.

4 "good" compost looks like crumbly moist dark soil with an ' earthy' after-rain smell.

Some bio-treatment solutions are:

i) A 5-10 % by weight solution of fresh cowdung (preferably only 1-3 days old)

ii) A 10-15 % by wt suspension in water of good[4] recent compost from a rural village compost-heap (where cattle-shed sweepings, farm and kitchen wastes etc are stock - piled together as fertilizer for agriculture).

iii) A 5-10 % by weight suspension in water of commercially-available compost (from garbage or agro-wastes) sold in bags at plant nurseries or fertilizer shops.

iv) A 0.5-2% solution of composting bio-cultures specifically produced for the purpose by reputed or certified firms. Only Indian bio - cultures should be used.

v) After bio-treatment with any of the above wetting solutions has produced a good compost at the dumpsite, found useful by farmers, then that compost itself can be used in solution as 'starter' and outside material needs to be used only occasionally to keep the process going well. Pesticides or chemicals must NOT be used.

4. Within 5-15 days, if the garbage has been well-moistened and kept moist, the heap will become quite hot inside. This heat of fermentation is necessary to kill off germs and pathogens and weed - seeds, but the heap should not be allowed to become so hot that it starts to dry out and smoke or burn.

5. As soon as (but not before) the heat of garbage becomes too hot to push one's hand inside, the heap should be turned (manually or

by JCB or loader) to form a parallel new heap, in which the outer layer of undecomposed garbage forms the centre of the new heap, and the partly-rotted central portion of the old heap covers this up.

6. While forming this new heap, the partly-rotted garbage should again be moistened in layers with one of the above compost-starters (cow dung etc.). 7, Repeat steps 5 and 6 once or twice more. The garbage in 1 or 2 month's time will have reduced in volume to about 1/3 of original and decomposed into dark semi-dry soil-like matter which is an ideal bio-fertiliser for farm use that increases crop productivity.

Farmers may need or want it only prior to monsoons in rain-fed areas. It will not deteriorate on storage for a season. The heaps can be sold or auctioned, or initially farmers can even be encouraged to collect it free to minimize the area of land needed annually for garbage treatment.

8. In order to encourage farmer use of decomposed garbage which is free from smell and germs, and to promote public health it is absolutely necessary to immediately ban the lifting of raw garbage directly from markets and dustbins for dumping uncovered and untreated on farmland outside the town or city. This is a common practice which breeds flies and mosquitoes and rats, attracts dogs that live on rubbish-heaps and pose a rabies threat, pollutes ground water and is an offensive nuisance to villagers living near the fields where raw garbage is open-dumped.

9. These bio-treatment operations are best managed by farmers' co-ops or other beneficiaries of the end-product. Where there is little farmer demand, after the raw garbage is made inoffensive and disease-free by bio-treatment, it can safely be used for landfill, or levelled for developing a lush park, or the site can be leased at a good price for growing crops in situ for a couple of seasons before that part of the site is reused.

10. This well-decomposed stabilized garbage is the first stage of any compost-plant operations. It is not commercially marketable unless is has been sieved to remove glass and plastic, stones and metal, undecomposed tender-coconut-shells and branches, and bagged and labelled after proper quality-control. The major capital expenditure for compost plants is for equipment and operating cost for sieving, testing, blending, packing etc. which can be added in stages as funds permit.

Entrepreneurs can be encouraged to invest in full compost plants by offering them, at nominal cost on a long-term basis, the land and garbage presently being used for open-dumping. Compost-plants run by municipalities usually fail because their marketing skills are poor, so sales do not cover compost-plant costs. Inventory costs are also high if compost needs to be stockpiled till the next planting season.

Yet bio-treatment of raw garbage to produce germ-free compost in a non-polluting way needs to be done for its own sake on health grounds alone.

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ANNEX-C

ITEM NO. 57 COURT NO. 1 SECTION PIL

A/N MATTER

SUPREME COURT OF INDIA

RECORD OF PROCEEDINGS

Writ Petition (Civil) 888 of 1996

ALMITRA H. PATEL & ANR. Petitioner (s)

VERSUS

UOI & ORS. Respondent (s)

Date: 28.07.1997 This Petition was called on for hearing today.

CORAM:

HON'BLE THE CHIEF JUSTICE
HON'BLE MR. JUSTICE B.N. KIRPAL

UPON hearing counsel the Court made the following

O R D E R

The Respondents who have failed to answer and file their replies should file their replies in a time bound manner.

"The Respondents are directed to consider low cost waste sanitization option. That may be required to file an affidavit in reply within four weeks, stating whether this Bio-treatment methods can be implemented. In the event that the answering Respondents find that the proposed Bio-treatment method is unfeasible or other scientific waste disposal method is more appropriate then the answering Respondent is directed to set out reason and conclusion for the same.

The Respondents are directed to include in their affidavits a time bound scheme for implementation of scientific and hygienic methods of waste disposal.

The Respondents are directed to seek expert advice in respect of mosquito, flies and other Vectors Control.

The Respondents are directed immediately to take steps to phase out the routine use of insecticides like DDT and BHC and similar dangerous insecticides on garbage heaps and dump sites.

The Central Pollution Control Board and all State Pollution Control Boards should ensure compliance of the provisions of the Water (Prevention and Control of Pollution) Act, 1974, by everyone including the local bodies.

The Respondents are also required to file affidavit of compliance of these directions within eight weeks.

List on 22nd September, 1997.

Court Master

Court Master

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ANNEX-D

ITEM NO. 22 COURT NO. 8 SECTION PIL

A/N MATTER

SUPREME COURT OF INDIA

RECORD OF PROCEEDINGS

Writ Petition (Civil) 888 of 1996

ALMITRA H. PATEL & ANR. Petitioner (s)

VERSUS

UOI & ORS. Respondent (s)

Date: 13.08.1999 This Petition was called on for hearing today.

CORAM:

HON'BLE MR. JUSTICE B.N. KIRPAL
HON'BLE MR. JUSTICE S. RAJENDRA BABU

UPON hearing counsel the Court made the following

ORDER

Pursuant to the last order passed by this Court, most of the States have filed their response to the Report of the Committee. None of the States appears to be opposed to the recommendations which have been made and in fact the response of the States is positive. Mr. Dave states that certain directions are required to be issued. He should circulate amongst the counsel of the states and the Union of India within one week from today. The directions which are sought for in order to enable the Court to pass Orders which can be implemented. If the Union of India or the States have any

suggestion on the directions proposed by Mr. Dave, they may communicate the same to Mr. Dave within two weeks thereafter.

Mr. Vijay Panjawani, appearing for Central Pollution Control Board (CPCB) states that the draft management of Municipal Solid Waste (Management and handling) Rules 1999 have been formulated by the Central Pollution Control Board (CPCB) keeping in view the report of the committee. These rules have been forwarded to the Central Government but they have not so far been notified. We expect the Central Government to notify the rules for solid waste management either in the manner proposed by Central Pollution Control Board (CPCB) or such other rules which the Central Government thinks appropriate. We hope the rules will be notified before the next date of hearing.

Those states which have not responded to the report should do so within three weeks.

To come up for further orders on 17th September 1999 in the category of final disposal matters.

Court Master

Court Master

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2000(1) SCALE

ALMITRA H. PATEL AND ANR. 568 *Petitioners*

VS

UNION OF INDIA AND ORS. *Respondents*

CORAM: B.N. KIRPAL, M.B. SHAH AND D.P. MOHAPATRA, JJ.

PUBLIC INTEREST LITIGATION — ENVIRONMENT — POLLUTION — Urban Solid Waste Management — Non-compliance of this Court's order by some States — Update of order reported in 2000(1) SCALE 261 — Delhi — Court issues 10 directions with compliance to be reported within eight weeks.

Referred: Dr. B.L. Wadhera vs Union of India and Ors. [1996(2) SCC 594 = 1996(2) SCALE 514].

Kirpal, J.— More in anguish, than out of anger, this Court nearly four years ago in *Dr. B.L. Wadhera Vs. Union of India and Ors.* [(1996) 2 SCC 594 at 595] observed: *"Historic city of Delhi - the capital of India - is one of the most polluted cities in the world. The authorities, responsible for pollution control and environment protection, have not been able to provide clean and healthy environment to the residents of Delhi. The ambient air is so much polluted that it is difficult to breathe. More and more Delhities are suffering from respiratory diseases and throat infections. River Yamuna - the main source of drinking water supply - is the free dumping place for untreated sewage and industrial waste. Apart from air and water pollution, the city is virtually an open dustbin. Garbage strewn all over Delhi is a common sight. The Municipal Corporation of Delhi (the MCD) constituted under the Delhi Municipal Corporation Act, 1957 (Delhi Act) and the New Delhi Municipal Council (the NDMC) constituted under the New Delhi Municipal Council Act, 1994 (New Delhi Act) are wholly remiss in the discharge of their duties under law. It is no doubt correct that rapid industrial development, urbanisation and regular flow of persons from rural to urban areas have made major contribution towards environmental degradation but at the same time the authorities - entrusted with the work of pollution control - cannot be permitted to sit back with folded hands on the pretext that they have no financial or other means to control pollution and protect its environment."* The Court then proceeded to issue 14 directions in an effort to see that the capital of the biggest democracy in the world is not branded as being one of the most polluted cities in the world.

2. It is indeed unfortunate that despite more than sufficient time having elapsed the condition of Delhi has not improved. The citizens of Delhi increasingly suffer from respiratory and other disenses, the river Yamuna is highly polluted and garbage and untreated domestic and industrial waste is being either freely dumped into the said river or is left on open land, large volume of which remains unattended.

3. The present writ petition is concerned with the question of solid waste disposal. By order dated 16th January, 1998 this Court constituted a Committee leaded by Mr. Asim Burmon to look into all aspects of urban solid waste management and in particular to the following four areas:

> *"1. Examine the existing practices and to suggest hygienic processing and waste disposal practices and proven technologies on the basis of economic*

Judgment dated February 15, 2000 in W.P. (C) No. 888 of 1996

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feasibility and safety which the Corporations/Government may directly or indirectly adopt or sponsor.

2. Examine and suggest ways to improve conditions in the formal and informal sector for promoting eco-friendly, sorting, collection, transportation, disposal, recycling and reuse.

3. To review Municipal bye-laws and the powers of local bodies and regional planning authorities and suggest necessary modifications to ensure effective budgeting, financing, administration, monitoring and compliance.

4. Examine and formulate standards and regulations for management of urban solid waste, and set time frame within which the authorities shall be bound to implement the same."

4. After a preliminary and then the final report of the said committee was received notices were issued to all the States who were required to file their responses to the report of the committee. None of the States really opposed the recommendations made by the committee and it is noticed that the responses of the States were in fact positive. Keeping the aforesaid report in mind, Management of Municipal Solid Waste (Management and Handling) Rules 1999 were notified by the Central Government which, as the heading itself suggests, deals with the question as to how the solid waste in the cities is to be managed and handled.

5. In this Court's order dated 15th October, 1999 it was indicated that we proposed to take up the question of cleaning of four metropolitan cities, namely, Mumbai, Chennai, Calcutta and Delhi as also the city of Bangalore.

6. We have first heard counsel appearing on behalf of the National Capital Territory of Delhi in connection with the management and handling of the solid waste. It was in this connection that our attention was drawn to the 14 directions issued by this Court in Dr. B.L. Wadhera's case (supra). It is indeed unfortunate that till today the said directions have not been complied with. When this was put to the learned counsel appearing for Delhi as to why the said directions were not complied with, there was, in effect, no satisfactory answer. For example, sites for landfill have not been identified and handed over to the MCD nor have four additional compost plant been constructed though specific direction in this regard was issued in Dr.B.L. Wadhera's case. The Court also approved of the experimental scheme placed before it by the MCD where-under certain localities had been selected for distribution of polythene bags and collection of garbage from door to door but no effective progress appears to have been made in this regard. These are but a few examples which show non-compliance of the directions issued.

7. We are not oblivious of the fact that in a large city like Delhi where the floating population which comes in every day is not very small, keeping the city clean is indeed a daunting task. Just because the work involved is difficult cannot be a reason for lack of initiative or inaction on the part of the authorities concerned.

8. We are informed that one of the local authorities, namely, MCD itself employ about forty thousand safai karamcharis. This is in addition to the staff employed by other local bodies, namely, the NDMC and the Cantonment Board. Like all government and municipal employees these karamcharis are expected to work for the stipulated period of time, namely, eight hours a day. It was submitted by Mr. Dushyant Dave, learned Amicus Curiae that the insanitory conditions of different areas of Delhi does not in any way show that requisite effort has been put in or the required time spent in the cleaning operations which are supposed to be carried

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out by this large workforce. These employees are more invisible than visible. There appears to be a complete lack of accountability, at all levels of the Corporation, in this behalf.

9. Keeping Delhi clean is not an easy task but then it is not an impossible one either. What is required is initiative, selfless zeal and dedication and professional pride, elements which are sadly lacking here.

10. Surat had for time immemorial been known to be one of the dirtiest cities in the country. The plague there in 1995 was the result of the filth which had accumulated therein. Nevertheless the effort of one man, namely, the Municipal Commissioner, who worked in the field and in the office with dedication resulted in not only eradicating the plague and cleaning up Surat but gave the city of Surat the distinction of being the second most clean city in the whole of India. The people of Surat who threw garbage all around were so affected by the tireless effort of one person that they themselves have now become zealous guardians of their new found clean city of Surat. This shows what one man as a head of the organisation, like Municipal Corporation, with selfless zeal, initiative and dedication and without allowing any outside interference can achieve by motivating his employees to clean up the city while acting fairly, justly and efficiently within the four corners of the law.

11. In Delhi which is the capital of the country and which should be its show piece no effective initiative of any kind has been taken by the numerous governmental agencies operating here in cleaning up the city. As a result thereof the Court had in Dr.B.L. Wadhera's case, per force, to step in because of the non-performance or non-implementation of the law by the municipal authorities. The law, inter alia, makes it obligatory on them to discharge their municipal functions and at least prevent filth and garbage from lying strewn at different public places causing hazard to public health.

12. The local authorities are constituted for providing services to the citizens - not merely to provide employment to a few of its inhabitants. Tolerating filth, while not taking action against the lethargic and inefficient workforce for fear of annoying them, is un-understandable and impermissible. Non-accountability has possibly led to lack of effort on the part of the employees concerned. They are perhaps sanguine in their belief that non-performance is not frowned upon by the Government or by the heads of the organisations and no harm will befall them.

13. Domestic garbage and sewage is a large contributor of solid waste. The drainage system in a city is intended to cope and deal with household effluent. This is so in a planned city. But when a large number of inhabitants live in unauthorised colonies, with no proper means of dealing with the domestic effluents, or in slums with no care for hygiene the problem becomes more complex.

14. Establishment or creating of slums, it seems, appears to be good business and is well organised. The number of slums has multiplied in the last few years by geometrical proportion. Large areas of public land, in this way, are usurped for private use free of cost. It is difficult to believe that this can happen in the capital of the country without passive or active connivance of the land owning agencies and/or the municipal authorities. The promise of free land, at the taxpayers' cost, in place of a jhuggi, is a proposal which attracts more land grabbers. Rewarding an encroacher on public land with free alternate site is like giving a reward to a pickpocket. The department of slum clearance does not seem to have cleared any slum despite it's being in existence for decades. In fact more and more slums are coming into existence. Instead of 'Slum Clearance' there is "Slum Creation' in Delhi. This in turn gives rise to domestic waste being strewn on open land in

and around the slums. This can best be controlled at least, in the first instance, by preventing the growth of slums. The authorities must realise that there is a limit to which the population of a city can be increased, without enlarging it's size. In other words the density of population per squre kilometer cannot be allowed to increase beyond the sustainable limit. Creation of slums resulting in increase in density has to be prevented. What the slum clearance department has to show, however, does not seem to be visible. It is the garbage and solid waste generated by these slums which require to be dealt with most expeditiously and on the basis of priority.

15. It was suggested by the learned Amicus Curiae that we should issue various directions to the MCD and the NDMC including direction relating to the manner in which the solid waste generated in Delhi is to be handled. We believe it is not for this Court to direct as to how the municipal authorities should carry out their functions and resolve difficulties in regard to the management of solid waste. The Court, in fact, is ill equipped to do so. Without doubt the Governmental agencies including the local authorities have all the powers of the State to take action and ensure that the city remains clean. They have only to wake up and act. The Court should, however, direct that the local authorities, Government and all statutory authorities must discharge their statutory duties and obligations in keeping the city at least reasonably clean. We propose to do so now by issuing appropriate directions.

16. Before we pass the necessary orders some difficulties are stated to have been encountered in implementing some of the directions in Dr. B.L. Wadhera's case (supra) which need to be dealt with.

17. One of the difficulties pointed out before us was that even though the MCD and the NDMC Acts permit action being taken, inter alia, against persons who litter the city sufficient number of judicial magistrates are not available for ensuring proper enforcement of the provisions of the said Acts. But the shortage of judicial magistrates can be easily overcome by the Government appointing suitable persons as Executive Magistrates under Section 20 or Special Executive Magistrates under Section 21 of the Code of Criminal Procedure who can be empowered to deal with such minor offences under the provisions of the MCD and NDMC Acts. There are large number of retired government officials and ex-defence officers who have held responsible posts and are living in Delhi who, we are sure, will be willing to act as such Magistrates. Delhi is devided into a number of Municipal wards and for every ward one or more Executive Magistrate or Special Executive Magistrate can easily be appointed. This will also take some burden of the Courts.

18. The counsel for the MCD has submitted that despite orders having been passed in Dr. B.L. Wadehra's case [supra] sufficient number of sites for landfills have neither been identified nor handed over to it. One of the reasons for the sites not being made available, it was stated, was that land owning agencies like the DDA or the Government of National Capital Territory of Delhi are demanding market value of the land of more than rupees forty lacs per acre before the land can be transferred to MCD. Keeping Delhi clean is a governmental function. There are more than one agencies that administer Delhi, namely, Union of India through Ministry of Urban Development, Government of National Capital Territory of Delhi, Commissioner of MCD, Chairman, NDMC, Cantonment Board and the DDA. It is the duty of all concerned to see that landfill sites are provided in the interest of public health. Providing of landfill sites is not a commercial venture, which is being undertaken by the MCD. It is as much the duty of the MCD as that of other

authorities enumerated above to see that sufficient sites for landfills to meet the requirement of Delhi for next twenty years are provided. Not providing the same because the MCD is unable to pay an exorbitant amount is un-understandable. Landfill site has to be provided and it is wholly immaterial which Governmental agency or the local authority has to pay the price for it. As for nearly four years since the direction was issued in Dr. B.L. Wadhera's case (supra) this problem has not been solved It has now become necessary for this Court to issue appropriate directions in this behalf, which we shall presently do.

19. One of the important directions issued in Dr. B.L. Wadhera's case was regarding the construction of compost plants. In addition to the compost plant at Okhla, which was expected to be in operation by 1st June, 1996, four additional compost plants were to be constructed, as recommended by Jagmohan Committee. This has not happened and even land for sufficient number of compost plants has not been identified or handed over. It has, therefore, become necessary to issue time-bound directions in this behalf.

20. Uptill now no action has been taken against people who spread litter. Discipline amongst people in this behalf has to be inculcated and the guilty punished. Appropriate orders in this behalf are proposed to be issued including the appointment of Magistrates under Section 20 and / or Section 21 of the Code of Criminal Procedure, inter alia, to deal with such cases.

CONCLUSIONS:

21. In addition to and not in derogation of the orders passed by this Court in Dr. B.L. Wadhera's case(supra), we order as follows:

1. We direct the Municipal Corporation of Delhi through the Commissioner, NDMC through its Chairman and the Cantonment Board through its Executive Officer and all other concerned officials including Sanitation Superintendents/Chief Sanitary Inspectors/Sanitary Inspectors/ Assistant Sanitary Inspectors/Sanitary Guides/Medical Officers to ensure that the relevant provisions of the DMC Act, 1957, New Delhi Municipal Council Act, 1994 and the Cantonments Act, 1924 relating to sanitation and public health prohibiting accumulation of any rubbish, filth, garbage or other polluted obnoxious matters in any premises and/or prohibiting any person from depositing the same in any street or public place shall be scrupulously complied.
2. We direct that the streets, public premises such as parks etc. shall be surface cleaned on daily basis, including on Sundays and public holidays.
3. We direct and authorise the MCD, NDMC and other statutory authorities through competent officers, as may be designated by them, (but not lower than in the rank of Sanitary Superintendent or equivalent post) to levy and recover charges and costs from any person littering or violating provisions of the diverse Acts, bye-laws and Regulations relating to sanitation and health for violating the directions being issued herein. For this purpose the Commissioner, MCD, Chairman NDMC and other concerned heads of sanitary authorities will prepare and publish for the information of public at large the scale of such charges/costs as may be levied and recovered in respect of the diverse acts of commission/omission. The charges/costs will be recoverable on the spot by such designated officers from any person found littering or throwing rubbish and causing nuisance so as to affect sanitation and public health. The Commissioner, MCD and Chairman, NDMC and other authorities may frame and publish such schemes as may be

necessary to ensure compliance of these directions forthwith. Till the scheme is framed and published, the authorities named above would recover Rs.50/- as charges and costs from any person littering or violating provisions of the Municipal Corporation Act, Bye-laws and Regulations relating to sanitation and health. This part be published and implemented at the earliest through concerned Sanitary Inspectors.

We direct the MCD through the Commissioner, NDMC through its Chairman and other statutory authorities through their respective heads to ensure proper and scientific disposal of waste in a manner so as to subserve the common good. In this connection they shall endeavour to comply with the suggestions and directions contained in the report prepared by the Asim Burmon Committee.

We direct that sites for land fills will be identified bearing in mind the requirement of Delhi for the next twenty years within a period of four weeks from today by the exercise jointly conducted by Union of India through the Ministery of Urban Development, Government of National Capital Territory of Delhi, Commissioner, MCD and Chairman, NDMC and other heads of statutory authorities like the DDA etc. These sites will be identified keeping in mind the environmental considerations and in identifying the same Central Pollution Control Board's advice will be taken into consideration. The sites so identified shall be handed over to the MCD and/or NDMC within two weeks of the identification, free from all encumbrances and without MCD or the NDMC having to make any payment in respect thereof.

We direct Union of India through the Ministry of Urban Development, Government of National Capital Territory of Delhi, Commissioner of MCD, Chairman NDMC and other statutory authorities like DDA and Railways to take appropriate steps for preventing any fresh encroachment or unauthorised occupation of public land for the purpose of dwelling, resulting in creation of a slum. Further appropriate steps be taken to improve the sanitation in the existing slums till they are removed and the land reclaimed.

7. We further direct Union of India through Ministry of Urban Development, Government of National Capital Territory of Delhi, Commissioner MCD, Chairman NDMC and other statutory authorities like DDA etc. to identify and make available to the MCD and NDMC within four weeks from today sites for setting up compost plants. Initially considering the extent of solid waste, which is required to be treated by compost plants, the number of sites which should be made available will be eight. Such sites shall be handed over to the MCD/NDMC free of cost and free from all encumbrances within two weeks of identification. MCD and NDMC shall thereupon take appropriate steps to have the compost plants/processing plants established or caused to be established and to be in operation by 30th September, 2000.

8. We direct the MCD, NDMC and other statutory authorities concerned with sanitation and public health to regularly publish the names of concerned Superintendents of Sanitation and such equivalent officers who are responsible for cleaning Delhi who can be approached for any complaint/grievance by the citizens of Delhi together with their latest office and residential telephone numbers and addresses.

9. We direct the Government of National Capital Territory of Delhi to appoint Magistrates under Section 20 and/or Section 21 of the Code of Criminal Procedure for each Board/Circle/Ward for ensuring compliance of the provisions of the MCD and NDMC Acts and to try the offences specified therefor in relation to littering and causing nuisance, sanitation and public health. These appointments shall be made within a period six weeks from today in conformity with the reasons contained in this order.

10. All the concerned authorities will file compliance reports of these directions within eight weeks from today. The Central Pollution Control Board will also file within the same time an affidavit indicating as to what extent the directions issued have been complied with.

22. It is needless to say that the violation of the directions issued by this Court shall be viewed seriously.

2000(1) SCALE 574

MAHMOOD & ORS. *Appellants*

VS

THE STATE OF BIHAR *Respondent*

CORAM: G.T. NANAVATI AND Y.K. SABHARWAL, JJ.

CRIMINAL LAW — I.P.C. — SECTION 396 — Dacoity and murder — 9 accused were charged for the offence — Prosecution case based on testimony of PW1 to PW4 — PW1, 2 and 4 being brothers — Conviction of 5 accused — Four accused acquitted — Testimony of PW1 to PW4 in respect of acquitted accused held to be not convincing and trustworthy — PW3, witness of occurrence was neighbour of PW4 — PW3 was the person from whose house PW4, informant, allegedly had seen the occurrence — PW3 could only name one accused — PW 5 only stated what was told to him by PW4 — He did not witness the occurrence — On facts and in circumstances of the case, it was not safe to base conviction of appellants only on testimony of PWs 1 to 5 — There being no other evidence to sustain their conviction — Doubt about source of light — Identification of sarees recovered from houses of accused doubtful — Conviction of appellants held unsustainable — Allowing the appeal, Held,

A. It is a case of one incident in which all the 9 accused were said to be involved. They were all charged of dacoity and murder. The learned Additional Sessions Judge has noticed that the possibility of the false implication of the abovementioned accused cannot be ruled out. The testimony of PW1 to PW4 in respect of the acquitted accused has been rightly held to be not convincing and trustworthy. The findings and conclusions of the sessions court in regard to the acquitted accused have not been dealt by the High Court. The said findings have also not been questioned before this Court. A faint attempt was, however, made on behalf of the State that even if the testimony of PW1, PW2 and PW4 is ignored, there is other independent evidence in the form of statements of PW3 and

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Judgment dated February 16, 2000 in Crl.A. No. 659 of 1993

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ANNEX-E

CONSOLIDATED ANNUAL REVIEW REPORT ON

MUNICIPAL SOLID WASTES (MANAGEMENT AND HANDLING) RULES, 2000

ANNUAL REVIEW REPORT: 2008-09

(Consolidated Annual Review Report prepared in compliance to the provision 8(2) of the Rule)

CENTRAL POLLUTION CONTROL BOARD
(Ministry of Environment & Forests)
Parivesh Bhawan, East Arjun Nagar,
DELHI-110 032

March, 2010

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CONTENTS

Summary of Annual Review Report: 2008-09

Key Words:

- MSW (Municipal Solid Waste)
- MSW Rule (Municipal Solid Wastes Management and Handling) Rules, 2000
- ULBS (Urban Local Bodies)
- SPCBs (State Pollution Control Boards)

1. ANNUAL REPORT AS PER MSW RULES

In accordance with the Provision (8) of Municipal Solid Wastes (Management and Handling) Rules, 2000, the Central Pollution Control Board (CPCB) is required to prepare the consolidated Annual Review Report on Management of Municipal Solid Waste (MSW) and the same is to be forwarded to the Central Government that is, Ministry of Environmental and Forests (MoEF) along with its recommendations before 15th December every year. However, report of CPCB is to be based on the annual report to be prepared by the State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs) which is required to be forwarded by them to CPCB before 15th September every year.

2. MECHANISM OF REVIEW

Based on the receipt of annual consolidated report from SPCBs/PCCs, the status of implementation of MSW Rules is reviewed. During the year, regular interaction with SPCBs/PCCs through Meetings and Workshops is made to facilitate implementation of rules. Review of status of implementation of rules is based on following observations;

(i) Number of application received and number of authorizations granted by SPCBs/PCCs during the reporting year to the local bodies.

(ii) Initiatives taken by local bodies to implement Schedule-II relating to collection, Segregation, Storage and Transportation (CSST) of waste including mass awareness programme .

(iii) Initiatives taken to implement Schedule-III with regard to setting-up waste disposal facilities; and

(iv) Efforts made to set-up waste processing plants in accordance with Schedule-IV of the rules.

3. LOCAL BODIES

There are a large number of local bodies in the country and MSW rules are applicable to all of them. As per 2001 census, there are 384 Urban Agglomerations (UA) and 5161 towns; but the fact is that the numbers of multiple towns are considered within a city under the coverage one or more ULBs. For example in Delhi, 60 towns are considered within the coverage of 3 ULBs (MCD, NMDC & Delhi Cantonment Board). The actual numbers of cities/ towns during 2007-08 was as under;

Population	Class	No. of Cities/towns
>1,00,000 and above including 35 Metros	Class I	393
50,000 – 99,999	Class II	401
20,000 – 49,999	Class III	1,151
10,000 – 19,999	Class IV	1,344
5,000 - 9,999	Class V	888
> 5,000	Class VI	191
Unclassified	-	10
Total		4,378

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4. ANNUAL REPORT: 2008-09

Local bodies are required to forward Annual report for each year to SPCBs/PCCs before 30th June every year and SPCBs in turn, will send their consolidated report for the year before 15th September to CPCB. However, in terms of adhering with stipulated schedule, delay has been observed. As on 31st December, 2009, CPCB could receive Annual Reports only from 10 SPCBs/PCCs, subsequently on follow up, Annual Reports received from 17 SPCBs/PCCs by April 30, 2010. The present Annual Report: 2008-09 is prepared based on information received from 17 SPCBs/PCCs.

5. STATUS OF IMPLEMENTATION OF MSW RULES

5.1 Authorizations

- Details on authorization granted by SPCBs is given in *Annexure-I*.
- Except SPCBs of Andhra Pradesh, Gujarat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Meghalaya, Orissa, Pudducheery, Rajasthan, Tamil Nadu, Uttarakhand and West Bengal, other State Boards have not issued authorizations to the majority of local bodies in their respective states.
- Out of 2757 urban local bodies (ULBs) reported by SPCBs, 900 applications have been received from ULBs and 777 ULBs granted authorization during 2008-09. Thus the cumulative number of authorizations issued so far to ULBs is 1899 till the reporting time.
- There are cases of 219 extensions of authorization in Karnataka by stipulating the conditions to comply with the MSW Rules.

5.2 *Implementation of Schedule-II*

- Efforts are being made by many local bodies for creating awareness in the citizens for ensuing proper management of waste including systematization of procedures relating to waste collection, segregation, storage and transportation. However, such efforts are either restricted to a few localities/ wards within the town or a few ULBs taken up such efforts at entire town level.
- The effort made by local bodies for bringing improvement in waste collection, segregation, storage and transportation is given in *Annexure-II*. Effort to their effect have been widely practices in states /UTs of Andaman Nicobar, Andhra Pradesh, Chandigarh, Goa, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Himachal Pradesh, Orissa, Rajasthan and West Bengal.
- Cleanliness varies from town-to-town depending on the initiatives taken by that local body. It has been observed that collection of waste from door-step is the most critical issue in the entire management of MSW.

5.3 *Implementation of Schedule-III (Landfilling)*

- Disposal of waste is still continued through open dumping.
- As per information of State Boards, landfills have been reported as constructed at Vizianagaram (AP); Anjar, Bhachau, Halvad, Morbi & Wankaner (Gujarat);

Bangalore, Mangalore, Ullal, Karwar, Udupi, Puttur & Ankola (Karnataka); Surat, Alang, Nashik, Sonpeth, Ambad (Maharshtra), Gwalior (MP), Jodhpur (Raj) and at Bhadreswar & Chandernagore (WB). At other places, landfills are under construction or planning stage.

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- A status indicating information on landfill is given at *Annexure-III*. As many 39 landfills have been constructed so far in the country, some of them are common landfill for sharing among two or more ULBs. For example, the landfill at N. Dum Dum shared by N. Dum Dum and New Barrackpore municipality, the Ahmedabad landfill shared by 12 towns, etc. Moreover, effort continues to construct second landfill for a city where earlier landfill has been exhausted such as in Bangalore. In addition, initiative has been taken for construction of landfill at 146 towns and other 780 sites have been identified in the country for landfill construction in the country.

5.4 Implementation of Schedule-IV (Waste Processing)

- There has been a positive movement on setting up of waste processing facilities as compared to the efforts made in the previous years. In many States, several towns have responded that there is partial composting/ vermi-composting facilities. Local bodies have not so far preferred waste-to-energy projects except in the State of Andhra Pradesh. 5 W-to-E Plants including 3 RDF plants (one with 6MW PP & one with Biogas plant), Gujarat has established 3 RDF plants and proposed for another 4 RDF plants and Kerala has 2 Biogas plants operational and proposed 7 Biogas plants and one incinerator plant. The details are given in Annexure –IV (b)

- State-wise information on existing/proposed waste processing plants or where some initiatives have been taken is given at *Annexure-IV(a)*. As many as 282 compost plants have been set up in the country, out of which 53 are windrow compost plants and 229 vermi-compost plants.

- Eight SPCBs are monitoring the air/ water monitoring at landfill sites

- It has been observed that 'composting' and 'vermi-composting' is preferred as easy technological option by local bodies and other options like thermal processing (incineration, pyrolysis etc.) are not attempted due to non-availability of operating experiences.

6.0 INITIATIVES AT NATIONAL LEVEL

CPCB and MoEF and other Central Ministries such as Ministry of Urban Development (MoUD) and Ministry of Non-Conventional Energy Sources (MNES) have taken initiatives to facilitate implementation of MSW rules. Some of the initiatives taken are briefly summarized as under:

6.1 Demonstration Projects

MoEF and CPCB have instituted a scheme for setting up of demonstration project for solid waste management in accordance with MSW Rule. Objective of the scheme is to demonstrate implementation of MSW Rule in an integrated manner. The scheme is based on cost sharing basis where concerned local body is required to contribute 50% of the total cost of the project. The following projects have been taken up.

S.No	State	Town
1	West Bengal	North Dum-Dum New Barrakpore
2	UT Chandigarh	Chandigarh
3	Tamil Nadu	Udumalpet
4	Kerala	Kozhikode (MoEF)
5	Himachal Pradesh	Mandi
6	Andhra Pradesh	Suryapet
7	Nagaland	Kohima
8	Maharashtra	Jalna
9	Arunachal Pradesh	Itanagar
10	Sikkim	South West District
11	Tripura	Agartala
12	Gujarat	AUDA (MoEF)

Salient features of the Demo-schemes are placed at Annexure-V

6.2 **Utilisation of Grants Under 12th Finance Commission**

The Twelfth Finance Commission has recommended devolution of grants for Urban Local Bodies to the tune of Rs.5000 crores for the period 205-2010 of which Rs.2500 crores have to be devolved upon local bodies exclusively for setting-up of solid waste management systems in Urban areas to ensure management of MSW in accordance with MSW Rules. Ministry of Urban Development on 6th October, 2005 has circulated guidelines for preparation of DPRs and selection of technologies for processing and final disposal of MSW for different categories of towns for the benefit of State Government/ Local bodies. The emphasis has also be given to implement various activities of solid waste system through private sector participation.

State Governments and Pollution Control Boards have been requested to participate in the process of utilizing the grants and provide assistance to local bodies in preparing DPR for cities and towns

7.0 RECOMMENDATIONS/PROPOSALS FOR CONSIDERATION

7.1 At Central level a Technical Cell may be set up to provide assistance to the State governments/UT administrations and Local bodies enabling them to take decisions on implementation of MSW Rules particularly relating to setting up of waste processing and disposal facilities. Indicative guidelines on selection of waste processing and disposal technological options, model agreements for Private sector participation in solid waste management, etc., need to be widely circulated to the local bodies.

At State level, similar type of Group may be set-up to assist local bodies. States may evolve Plans and Policy to provide technological and financial assistance to the local bodies.

7.2 MoEF and CPCB may continue the on-going scheme on Demo-Pilot Projects for at least one to two towns in each State in addition to the recommended grants

under Twelfth Finance Commission /JNNURM to the States. However, smaller towns preferably having population < 5 lakh could be preferred for pilot projects. 78

7.3 Central Ministries such as Ministry of Urban Development (MoUD), Ministry of Agriculture and Ministry of New and Renewable Energy (MNRE) may continue to provide assistance to the States in terms of technical assistance and in selection of appropriate technologies relating to waste processing and disposal including facilitating States in seeking private sector participation. The proposed action will help States in proper utilization of grants under the schemes like Twelfth Finance Commission, etc.

7.4 Ministry of Urban Development may follow-up on implementation of the report of an inter-ministerial task force on integrated plant nutrient management using city compost which has been filed in the Hon'ble Supreme Court on 06.05.2005 (in the matter of WPC 888/96). This report has brought out various relevant issues on composting particularly technical and financial requirements for setting up of compost plant and will be useful to State Governments, local bodies and other concerned agencies to refer before taking final decisions.

7.5 A report of the expert committee for inspection and evaluation of the project for energy recovery from MSW at Lucknow; 2005 (brought out with reference to MNRE Order dated 19.05.2005) may be circulated to State Governments for their reference. The recommendations of Expert Group will be useful to States while taking decisions on selection of waste processing technologies and particularly with reference to waste-to-energy projects. In accordance with Hon'ble Supreme Court directives, MNRE may consider to set-up waste-to-energy demo projects.

7.6 MoEF may consider to suitably amending the Schedule-I of MSW rules while taking view on funds being provided under the Twelfth Finance Commission (TFC)/JNNURM, which are to be utilized during 2005-2010

7.7 Specific issues requiring consideration while amending MSW rules may include;

- Promotion of regional facilities (common facilities) for setting-up of waste processing and disposal facilities.
- Aviation authorities may issue appropriate guidelines to States while deciding for identification of sites for waste processing and disposal.
- Stipulation of new time schedule in Schedule-I of MSW Rules.
- Indicating buffer zone around landfill and waste processing sites.

7.8 Pollution Control Boards/Local Bodies/ State Governments who have taken initiatives in preparing action plans for solid waste management in metro cities and State Capitals (in pursuance with Supreme Court order dated 04.10.04, WPC 888/96), may get Detailed Project Reports (DPRs) formulated for each metro city and State Capital and initiate implementation.

During the Eleventh Plan period, States may target to achieve for covering major local bodies in ensuing their compliance to MSW rules taking benefit of grants released and also meeting balance out of own resources of local bodies through State Plan.

7.9 State governments may set up solid waste mission (as set up by Govt. of West Bengal) and evolve state level policies (like Rajasthan, Andhra Pradesh, Karnataka, Maharashtra and others) and providing technical/ financial guidance to local bodies in their State/UT.

7.10 Dissemination of information through Electronic media including mass awareness campaigns and seeking private sector participation in solid waste management should be continued activity. Pollution Control Boards/ State Urban Development Departments may place consolidated status on solid waste management (may also include other sanitation issues of state), Annual reports of local bodies and initiatives taken on web site for public benefit.

7.11 Specific attention is required on;

(a) Setting up of waste processing and disposal facilities at hilly states and particularly at Defense bases.

(b) Providing prescription of packages for waste processing and disposal in Defense/Railway and other set-up like Cantonment Boards.

(c) Special technical and financial support to Tourists and religious places for solid waste management and particularly to Hill states, Islands (Andaman & Lakshadweep).

(d) Identification of sites in states for setting up of common waste processing and landfill facilities.

(e) Selection of towns and solid waste management plans for towns located on river banks and preferably starting from river Ganga. (could be covered under Ganga River Basin Authority).

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SUMMARY OF ANNUAL REPORT: 2008-09

1. **Observations/ Findings of Annual Report: 2008-09**

1.1 *Authorizations*

State-wise response of local bodies for seeking authorizations from SPCBs and PCCs varies from State to State. Majority of local bodies existing in the state of Andhra Pradesh, Gujarat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Meghalaya, Orissa, Rajasthan, Tamil Nadu, Uttarakhand and West Bengal have been covered for authorizations by the respective SPCBs.

1.2 *Implementation of Schedule-II*

"Setting up of Waste Processing Facilities"

- States like Andhra Pradesh, Gujarat, Kerala, Karnataka, Himachal Pradesh, Maharashtra and West Bengal have taken steps to set up compost plants, State level policies have been formulated by the States of Andhra Pradesh and West Bengal for setting up of compost plants.

- Regarding waste-to-energy projects, except at four locations in Andhra Pradesh, and a few projects in Gujarat, Karnataka and Kerala, no other States have reported for setting-up of such Plants.

1.3 *Implementation of Schedule-IV- 'Landfilling'*

- As per information provided by SPCBs, maximum landfill facilities have been constructed in Gujarat (05), Karnataka (06) and West Bengal (11). Name of operational and completed landfills are Bangalore, Mangalore, Karwar, Puttur, Ankola, Surat, Alang, Nashik, Ambad, Sonpeth, Vizianagaram, Gwalior, Jodhpur, Sirsa, Ambala, Anjar, Bhachau, Halvad, Morbi, Bhadreswar, Chandernagore, N. Dum Dum, Baranagar, Gurulia, Barrackpore, bansabera, Hoogly, etc.

- Regional/common landfill facilities are under construction at Ahemdabad, North Dum-Dum and New Barrackpore and Chandigarh.

- Eight states involved in air and groundwater quality monitoring at landfill sites are Assam, Andhra Pradesh, Himachal Pradesh, Meghalaya, Mizoram, Kerala, Madhya Pradesh and Karnataka. Only Kerala and Madhya Pradesh have monitored VOC emissions at the landfill site. Details enclosed at Annexure II(A).

2.0 **Overall Implementation Status**

Unless, Guiding Groups/Cells are set-up at Central, State and District Level to assist local bodies in organizing themselves to comply with the Rules, it will be difficult to achieve satisfactory compliance. There is need to develop good and adequate private entrepreneurship to participate in waste management to cover the country.

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Annexure-I

Status of Authorizations granted by SCPBs/PCCs

S. No	States/UTs	No. of local bodies	Authorizations granted during 2008-09		Cumulative valid authorization
			No. of applications	Nos Granted	
1	Andaman Nicobar	INR	INR	INR	01
2	Andhra Pradesh	125	23	14	64
3	Arunachal Pradesh	07	Nil	Nil	Nil
4	Assam	INR	INR	INR	23
5	Bihar	INR	INR	INR	Nil
6	Chandigarh	INR	INR	INR	03
7	Chhatisgarh	INR	INR	INR	58
8	Daman Diu	INR	INR	INR	Nil
9	Delhi	INR	INR	INR	03
10	Goa	INR	INR	INR	13
11	Gujarat	172	40	26	188
12	Haryana	INR	INR	INR	Nil
13	Himachal Pradesh	66	41	09	82
14	Jammu & Kashmir	INR	INR	INR	INR
15	Jharkhand	INR	INR	INR	INR
16	Karnataka	219	219	219#	223
17	Kerala	58	35	26	34
18	Lakshadweep	INR	INR	INR	Nil
19	Madhya Pradesh	342	323	323	408
20	Maharashtra	INR	INR	INR	346
21	Manipur	INR	INR	INR	Nil
22	Meghalaya	8	6	2	4
23	Mizoram	INR	INR	INR	01
24	Nagaland	09	02	01	01
25	Orissa	14	32	14	39
26	Puducherry	15	2	2	5
27	Punjab	INR	INR	INR	27
28	Rajasthan	189	20	20	35
29	Sikkim	INR	INR	INR	Nil
30	Tamil Nadu	723	116	77	201
31	Tripura	INR	INR	INR	26
32	Uttar Pradesh	628	INR	INR	43
33	Uttarakhand	68	42	42	43
34	West Bengal	127	1	2	56
	TOTAL	2757	900	777	1899

INR-Information not received
Authorizations extended

Annexure-II

Implementation Status of Schedule-II

Sl. No	States/UT	Local bodies taken initiatives for improving collection, segregation, storage and Transportation of waste
1	Andaman Nicobar	At Port Blair covering 21000 houses
2	Andhra Pradesh	House-to-house collection started in all the local bodies. Almost 16% house hold covered for segregation. RDF plant established at Hyderabad, Guntur & Vijaywada (with 6MW -PP), 1 compost plant & 1 Biogas plant at Vijaywada & 1 vermi-compost at Suryapet. Other compost/ vermicompost plant established at 17 places. Landfill constructed only at Vizianagaram. 5 landfills in Hyederabad (4) & Vijayawada (1) are being developed under JNNURM.
3	Arunachal Pradesh	Initiativa taken in Itanagar-Naharlagun. Estimated total 186 TPD of MSW generation in 18 towns of the state.
4	Assam	Guwhati, Silchar
5	Bihar	Muzafferpur, Narkatiaganj
6	Chandigarh	House-to-house collection of waste widely practiced.
7	Chhatisgarh	Initiated by 58 local bodies.
8	Daman Diu & DNH	Yet to be started
9	Delhi	On-going in some of the zones and transportation also
10	Goa	Panjim and in other towns.
11	Gujarat	172 ULBs have taken initiative to implement MSW Rules schedule II. 154 towns have partially complied and 18 towns not reported. The ULBs have taken good initiatives are Ahemdabad, Surat, Rajkot, Vadodara & Gandhinagar. 152 ULBs were granted authorization for 5 years and 40 ULBs have applied for authorization and granted to 26 ULBs.
12	Haryana	Faridabad,Ambala, Bhiwani, Fatehbad, Gurgaon, Hisar, Jind, Jhajjar, Kaithal, Karnal, Kurikshetra, Manindergarh, Panchkula, Panipat, Rewari, Rohtal, Sirsa, Sonepat, Yamuna Nagar.
13	Himachal Pradesh	Initiated at Shimla,Mandi and Hamirpur All 56 towns have partially collected and complied. Estimated 276 TPD MSW generated in the state, with major MSW generation of 65 TPD in Shimla followed by 25 TPD in Solan and 22 TPD in Mandi town.
14	J&K	INR
15	Jharkhand	INR
16	Karnataka	Landfill: Initiated by 70 ULBs (door-t-door collection), Total 6,515 TPD MSW generated in 219 ULBs and Bangalore alone generates 3500 TPD of MSW. BBMB established landfill for storing 800TPD at Rajarajeswari nagar, Chmmachandra, Doddabidrakallu, Bommanahalli, Mandur; and constructing at 4 locations in Bangalore with 800 TPD. **MSW Processing:** BBMP established MSW processing plant with Ranky E & E Ltd. (600TPD), Srinivasa Gayatri Resources Recovery (1000TPD), Terrafirma Biotechnologies (1000TPD) & KCDC (300TPD). Vennar Organic Fertilizer Pvt. Ltd.established 200TPD in Mysore.
17	Kerala	MSW is collected by all 58 ULBs. Annual Report in Form II received from 24 Municipal Authorities.

18	Lakshadweep	Kavarati
19	Madhya Pradesh	Only 2 ULBs have compiled the schedule II, and 19 LBs have partially compiled. Gwalior city has made effort to achieve "Zero Garbage". Gwalior have 1 landfill site and 5 other towns (Gwalior, Ujjain & Sheopur, Rewa and Khajuraho) have taken initiative for setting up landfill. Bhopal and Gwalior have Bio-compost plant.
20	Maharashtra	Local bodies at several places have organized collection of MSW by house-to-house collection by using Ghanta Gadies and collection bins. (Pune, Nasik, Nagpur, Mumbai and others)
21	Manipur	Process started for 5 districts
22	Mizoram	Initiated for Aizwal.
23	Meghalaya	Initiated partially in some Wards at Shillong, Jowai, Tura, Williamnagar, Baghmora, Resubelpara. Out of 16 towns, only 5 ULBs have been constituted. Shillong town have one mechanical compost plant, but no landfill.
24	Nagaland	Good initiatives taken at Kohima and Dimapur. DPR prepared for 12 towns (Dimapur, Mokokchung, Wokha, Zunheboto, Mon, Longleng, Phek, Kiphire, Jalukie, Peren, Tuli and Tuensang towns.
25	Orissa	Initiative taken in 64 ULBs. Good initiative taken in 13 Municipalities. Action started in 10 Municipalties under schedule II. Waste processing and landfill facility is yet to be initiated in the state.
26	Punjab	Being proposed at Mandi Gobindgarh and Kartarpur.
27	Puducherry	Door-to-door collection done in Puducherry and will be started soon in other areas. NGOs are involved in implementation of schedule II. 23 acre area is developed at Kurumbapet for integrated MSW management under JNNRUM.
28	Rajasthan	Out of 14 Class I ULBs, Jodhpur have developed SLF. Other remaining 13 ULBs are in the process of implementing schedule II. 7 ULBs have prepared DPR and obtained EC. Total 11129 TPD MSW generation estimated in 189 ULBs.
29	Sikkim	Gangtok and S-W Districts
30	Tamil Nadu	Two bin system introduced at Tambaram, Pallavaram, Udhagamandalam, vengadamangalam, chengalpattu, Kanchipuram.
31	Tripura	Done in Agartala and partially done at other 4 towns.
32	Uttar Pradesh	Some good initiatives have been taken for collection, segregation, storage and transportation of MSW in Ghaziabad, Greater Noida, Gorakhpur, Basti, Balia, Varanasiand raebareli. Implementation of MSW rules being done at Lucknow and Kanpur (in selected wards) under JNNURM.
33	Uttarnachal	Pithoragarh
34	West Bengal	All of 127 local bodies have taken initiative and partially complied with the implementation of Schedule-II (collection, segregation, storage, transportation). Some good initiative has been observed at Kolkata, Noth Dum Dum, New Barrackpore, Maheshtala, Chandernagore, Bhadreswar, Kalyani and Cooch Behar. Out of 42 ULBs within Kolkta Metropoiltan Area (KMA), MSW management syetem including waste processing & landfill facility has either developed or being developed in 39 ULBs under JNNURM, Megacity scheme, State fund, JBIC Assistance, etc. Most of the processing plants are vermin-composting.

Annexure-III

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SETTING UP OF LANDFILL FACILITIES FOR WASTE DISPOSAL

S. No.	States/UTs	Landfill constructed	Initiatives taken	No. of sites identified	Name of Landfill sites constructed
1	Andaman Nicobar	INR	INR	INR	
2	Andhra Pradesh	01	05	61	Vizianagaram
3	Arunachal Pradesh	Nil	Nil	Nil	
4	Bihar	Nil	Nil	Nil	
5	Chandigarh	01	INR	-	Dadumajra
6	Chhatisgarh	INR	INR	INR	
7	Daman Diu	INR	INR	INR	
8.	Delhi	INR	INR	INR	
9	Goa	INR	INR	INR	
10	Gujarat	08*	08	26	Anjar, Bhachau, Halvad, Morbi & Wankaner. Earlier landfills –Surat, Alang, Ahmedabad (AR:2007-08).
11	Assam	INR	INR	INR	
12	Haryana	2*	INR	INR	Sirsa & Ambala (AR: 2007-08)
13	Himachal Pradesh	Nil	INR	41	
14	Jharkhand	INR	INR	INR	
15	J & K	INR	INR	INR	
16	Kerala	Nil	24	24	
17	Karnataka	08*	04 (Mysore, Bellary, Mangalore & Belgaum)	132	Mangalore +Ullal, Karwar, Udupi, Puttur & Ankola. Landfills reported earlier- Yelahanka & Byataryanpura (AR: 2007-08)
18	Lakshadweep	INR	INR	INR	
19	Madhya Pradesh	01	05	331	Gwalior
20	Maharashtra	05*	INR	INR	Nashik, Sonpeth, Ambad, Pune & Navi-Mumbai (AR:2007-08)
21	Manipur	INR	INR	INR	
22	Mizoram	Nil	09	Nil	INR
23	Meghalaya	Nil	01	01	INR
24	Nagaland	INR	INR	INR	
25	Orissa	Nil	03	64	NIL (using 103 open dumpsites)
26	Punjab	01	INR	INR	Adampur (AR:2007-08)
27	Puducherry	nil	01	INR	-
28	Rajasthan	01	07	68	Jodhpur
29	Sikkim	INR	INR	INR	
30	Tamil Nadu	INR	INR	INR	INR
31	Tripura	Nil	01	13	Initiative taken at Agartala
32	Uttar Pradesh	Nil	18	19	Agra, Aligarh, mainpuri, Badam, Firozabad, Etwah, Sambhal, Kanpur nagar, Kannij, Moradabad, Gorakhpur, Basti, Balia, Varanasi, Raebarellly, Allahbad, Ghaziabad, Lucknow and Bareily.
33	Uttarakhand	INR	INR	INR	INR
34	West Bengal	11	60	-	Bhadreswar & Chandamagore are operational. Landfill facility is ready for N. Dum Dum, N. Barrackpore, Dum Dum, S. Dum Dum, Baranagar, Gurulia, N. Barrackpore, Barrackpore, Bansbara & Hoogly-Chinsurah.
	Total	39 landfills	146	780	

*Annual Report: 2007-08

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Annexure-III (A)

MONITORING PROGRAMME OF MSW DISPOSAL SITES (LANDFILL/ DUMPSITE)

S. No.	States/UTs	Ambient Air Monitoring	Groundwater Monitoring	VOC/ Methane/ Leachate	Remarks
1	Andaman Nicobar	INR	INR	INR	
2	Andhra Pradesh	INR	INR	INR	CPCB sponsored for monitoring
3	Arunachal Pradesh	INR	INR	INR	INR
4	Bihar	INR	INR	INR	
5	Chandigarh	INR	INR	INR	
6	Chhatisgarh	INR	INR	INR	
7	Daman Diu	INR	INR	INR	
8	Delhi	INR	INR	INR	
9	Goa	INR	INR	INR	Not done
10	Gujarat	INR	INR	INR	CPCB sponsored for monitoring
11	Assam	INR	INR	INR	
12	Haryana	INR	INR	INR	CPCB sponsored for monitoring
13	Himachal Pradesh	INR	INR	INR	
14	Jharkhand	INR	INR	INR	
15	J & K	INR	INR	INR	
16	Kerala	6 (Wayanad, Kozokode, Ottapalam, Palakkad, Chittor Thadamangalam)	10*	1 (Laloor)	*Chavakkad, Guruvayur, Chalakkudy, KodungalurLLaloor, Wayanad, Kanhangad, Kasaragod, Kannur, Njeliyanparamba,
17	Karnataka	INR	INR	INR	SPCB is monitoring Groundwater, ambient air & leachate in all places.
18	Lakshadweep	INR	INR	INR	
19	Madhya Pradesh	01	01	01	Monitoring at Gwalior
20	Maharashtra	INR	INR	INR	
21	Manipur	INR	INR	INR	
22	Mizoram	Nil	3	Nil	Monitored ground water
23	Meghalaya	INR	INR	INR	CPCB sponsored for monitoring
24	Nagaland	INR	INR	INR	INR
25	Orissa	INR	INR	INR	Not done
26	Punjab	INR	INR	INR	
27	Puducherry	INR	INR	INR	Not done
28	Rajasthan	INR	INR	INR	
29	Sikkim	INR	INR	INR	
30	Tamil Nadu	INR	INR	INR	
31	Tripura	INR	INR	INR	
32	Uttar Pradesh	INR	INR	INR	INR
33	Uttarakhand	INR	INR	INR	INR
34	West Bengal	INR	INR	02	8 states monitoring
	Total	07	14		

Implementation Status of Schedule IV

S. No	States	Compost Plants		Vermi compost	
		Commissioned	Planned/ proposed	Commissi-oned	Planned
1	Andaman Nicobar	INR	INR	INR	INR
2	Andhra Pradesh	1 (Vijaywada)	Nil	16 (Bapaytla, Diwan cheruvu, Kothagudem, Sathyampeta, Suryapet, Kurnool and Dulapalli)	15
3	Arunachal Pradesh	Nil	Nil	Nil	Nil
4	Assam	INR	INR	1* (Kamrup)	INR
5	Bihar	INR	INR	INR	
6	Chandigarh	INR	INR	INR	
7	Chhatisgarh	INR	INR	10* (Chirmiri,Korba, Durg, Bhillai, Rajnandgaon, Jagdalpur, Raigarh, Dhamtari, Badebacheli & Ratanpur	INR
8	Daman Diu	INR	INR	INR	INR
9	Delhi	2*	INR	INR	INR
10	Goa	INR	INR	70*	INR
11	Gujarat	10*	Nil	76	78
12	Haryana	2* (Sirsa & Ambala)	INR	1*	INR
13	Himachal Pradesh	10	3	INR	INR
14	J & K	INR	INR	INR	INR
15	Jharkhand	INR	INR	INR	INR
16	Karnataka	5	1	-	-
17	Kerala	19	24	8	6
18	Lakshadweep	INR	INR	25*	INR
19	Madhya Pradesh	2 (Bhopal & Gwalior)	5	INR	INR
20	Maharashtra	12* (Akola, Pune, Pimpri, Kothapur, Ambad, Nagpur, Sonpeth, Murad, Navpur, Janjira, Mira Bheyander, Nashik, Ahmedabad)	INR	01 Ambernath	INR
21	Manipur	INR	INR	INR	INR
22	Meghalaya	1	1	1	-
23	Mizoram	INR	INR	INR	INR
24	Nagaland	Nil	Nil	Nil	Nil
25	Orissa	2 (Puri & Paradeep)	13	1	-
26	Puducherry	Nil	1	Nil	Nil
27	Punjab	INR	INR	INR	INR
28	Rajasthan	1	2	1	-
29	Sikkim	1* (Gangtok)	INR	INR	INR
30	Tamil Nadu	3* (Tirupur, Namakkal & Udumalpet)	INR	INR	INR
31	Tirpura	01	01	2* (Belenia & Kumarghat)	INR
32	Uttrakhand	Nil	INR	Nil	INR
33	Uttar Pradesh	Nil	2 (Agra & Aligarh)	Nil	Nil
34	West Bengal	-	-	16	58
	Total	53	52	229	157

*data based on Annual report of 2007-08

Annexure IV(b)

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Annexure IV(b)

SETTING UP OF WASTE-TO-ENERGY PROJECTS

S.No	States/UTs	Waste to Energy Projects		
		Commissioned	Planned/being constructed	Technology
1	Andaman Nicobar	INR	INR	
2	Andhra Pradesh	04	Nil	3 RDF plants with one 6.6MW PP, one 6MW PP)+ 1 BG & 1 Windrow compost plant. The RDF plants at Hyderabad (700TPD), Vijaywada (275 TPD), Guntur (265 TPD), & BG-Vijaywada(20 TPD)
3	Arunachal Pradesh	Nil	Nil	Nil
4	Assam	INR	INR	
5	Bihar	INR	INR	
6	Chandigarh	INR	INR	
7	Chattishgarh	INR	INR	
8	Daman Diu	INR	INR	
9	Delhi	INR	INR	
10	Goa	INR	INR	
11	Gujarat	02	05	All are RDF plants- operational at Surat and Rajkot & being constructed at Rajkot. Under plan at Junagarh, Jamnagar, Bhavnagar & Vadodara.
12	Haryana	INR	INR	
13	Himachal Pradesh	NIL	01	Electric Incinerator
14	Jharkhand	INR	INR	
15	Jammu & Kashmir	INR	INR	
16	Karnataka	INR	INR	
17	Kerala	02 (BG at Manjeri & Thalassery)	07^+01*	^BG proposed for 3 Nos. at Pathanamthitta, one each at Adoor, North Parur, Irinjalakuda, Ponnani & Kodungallur. *one incinerator plant proposed at Neyyattinkara.
18	Kohima	INR	INR	
19	Lakshadweep	INR	INR	
20	Madhya Pradesh	INR	INR	INR
21	Maharashtra	INR	INR	
22	Manipur	INR	INR	
23	Mizoram	Nil	Nil	INR
24	Meghalaya	Nil	Nil	
25	Orissa	INR	INR	INR
26	Punjab	INR	INR	
27	Puducherry	Nil	Nil	INR
28	Rajasthan	INR	INR	
29	Sikkim	01	INR	Incinerator*
30	Tamil Nadu	INR	INR	
31	Tripura	INR	INR	
32	Uttarakhand	Nil	Nil	INR
33	Uttar Pradesh	INR	INR	
34	West Bengal	INR	INR	INR
	Total	08	14	

INR - Information not received

BG - Biogas Plants

Annexure I (A)

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Status of Towns/cities

S. No	States/UTs	No. of local bodies	Cities /Towns							Total Towns
			Class I	Class II	Class III	Class IV	Class V	Class VI	Un Classed	
1	Andaman Nicobar	INR	-	-	-	-	-	-	-	INR
2	Andhra Pradesh	INR	-	-	-	-	-	-	-	INR
3	Arunachal Pradesh	INR	-	-	-	-	-	-	-	18
4	Assam	INR	-	-	-	-	-	-	-	INR
5	Bihar	INR	-	-	-	-	-	-	-	INR
6	Chandigarh	INR	-	-	-	-	-	-	-	INR
7	Chhatisgarh	INR	-	-	-	-	-	-	-	INR
8	Daman Diu	INR	-	-	-	-	-	-	-	INR
9	Delhi	INR	-	-	-	-	-	-	-	INR
10	Goa	INR	-	-	-	-	-	-	-	INR
11	Gujarat	172	27	36	81	57	23	18	0	242
12	Haryana	INR	-	-	-	-	-	-	-	INR
13	Himachal Pradesh	56	01	01	05	07	15	27	0	56
14	Jammu & Kashmir	INR	-	-	-	-	-	-	-	INR
15	Jharkhand	INR	-	-	-	-	-	-	-	INR
16	Karnataka	219	-	-	-	-	-	-	-	INR
17	Kerala	58	-	-	-	-	-	-	-	INR
18	Lakshadweep	INR	-	-	-	-	-	-	-	INR
19	Madhya Pradesh	343	-	-	-	-	-	-	-	INR
20	Maharashtra	INR	-	-	-	-	-	-	-	INR
21	Manipur	05	01	01	05	08	01	-	-	16
22	Meghalaya	INR	-	-	-	-	-	-	-	INR
23	Mizoram	INR	-	-	-	-	-	-	-	INR
24	Nagaland	09	-	-	-	-	-	-	-	INR
25	Orissa	14	07	15	36	39	06	Nil	Nil	103
26	Puducherry	15	2	-	2	-	-	-	-	4
27	Punjab	INR	-	-	-	-	-	-	-	INR
28	Rajasthan	189	14	40	57	78	-	-	-	189
29	Sikkim	INR	-	-	-	-	-	-	-	INR
30	Tamil Nadu	INR	-	-	-	-	-	-	-	INR
31	Tripura	13	-	-	-	-	-	-	-	13
32	Uttar Pradesh	628	-	-	-	-	-	-	-	INR
33	Uttarakhand	68	-	-	-	-	-	-	-	INR
34	West Bengal	127	58	28	32	08	01	0	-	127
	TOTAL									

Annexure-V

SUMMARY OF DEMO PROJECT ON IMPLEMENTATION OF MSW RULES

S. No	City/Town	Area of City/ Town (sq. km)	Population	Quantity of waste generation (MT/day)	No. of Wards	Project components for Demo-Project	Date of start & Duration	Remarks
1	North Dum Dum & Barrackpore (West Bengal)	26.45 16.89	220000 83000	70 25	30 19	• Phase-I: Waste Collection, Segregation, Storage and transportation (Schedule-II) • Phase-II: Waste Processing and Disposal	22.4.03 18 mths	Completed Phase-II Completed and awited for completion Certificate & Final Report.
2	Chandigarh (UT)	114	9,00,000	300	20 (61 sectors)	• Phase-I: Waste collection, segregation, storage and Transportation (Schedule-II) • Phase-II	16.04.03 18 mths	Completed Phase-I and Phase -II. Waited for completion certificate & Final Report.
3	Udumalpet (Tamil Nadu)	7.41	58,893	30	33	Total Project : Waste collection, segregation, storage, transportation, Processing and disposal	10.10.04 24 mths	Waste collection and transportation covered for 100% wards. Installed compost plant and landfill site is under plan.
4	Kohima (Nagaland)	30	78,584	35	19	• Phase-I : Waste collection, segregation and transportation • Phase-II : DPR to be received on disposal	12.09.05 36 mths	Completed procurement of tools/equipment for implementing schedule II (collecton, segregation, storage & transportation). Waste processing & landfill yet to be implemented.

S. No	City/Town	Area of City/ Town (sq. km)	Population	Quantity of waste generation (MT/day)	No. of Wards	Project components for Demo-Project	Date of start & Duration	Remarks
5	Mandi (Himachal Pradesh)	4.26	35,000	24	13	• Phase-I: Waste collection, segregation, storage and transportation. • Phase-II: DPR for Processing and disposal to be prepared	14.09.05 36 mths	Completed Phase-I for implementing Schedule-II. DPR yet to be approved for waste processing and landfill construction.
6	Suryapet (Andhra Pradesh)	34	1,03,000	32	34	Total Scheme: Waste collection, segregation, storage, transportation, processing and disposal	22.09.05 24 mths	Work relating to waste collection, segregation, storage and transportation has been completed. Vermi-composed plant has been set up. Landfill yet to be constructed.
7	Itanagar (Arunachal Pradesh)	135	100000	42	59 (35+24)	Total scheme:	12.01.06 24 mths	No progress in project execution. Proposed for withdrawal.
8	South –West Districts of Sikkim	50	1,16,000	42	–	Total Scheme:	08.02.06 24 mths	Completed procurement for implementing schedule-II (collection,segregation,storage, transportation). Landfill site developed. Construction of waste processing and landfill facility yet to be provided.
9	Jalna (Mahaashtra)	70.87	2,35,000	50	18	Total Scheme	12.01.06 24 mths	Revised Action Plan prepared for the project. Completed procurement for schedule II, landfill site developed and fenced. Compost plant and landfill facility yet to be constructed.
10	Agartala (Tripura)	58.84	3,67,822	200	35	• Phase-I: Waste collection, segregation, storage and transportation • Phase-II: DPR to be prepared for waste processing and disposal	07.02.06,36 mths	Completed procurement of Tools/equipment under phase-II for collection, segregation, storage & transportation. Landfill site identified. DPR ready for construction of waste processing and landfill facility.

ANNEX - F

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CHAPTER 10

CONSTITUTION OF A TECHNOLOGY MISSION FOR IMPROVING SWM PRACTICES IN THE COUNTRY WITHIN FIVE YEARS

With a view to ensuring that the recommendations made in this report are effectively implemented by all Class I cities in the country, it is strongly recommended that a high powered autonomous Technology Mission on SWM be constituted by the Government of India under the Ministry of Urban Development, for a period of 5 years.

The Mission's mandate may be to ensure the implementation of the recommendations made in this report for all Class I cities in India within a given time frame.

The role and objectives of the Technology Mission:

1. to monitor the performance of various local bodies in the implementation of these recommendations,
2. to collect information on various technologies for the processing and disposal of wastes, to identify the suitability of the technology under Indian conditions, through pilot projects where necessary and to advise the State Governments and urban local bodies to adopt such technologies.
3. to give technical assistance to the local bodies in adopting the suggested technologies wherever required.
4. to provide and channel funds earmarked for SWM projects by financial institutions and international financial donor agencies, as well as by various Ministries such as Environment & Forests, Non-conventional Energy Sources, Agriculture, Urban Development and the National Planning Commission.
5. to develop IEC (Information, Education & Communication) material and awareness programmes and disseminate the same through mass media and other communication methods
6. to promote capacity building and Human Resource Development (HRD) in ULBs and identify the training needs of the urban local bodies; to develop mechanisms to meet the training needs and designate institutions in each state/ region as resource centres for providing such training.
7. to benchmark performance indicators and circulate the same to urban local bodies and state governments.
8. to arrange, promote and coordinate inter-city and inter-state meets for SWM personnel to exchange information and technology.
9. to provide a forum for public interaction and intervention in the field of SWM and strengthen and support citizen participation.
10. the Mission may take such other measures as may be necessary to improve the solid waste management systems from time to time.

All government grants and loans to the urban local bodies for Solid Waste Management related matters should be routed through the Technology Mission which may weigh the proposal.

The Government of India should place adequate resources at the disposal of the Technology Mission to achieve its objectives.

Composition of Technology Mission

Secretary to Government of India from the Ministry of Urban Affairs and Employment	...	Chairman
Secretary to Government of India - Ministry of Environment & Forests		Co-Chairman
Representatives of		Members
Ministry of Health	...	1
Ministry of Agriculture	...	1
Ministry of Finance	...	1
Planning Commission (all at the level not below the rank of Joint Secretary of Govt. of India.)	....	1
Secretaries in charge of Urban Development Dept. Municipal Administration from State Governments	...	2
Municipal Commissioner from Mega City	...	1
Municipal Commissioner from 1 million plus city	...	1
Municipal Commissioners/Chief Officers from small cities	....	2
Non-Governmental Organisation representatives	...	2
Experts on the subject	...	4
Directors/Senior Professors from State Resource Centre/training Institute	...	2
Director General not below the rank of Joint Secretary to Govt. of India.	...	1
	Total :	21

The Technology Mission should have an Executive Committee headed by a full-time Director General and [illegible] members from among the members of the Technology Mission as may be decided by the Mission. The Director General should have a tenure of at least three years and have technical and administrative staff and be given adequate funds and powers to fulfil the objectives of the mission.

The mission shall meet once in six months and the Executive Committee at least once in two months

ANNEXURE-G

[Para 1.6, 5.1]

"WP 888/96 PETITIONER'S 12 DIRECTIONS SOUGHT ON 17.9.99

[Submitted to hon. Supreme Court and circulated to all Rpdts on 17.9.99]

1. Unhygienic and environmentally hazardous solid waste management and disposal practices threaten the Constitutional Right to Life of millions of Indians in and around our larger cities. All States and Union Territories are therefore directed to ensure the immediate compliance of all their Class 1 Cities with the Municipal Solid Waste (Management & Handling) Rules 1999 [MSW Rules], by implementing forthwith all the Mandatory Recommendations contained in the Report of the Expert Committee constituted by this Court and titled "Solid Waste Management in Class 1 Cities in India, March 1999". This Report is a holistic, well-integrated and implementable one, approved of by almost every Class 1 City, and deserves to be adopted *in toto* if our cities are to be cleaned up before the next millenium. Particular attention shall be paid to the recommendations listed in Chapter 11 of the Report, which shall be implemented within the time-frames specified in Chapter 13.

The Chief executive officers of cities and Government departments and elected decision-makers who wilfully ignore the provisions and time-frames of the MSW Rules (draft Rules if not notified) are liable to expose themselves to contempt-of-Court action against them. We further direct that the Municipal Commissioners/Chief executive Officers of each of the cities which are made party Respondent are required to file a Compliance Report – on affidavit, annually for a

period of three years in this Court and report to the Technology Mission for Clean Cities.

Each of these Compliance Reports will contain full particulars and details regarding the implementation of the Mandatory recommendations contained in the Committee's Report and details regarding the steps taken for implementing the discretionary recommendations. This direction is required in view of the emergent and serious conditions in the Respondent Cities.

2. Lack of Municipal funds shall be no excuse for cities to neglect or postpone their Constitutional and minimum statutory and obligatory duties of safeguarding the life and health of their citizens through hygienic solid waste management, processing and disposal. States are directed to pay particular attention to the Expert Committee's suggestions in Chapter 12, and urgently use their powers under Article 243-X of The Constitution (74th Amendment) Act 1992 to financially strengthen all their Class 1 Cities to comply with the said MSW Rules and the Committee's Report in order to fulfil their statutory and Constitutional obligations for their citizens' health and welfare. Where the term of any State Finance Commission under Art. 243-I of The Constitution (73rd Amendment) Act 1992 has lapsed, the Second Finance Commission shall be promptly constituted to fulfill its constitutional duties under Art. 243-Y (b) of the Constitution (74th Amdt) Act "to make recommendations to the Governor as to the measures needed to improve the financial position of the Municipalities".

3. States and cities pleading insufficiency of finances shall follow all the recommendations on Financial Aspects in Chapter 6 of the said Report, to ensure prompt compliance with the MSW Rules. In particular, cities shall give priority in their budgets and expenses for fulfilling all their Essential and Obligatory Duties and the Mandatory Recommendations of the Report, before budgeting or spending for any non-essential items.

4. We direct that the State Governments and Union Territories through their Environment Dept/Secretary shall appoint a cadre of upto 20 citizens who volunteer to be Civic Wardens, in each and every Municipal Ward. The said Civic Wardens shall be selected after giving a Press Note in local newspapers. The said selection shall be on the basis of merit and carried out in a transparent manner. The Civic Wardens shall monitor compliance with all rules, regulations and laws pertaining to City Cleanliness. The complaints, suggestions and recommendations of the said Civic Wardens must be promptly attended to by the respective Municipalities and/or State Pollution Control Boards.

5. We direct every State Govt and Union Territory to constitute District Environment Protection Authorities, similar to those Authorities constituted by Karnataka vide its Government Order No. DEE 26 ENV 92, Bangalore, dt 8.6.1992 (which is Annexure A hereto), for safeguarding of the peri-urban environment.

6. Transparency of Municipal income and expenditure and accountability for State and Central funding shall be ensured by every Municipality's conformance, in all of their accounting procedures, to the codes specified in the CAG's "LIST OF MAJOR AND MINOR HEADS OF ACCOUNT OF UNION AND STATES" as is already being done by all Central, State and Zilla Parishad bodies. All Respondent States and Union Territories shall issue suitable directions for such compliance under Art. 253-Z of The Constitution (74th Amendment) Act 1992, commencing from the year 2000. We expect the CAG (Controller General of Accounts in the Dept of Expenditure of the Ministry of Finance) to assist all Municipalities in this exercise as needed.

7. The Central Finance Commission shall fulfill its obligations under Article 280 (3) (c) of the Constitution of India to augment the resources of Municipalities. This should be done through release of any undisbursed funds from the 10th Finance Commission grants, from adequate financial provision by the 11th Finance Commission including earmarked funds for SWM, and by any other means.

8. Union of India shall ensure adequate funding as outlined in the Report, for their contribution to the cleaning of urban India, and the U. O. I. shall shift its subsidies from synthetic fertilisers alone to providing similar subsidies for combined use of City Composts that conform to the standards specified in the MSW Rules.

9. After careful consideration, the Expert Committee, for reasons spelt out in paras 3.15 to 3.15.4 of their Report, has concluded in para 3.15.5 that "at the present juncture, only composting of organic / food wastes and biodegradable waste and disposal of rejects at the landfill sites is recommended" for India. We therefore direct that land filling of un-segregated wastes, incineration, and recovery of energy from municipal waste shall henceforth not receive any Govt. sponsorship, encouragement or aid in any manner, except for completion of any projects that have already invested 30% of their capital cost on site. We further direct that the 13 criteria for technology selection spelled out in para 3.15 of the Report shall be adopted by Govt. before accepting or promoting any new MSW disposal technology.

10. The proposed Technology Mission is an indispensable and key recommendation in the Report. No signifidant national change in the present unacceptable urban waste management situation, which daily threatens the constitutional Right to Life of millions, can be expected without it. Lack of funds is not a valid objection to its formation. We therefore direct the Union of India to constitute an autonomous Technology Mission for Clean Cities as spelt out in Chapter 10 of the Report within 9 months from today. The full-time Director-General of the Technology Mission for Clean Cities shall be a person of vision having the necessary city management experience, and a proven and successful track record, rather than an ex-officio appointment based on routine seniority considerations. The Director General may delegate some powers and duties of the

Technology Mission to its members / advisors to act as required in specific regions.

11. We further direct that until a national Technology Mission for Clean Cities is constituted, the Expert Committee that framed the said Report shall function forthwith as an Interim Technology Mission for Clean Cities and shall frame the necessary powers and duties of the proposed Technology Mission and shall frame the necessary powers and duties of the proposed Technology Mission. Union of India is directed to provide the said Mission necessary resources to achieve its objectives.

12. A preventive rather than a reactive response to the magnitude of the urban solid waste problem is called for, as described in section 9.1 and Annexure-E of the Report. We direct the Central Pollution Control Board to prepare suitable Waste Prevention and Eco-friendly Packaging Rules, in order to minimize needless generation of solid waste. These Rules shall include provisions for an Eco-surcharge to promote life-cycle responsibility by the manufacturers and marketers of all products.

ANNEX-H colly

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W.P(C)No. 888 OF 1996

L.....T.....T.....T.....T.....T.....T.....T.....J.R

ITEM No.31 COURT No. 1 SECTION PIL
A/N MATTER

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Writ Petition(Civil) No.888/1996@@
cccccccccccccccccccccccccccccc

Petitioner (s)

ALMITRA H. PATEL & ANR

VERSUS

Respondent (s)

U O I & ORS

(With appln. for interim relief and exemption from filing O.T. and intervention)

DATE : 13/09/2002 This Petition was called on for hearing today.

CORAM :
HON'BLE THE CHIEF JUSTICE
HON'BLE MR. JUSTICE K.G. BALAKRISHNAN
HON'BLE MR. JUSTICE ARIJIT PASAYAT

For Petitioner (s) Mr. Gopal Jain, Adv.
Ms. Nandini Gore, Mr. R N Karanjawala, and Ms. Manik Karanjawala, Advs.

Petitioner No. 1 in person. (NP)

For Respondent (s)
Union of India Mr. R S Rana, Adv.
Mr. R N Poddar, Adv.
Mr. B V Balram Das, Adv.
Ms. Anil Katiyar, Adv.

Mr. Y P Mahajan, Adv.
Mr. S A Matto, Adv.
Mr. S N Terdol, Advs.

for Delhi Admn. Ms. Shashi Kiran, Adv.
Mr. D S Mehra, Adv.

for DDA Mr. V B Saharya, Adv. for M/s. Saharya & Co., Advs.

Mr. R K Maheshwari, Adv. (NP)

for Govt. of NCT, Delhi (Res.No.26) Mr. D N Goburdhun, Adv.
Ms. Geeta Luthra and Ms. Pinky Anand, Advs.

No. 2 (West Bengal Pollution Control Bd.) Mr. R Mohan, Sr. Adv. with
and Mr. V G Pragasam and Mr. B P Ramakrishnan, Advs.
No. 30 (M. Corpn. of Chennai)

...2/-

PA

:2:

No. 3 (Assam) Ms. Krishna Sarma, Adv.
Ms. Asha G Nair, Adv.
for Corporate Law Group, Advs.

No. 5 (Gujarat) Mr. Yashank Adhyaru, Sr. Adv.
Ms. Nirmala Gupta, Adv.
for M/s. I M Nanavati Associates, Advs.

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No. 7 (M.P.) and MP Pollution Control Bd.	Mr. Satish K Agnihotri, Adv.
No. 14 (State of UP)	Mr. Ajay K Agrawal, Adv. Ms. Alka Agrawal, Adv.
No. 17 (Nagaland)	Ms. V D Khanna, Adv. Mr. Sanjay K Shandilya, Adv.
No. 18 (Haryana)	Mr. Jai Prakash Dhanda, Adv. Ms. Raj Rani Dhanda, Adv. Mr. Sunder Khatri, Adv.
No. 20 (Manipur)	Mr. K H Nobin Singh, Adv. Mr. M Gireesh Kumar, Adv.
No. 21 (Tripura)	Ms. Vimla Sinha, Adv. Mr. Gopal Singh, Adv. Mr. Rahul Singh, Adv.
No. 23 (Mizoram)	Ms. Hemantika Wahi, Adv. Ms. Anu Dubey, Adv.
No. 24 (Arunachal Pradesh)	Mr. Anil Shrivastav, Adv.
No. 25 (Goa)	Ms. A Subhashini, Adv.
No. 27 (CPCB)	Mr. Vijay Panjwani, Adv.
No. 29 (MC, Calcutta)	Mr. Tapan C Ray, Sr. Adv. Mr. Bijan Ghosh and Mr. L C Agarwala, Advs.
No. 31 (MC, Mumbai)	Mr. Pallav Shisodia, Adv. Mr. D N Mishra, Adv. for M/s. JBD & Co., Advs.
No. 32 (Bangalore City Municipal Corpn.)	Mr. E C Vidya Sagar, Adv. Mr. BK Choudhary, Adv. Mr. Santosh Kumar, Adv. Mr. Amar L V, Adv.
No. 36 (MC, Varanasi) and UP Pollution Control Bd.	Mr. Pradeep Misra, Adv.
No. 38 (AMC)	Mr. H S Parihar, Adv.
No. 39 (MC, Rajkot)	Mr. M N Shroff and Chirag M Shroff, Advs.
State of Andhra Pradesh	Ms. K Amareswari, Sr. Adv. Mr. T V Ratnam, Adv. Mr. K Subba Rao, Adv.

...3/-

PA

:3:

State of Meghalaya	Mr. Ranjan Mukherjee, Adv.
UT Chandigarh	Mr. K B Rohtagi, Adv. Ms. Aparna Rohtagi Jain and Mr. Mahesh Kasana, Advs.
State of Punjab	Mr. Ajay Bansal, Dy. Adv. Genl. Mr. R S Suri, Adv.
State of Maharashtra	Mr. V A Mohta, Sr. Adv. Mr. V B Joshi, Mr. S S Shinde and Mr. V N Raghupathy, Advs.
State of H.P.	Mr. Naresh K Sharma, Adv.
State of Kerala	Mr. G Prakash, Adv.
Govt. of Pondicherry/ Pondicherry P C B	Mr. V G Pragasam, Adv.
State of Tamilnadu	Mr. V Krishnamurthy, Adv.

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TN Pollution Control Bd.	Mr. M A Chinnasamy, Adv.
State of Karnataka	Mr. Sanjay R Hegde and Mr. Satya Mitra, Advs.
State of Bihar	Ms. Sunita R Singh, Adv. for Mr. BB Singh, Adv. Mr. K Ram Kumar, Adv.
State of Orissa	Ms. Kirti R Mishra, Adv. Mr. J K Das, Adv. (NP)
State of Rajasthan	Mr. Ranji Thomas, Adv. Ms. Bharati Upadhyaya, Adv. Mr. Sushil Tekriwal, Adv. Mr. Javed M Rao, Adv.
State of Sikkim	Mr. N B Khatiwada, Addl.Adv.Genl. Mr. A Mariarputham and Ms. Aruna Mathur, Advs. for M/s. Arputham Aruna & Co., Advs.
State of West Bengal	Mr. H K Puri, Adv. Mr. S K Puri, Mr. Ujjwal Banerjee and Ms. Anindita Gupta, Advs.
APPCB	Mr. Nikhil Nayyar, Adv. Ms. Urmila Sirur, Adv. Mr. Tara Chandra Sharma, Adv. Mr. Bharat Sangal, Adv. Mr. K R Nagaraja, Adv. Mr. Prem Malhotra, Adv. Mr. Rakesh U Upadhyay, Adv. Mr. K S Bhati, Adv. Mr. K K Rai, Adv. Mr. S C Patel, Adv. Mr. Shiv Sagar Tiwari, Adv. Ms. Aparna Bhat, Adv. Mr. Ashok K Srivastava, Adv. (not present)

...4/-

PA

:4:

	Ms. Indu Malhotra, Adv. Mr. Ashok Mathur, Adv. (not present)

UPON hearing counsel the Court made the following

O R D E R

.....L.....I.....T.....T.....T.....T.....T.....T...J.R

Adjourned to 28th October, 2002 to enable Mr. Gopal Jain to file comprehensive suggestions for implementation by the various States under the supervision of the respective High Courts.

(D.P. WALIA)
Court Master

(S.L. GOYAL)
Court Master

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ITEM NO. 27 COURT NO. 1 SECTION PIL
A/N MATTER

SUPREME COURT OF INDIA

RECORD OF PROCEEDINGS

Writ Petition (Civil) 888 of 1996

ALMITRA H. PATEL & ANR. Petitioner (s)

VERSUS

UOI & ORS. Respondent (s)

Date : 28/10/2002 This Petition was called on for hearing today.

CORAM : HON'BLE THE CHIEF JUSTICE [B.N. KIRPALL]
HON'BLE MR.JUSTICE Y K SABHARWAL
HON'BLE MR. JUSTICE ARIJIT PASSAYAT

ORDER

Orders will have to be passed with regard to 12 directions which are sought (page 3546 of the paperbook). According to Mr. Gopal Jain, directions may have to be issued with regard to item Nos. 7 to 11 and as far as other points are concerned the same may be left to the respective High Courts pursuant to the orders of this Court dated 13th September, 2002. Mr. Gopal Jain has also placed on record the suggestions regarding monitoring of solid waste management by the High Courts and the same will be considered on the next date of hearing. The Court will also consider the question of reimbursement to the petitioner.

Place before the Bench presided over by Hon'ble Mr. Justice Y K Sabharwal on 25th November, 2002.

ANNEXURE- I

[Para 1.7]

DHAKA RECOMMENDATIONS – 2004 ON SOLID WASTE MANAGEMENT IN THE SAARC REGION

The Department of Environment under the Ministry of Environment and Forest, Government of the People's Republic of Bangladesh organized a three day SAARC workshop during 10 – 12 October 2004 at BRAC Center INN, Dhaka. The workshop was sponsored by the Ministry of Foreign Affairs, Government of the People's Republic of Bangladesh. About 35 participants and delegates from the SAARC countries Bhutan, India, Nepal, Pakistan and Bangladesh participated. The Workshop had 5 Technical Sessions that included a Key-note presentation followed by presentation of Country Papers. Institutional, Legal and Technical Issues, and Best Practices in Solid Waste Management were covered in the presentations.

The recommendations presented in the Workshop are based on discussions in each technical session as well as group meetings among SAARC delegates and unanimous consensus among the participating countries. It was confirmed by the participating countries that the recommendations be considered as **"DHAKA RECOMMENDATION-2004 ON SOLID WASTE MANAGEMENT"**, the key features of which are as follows:

1. Promote an effective, efficient, affordable, safe and sustainable waste management system of all the urban/ rural settlement of SAARC countries with special attention to addressing the needs of the poor.

2. SAARC country delegates agree to establish a SAARC network on waste manage-ment with the objectives of sharing information and technology transfer on municipal solid waste, biomedical waste and hazardous waste management among SAARC countries. The network will consist of representatives from relevant government organizations, non-government organizations, university and research institutions, and urban local government authorities from each country. The aforesaid network shall undertake the following activities:

- Establishing information exchange mechanism
- Forming a Technology Advisory Group for resolving technological issues
- Developing training programs for regulatory/ implementation bodies.
- Demonstration of technologies in the SAARC countries (SAARC fund /donor fund)
- Develop a database on entrepreneurs/ suppliers of equipments / technology providers
- Developing materials for awareness campaign
- Developing institutional cooperation mechanism
- Arranging annual meetings on a rotational basis
- Organizing exchange visits amongst SAARC countries to share experiences of best practices
- Facilitating development of legislative frameworks and guidelines
- Undertaking joint research on legal, institutional and technical aspects of waste management
- Developing newsletters on success stories and a dialogue website

3. SAARC country delegates agree that open dumping should be stopped immediately and these open dumping should be replaced with new safe disposal options (controlled landfill sites).

4. SAARC countries agree that incineration as well as unproven technologies such as Plasma, should not be considered as an option for the treatment of their municipal solid wastes for low calorific value and environmental pollution potential. However, in absence of an appropriate no-burn technology, incineration may be considered for the treatment of infectious/ hazardous bio-medical wastes.

5. SAARC countries agree that present informal waste picking practice be improved as a safe and eco-friendly practice by improving the working conditions of the waste pickers and thereby reducing the occupational health hazard.

6. SAARC countries agree to encourage NGOs and private companies to establish community based segregation at source, separate collection and resource recovery from wastes with particular focus on composting.

7. SAARC countries agree that municipal solid waste, hazardous waste and biomedical waste may be managed separately.

8. SAARC countries agree that in order to make the system financially viable the cost of solid waste management should be rationalized with the view to increase revenue.

9. SAARC countries agree that waste collection, treatment and disposal may be privatized to allow greater mobilization of capital. To attract foreign investment in waste management projects financing opportunities under the CDM may be harnessed in all SAARC countries.

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ANNEXURE- J

[Ref para 1.8, 3.2, 6.3]

Dr. M.RAMACHANDRAN
Secretary to the Government of India

MINISTRY OF URBAN DEVELOPMENT
NIRMAN BHAVAN,
NEW DELHI 110108

March 22, 2010

D.O.No.Z-14013/3/2009-PHE.II

Dear Chief Secretary,

You are aware that the Urban Local Bodies are responsible for providing municipal services and civic amenities including Municipal Solid Waste Management right from the collection, segregation, transportation, scientific treatment and disposal of the waste generated in the cities / towns in accordance with the Municipal Solid Waste (Management and Handling) Rules, 2000, which were notified under the Environment Protection Act, 1986 by the Ministry of Environment & Forests, Government of India.

The MSW Rules require all the municipalities to organize door-to-door collection of solid waste and citizens' education for source segregation. It is also an opportunity to promote a safe and decent livelihood for those involved in the recycling industry. Volume reduction by adopting the 3R s -- Reduce Recycle & Reuse -- is a key factor in Municipal Solid Waste Management. Of these, recycling is carried out by the informal recycling sector which needs to be recognized, regulated and incentivized and integrated with the mainstream.

In many cities & towns waste recovery is an important unorganized private industry employing thousands of waste pickers who are working and earning their livelihood in refuse dumps. They are referred to as scavengers or waste pickers but are often ignored in urban project planning although their activities are vital to the life of the city. These rag

pickers constitute abandoned children, poor and destitute women. They live and work under significant health risks, which are largely undocumented and suffer from severe exploitation and deprivation. Their possible health hazards include increased infant mortality, hand/leg injuries, intestinal and respiratory infections, eye infections, lower back pain, malnutrition, skin disorders and exposure to hazardous waste. They do not have access to safe water supply and sanitation facilities.

Waste collectors make a substantial contribution to municipal solid waste management. I hey reduce the volume of waste by 20% by recycling the recovered portions. However private collection at source may only operate in the wealthy neighbourhoods where refuse contains items of value. Independent observers agree that the recognition of waste collectors contribution to keeping cities clean cannot be evaded. Their positive role in the management of municipal solid waste should be recognized and their lot improved.

Sustainable and Integrated Solid Waste Management requires inclusion of the informal sector into the process of solid waste management keeping in mind the larger goals of an environmentally sustainable and decentralized waste management practice. It is imperative that the waste management plan of each urban/rural, semi-urban local body should incorporate an inclusive approach for the waste collectors who are engaged in the collection, transportation and conversion of waste into various products and depend on recycling of waste for their livelihood.

The informal waste recycling sector includes:

1. Self employed waste-pickers who retrieve paper, plastic, metal, glass and scrap from waste bins or receptacles kept on the streets and from landfill sites where the collected waste is transported and dumped.

2. Itinerant waste buyers (bhangar feriwalas) who purchase small quantities of scrap from households, offices, shops and other small commercial establishments.

3. Informal refuse collectors who collect waste from households and establishments

4. Retail scrap dealers or small junk dealers (bhangar dukandars) who purchase scrap commodities (by weight or unit)

Urban Local Bodies would need to recognize the importance and value of the informal recycling sector. The waste management plan of each Urban Local Body must include the four categories of the informal recycling sector as above. They must enumerate and register informal workers engaged in collecting, grading, transporting and recycling waste for their livelihood. Urban Local Bodies must provide adequate safeguards to the people involved in this work and promote safe and hygienic waste handling, sorting and conversion of waste. Urban Local Bodies must protect the rights of waste pickers to access, collect and sell recyclable scraps and put it as a clause in all waste collection contracts.

The ULBs should hire /outsource only those registered workers, who are part of the pool of waste pickers for door to door waste collection and transportation of waste though reputed contractors. The workers shall

have the right to collect and retain for use or sale any item of scrap material or usedgoods that they may collect or retrieve from the collected waste and retain proceeds from the sale of the collected scrap at the primary level' i.e, door to door collection and at the secondary storage level.

The earnings from the sale of scrap should be considered as a recycling incentive for the workers and should not be adjusted against the wages due to them for carrying out door to door collection. While engaging the waste pickers, the sanitary workers who are part of the process shall be also protected through legal/ institutional arrangements.

Keeping the above in view and in order to integrate the informal waste recycling sector into the mainstream and give incentives, I would like to request you to consider directing all the ULBs of your state to protect the rights waste pickers to access, collect and sell recyclable scraps and to put it as a clause in all waste collection contracts. The NGO/CBO/ contractor shall ensure the credentials of the rag pickers through their institutional arrangements. A system of independent verification of waste pickers by the police or third party needs to be explored.

Each worker (Including Supervisor) deployed on the work shall be provided the following personal facilities by the CBO /NGO/ contractors:-

(i) A set of Uniform –(two sets per annum) of approved design and color (visible distinctly at night)

(ii) The name of the person and designation shall be either knitted on the pocket of the uniform or name embossed on plastic badge, in both the local language and English.

(iii) A set of hand gloves, mask and safety shoes – durable mask once in three months, hand gloves once a month and shoes once in 12 months.

(iv) A set of gum boots and rain wear every year in rainy season.

(v) A duty reporting place be established by the Municipality within each locality/ward.

(vi) Adequate training may be imparted to the waste pickers to have exposure on the scientific management of MSW.

Besides, "Non-Biodegradable Waste Collection Centres" be provided by the Municipality to the Contractor, till the time the Agreement is in place at a nominal lease as deemed fit by the ULB. Separate meters for water supply and electricity be provided under domestic category. The water supply and electrical charges of the regular bills from respective agencies be paid by the Contractor /CBO /NGO. Decentralized waste management practices need to be promoted in the cities and towns so as to facilitate the recycling of waste material by the waste pickers and onsite composting. A model of co-operatives for intermediaries in the sector may be explored along with recognition of door step collection as the main domain with informal sector.

I would like to request you to undertake a review of the existing situation of the informal recycling industry and chalk out a programme for integrating informal recycling sector especially with reference to the SWM projects sanctioned under JNNURM and UIDSSMT.

I shall be grateful, if you could revert to me within three months about the action taken in this regard.

With regards,

Yours sincerely,

Sd/-
(M. Ramachandran)

To Chief Secretaries of
all the states/UTs

ANNEXURE-K

[Para 1.8, 3.2, 6.3]

404066 – **LEGAL STANDARDS** _ El Peruano, Lima October 7th, 2009

LEGISLATIVE BRANCH , PARLIAMENT OF THE REPUBLIC, LAW Nº 29419

Whereas the **PARLIAMENT OF THE REPUBLIC** has provided the law as follows:

THE PRESIDENT OF THE REPUBLIC has provided the law as follows:

LAW TO REGULATE WASTE PICKERS ACTIVITY

Section 1º: Object of law

The object of the herein law is to establish the regulatory framework for regulating waste pickers activities, aimed to protect, train and promote the social and work development, promoting its ratification, association and contributing to improve the environmentally efficient managing of solid wastes in the country in the framework of the objects and principles of law Nº 27314, General Lay of Solid Waste and law Nº, General Environmental Law.

Section 2º: Field of Application

2.1. In order to apply the herein law, waste pickers are considered those people who both dependently or independently, carry out the activities of selective collection for recycling, segregating and marketing not dangerous solid wastes in a small scale under law Nº 27314, General Law of Solid Waste.

2.2. The state recognizes waste pickers activity, promotes the ratification and integration to the management systems of solid waste of

all cities of the country through the Directorate General for Environmental Health (Digesa), of the Ministry of Health and provincial municipalities.

Section 3°: Definitions

The following definitions are settled in order to apply the herein law:

a) Recycling: Process through which final products, goods or wastes are incorporated to transformation and manufacture processes specially designated to remove or reduce their pollutant effects and generate new profits.

b) Selective collection for recycling: Collecting source segregated wastes to be transferred through any suitable means of transportation to be then prepared and marketed.

c) Segregation: Various components or physical elements from solid wastes are put together in order to be specially treated.

d) Not dangerous solid wastes: Wastes that are not considered to be dangerous under Legislative Resolution N° 26234 which authorizes the agreement about the control of cross-border transports of dangerous wastes and their removal, included in schedule 5 of the supreme decree N° 057-2004-PCM, Law Regulation N° 27314, General Law of Solid Waste.

e) Independent waste picker: Person who formally carries out recycling activities, including selective collection and marketing, and who also has no connection to solid waste rendering services companies, solid waste marketing companies or solid waste generating companies.

f) **Solid Waste Rendering Services Company (SW-RSC):** Artificial person than renders solid waste services through one or some of the following activities: streets and public spaces cleaning; solid waste collection, transport, transfer, treatment and final placing.

g) **Solid Waste Marketing Company (SW-MC):** Artificial person that develops solid waste marketing activities in order to reuse them.

Section 4º: Institutional Representatives

The following are institutional representatives connected to the selective collection activities, segregation and marketing of not dangerous solid waste:

a) **Ministry of the Environment:** body that regulates the environmental national policy and the national system of environmental management.

b) **Ministry of Health:** body that regulates the health policy for the management and managing of solid waste.

c) **Local, provincial and district governments:** establish the policies and measures aimed at the environmentally efficient management of solid waste in their respective jurisdiction.

d) **Waste Pickers associations:** Representing unions of those who carry out these activities.

e) **SW-RSC and SW-MC:** private economic units that render solid waste services and market them.

Section 5º: Local Regulation

5.1 Waste pickers activity is regulated by local governements as regulating bodies in the framework of their attributions. The local regulating system is aimed to incorporate wastepickers as part of the local solid waste management system. Local governments establish rules to promote not dangerous solid waste pickers activity in coordination with the waste pickers association recorded in their jurisdiction.

5.2 Solid waste management and managing programs and projects implemented by the local governments shall include the waste pickers activity.

5.3 Local governments maintain a registration record of the waste pickers associations which members operate in their jurisdiction to provide the corresponding authorization and certification, which shall also be useful to have access to the benefits that favours them.

5.4. Waste pickers formalized through the local governments record have the right to carry out their activity within the framework of the herein law and its regulation, Solid waste legislation and municipal rules.

Section 6°: Formation of SW-RSC and SW-MC:

Regional and local governments in the framework of their legal attributions, promote the formation of waste pickers associations and SW-RSC and SW-MC small and medium-sized enterprises specialized in the collection of solid waste for their recycling and marketing; and they also submit the provisions that favour the incorporation of independent waste pickers among those that already exist. The regulation of the herein law establishes the requirements that those who intend to follow this promotional system shall fulfill.

Section 7°: Incentives for the source segregation:

Local government implement incentive programs for the source segregation, which may include compensation to contributors through the reduction of rates payment or the provision of goods and services at a lower cost or for free or as part of environmental certification programs of companies or intitutions in general.

Section 8°: Landfill Recycling

Local governments promote the implementation of treatment plants within landfills where organized waste pickers may segregate reusable wastes to be maketed.

Section 9°: Waste Pickers Training Programs

9.1 The Ministry of the Environment and local governments in coordination with the Ministries of Health and Education, regional governments, universities, specialized education institutions and non-governmental organizations promote the development of training programs for waste pickers.

9.2 The National Service for Occupational Training in Industry (Senatl) establishes an education and training program almed at waste pickers of all the country with the purpose of turning solid waste managing environmentally efficient and technical. Similar programs could be developed by other education institutions. In every case, the content of these programs is coordinated by the Ministries of the Environment and Health.

Section 10°: Vulnerable Sectors Protection

10.1 Authorizations or licences granted by local governments to waste pickers shall fulfill the protection legal standards of minors, gestating

mothers, handicapped people and senior citizens under their responsibility and at a social cost.

10.2 The Ministry of Health gradually implements occupational health and vaccination programs for waste pickerss in coordination with local governments.

Section 11°: Funds to Promote Recycling

The National Environmental Fund (FONAM) in coordination with private institutions creates a special fund aimed to favour the access to the waste pickers credit connected to their activity, formalization and association.

ADDITIONAL PROVISIONS

FIRST.- The waste picker day shall be commemorated on June 1st of each year.

SECOND.- The National Prize for Recycling shall be created, awarded by the Ministry of the Environment, which distinguishes every year those natural or artificial people who are commited with a recycling activity that involves environmental, social and economic advantages. Local governments award similar prizes in their respective fields in the framework of programs to promote environmentally efficient and healthy practices.

THIRD.- The Ministry of the Environment in coordination with the Ministry of Education and other competent entities promotes programs of education and public communication aimed at proving the social, environmental and economic benefits of the source segregation activities and recycling affecting the waste pickers role in such process.

ANNEXURE- L

[Para 1.10, 4.1, 6.11]

BIO-MINING FOR BIO-REMEDIATION OF OLD LANDFILLS: AN ECO-FRIENDLY ALTERNATIVE TO CAPPING, May 2010

Mrs Almitra H Patel, Member Supreme Court Committee for SWM
50 Kothnur, Bagalur Road, Bangalore 560077
almitrapatel@rediffmail.com, www.almitrapatel.com

India has pioneered a very simple, low-tech, low-cost, quick and eco-friendly method of remediating old open waste dumps to permanently achieve near-zero emission of landfill gases and leachate. Loosened layers of old waste are sprayed with composting bio-cultures and then formed into conventional aerobic wind-rows above-ground, on-site. The waste is thus sterilized, stabilized and its volume is minimized. This eco-friendly on-site treatment above ground, called "bio-mining" of old waste, is described below with examples and costs, explaining its financial and environmental advantages over conventional capping of unlined waste heaps. It is now a decade-old well-accepted technology, deserving of more carbon credits than capping.

HISTORY OF LANDFILL CLOSURE

Worldwide, open dumps initially were covered with a layer of soil or capped (with a waterproof cover and gas extraction systems) to prevent contamination of groundwater and air. When it was found that such covered waste dumps, though protected from percolating rain or snow, still generated polluting leachate internally by anaerobic decomposition of the covered waste, new landfills began to be lined at the bottom and sides also, and later covered with an impervious cap, to form "dry tombs".

Since even these may leak after 30 years, the EU has now banned all below-ground landfills, is prohibiting land filling of organic matter which can self-generate any leachate and methane during anaerobic decomposition, and is going for above-ground composting of food wastes instead. India banned land filling of organics in 2000!

With landfill space becoming increasingly unavailable or impermissible, because of country laws or neighbourhood objections, water is now being introduced into some historically covered dry waste dumps to accelerate their decomposition as "bioreactor landfills", in the hope that their contents can be dug out and used as compost, so that waste volumes can be minimized and landfill space can be recycled. This has its dangers. Capped landfills have exploded at Istanbul in Turkey and the Payathas site in Quezon City in Manila, even without the introduction of water. Bioreactor landfills only make sense for already-capped dumps abroad. In India, in the absence of capping, the same thing can be done for open dumps above ground at a small fraction of the cost, or even at no cost to the Municipality.

India has wisely learnt from this historical sequence and has very progressive laws, which require **"appropriate biological processing for stabilization of wastes"**, whether subsequently used or sold as compost or not. Landfilling is restricted to non-biodegradable inert wastes or pre- and post-processing rejects. Closed landfill sites can be considered for human habitation only after fifteen years of post-closure monitoring.

India's innovative approach to closure of old waste dumps by garbage bio-mining eliminates leachate and landfill gases by performing such

"bioreactor" activities above-ground, in the form of bio-treated aerobic windrows for almost total recovery of waste. This has many win-win benefits, described below, to:

* Increase available post-closure area for a new scientific landfill or alternate use. The cleared area at ground level will be three times more than a small plateau at 30 meters height above 1:3 side slopes after capping.

* Achieve near-zero emissions and leachate, instead of managing these for 30+ years. Carbon credits can be sought for permanently eliminating methane release.

* Clear the site of old waste at less than one-tenth the cost of conventional capping and totally avoid the high annual costs of landfill management, leachate treatment and gas monitoring.

* Drastically minimize the volume of old waste needing permanent burial and the requirement of scarce land for this.

* Recycle both organics and buried recyclables. Organics become coverted to soil-enriching compost or bio-earth.

* Achieve all this in one year or less, compared to 30-year management of old landfills. Site clearance by bio-mining can commence at many points simultaneously if closure is very urgent.

* Avoid the insurance costs and potential liabilities for explosion-prone capped sites

* Leave no pollution problems or environmental time-bombs for future generations.

1. NASIK

The first well-documented bio-mining experiment was in 2002-03 at Panchvati in Nasik city, where a 28 acre site under average 4-7 meters depth of garbage was engulfed by the expanding city and the dumping of 260 tons per day over a twelve-year period needed to stop. The site was cleared of all old waste in just 120 days by a Bombay firm at a cost of Rs 6.4 million. Garbage was loosened by tractor-cultivator in six-inch layers and bulky waste removed by hand. Then the old rotted garbage (quite smelly) was sprayed with another Bombay firm's Bio-sanitiser (for almost instant odour control and no nuisance to neighbours) plus their composting bioculture which then cost Rs 28 per kg and was used at an application rate of 250 grams per cubic meter of old waste. Using a JCB (front-end loader), the loosened old waste (picked over by ragpickers for recyclables) was heaped into 2-meter-high aerobic wind-rows which were turned weekly, just as for fresh garbage windrows. This was the major cost element and the result was the same as with fresh waste: high heap temperatures attained in 2-3 days, and visible volume reduction within a week. This high reactivity of old waste seems surprising but should not be, since anaerobic landfills are known to retain their biological activity over a 15 to 25 year period, releasing measurable quantities of landfill gases in the process.

At Nasik, the soil below the old waste was excavated upto a depth of 1 meter and found to be mostly silt. So the site was closed after levelling it to a height of 1 meter above surrounding ground level to keep out flood-water, and observed for a year. Strong growth of natural vegetation on the site confirmed that there were no remaining gases or underground heat of reaction, which normally kills off the roots of plants. (Normally,

nothing grows on untreated uncovered dumps, however old they are). Soon thereafter, a temporary tent-camp was erected on the site for over 100,000 pilgrims to a once-in-twelve-years festival, with no ill effects or odour. Then an outdoor stadium was constructed over the well-settled site and there have been no problems whatsoever till date (2010).

2. MADURAI

Next in 2003-04, the same firm cleared a 30-acre city dumpsite at Avaniapuram, Madurai. Old waste here was at an average height of 2 meters, and was cleared to ground level within one month, by similar bio-treatment and windrowing. The clearing cost of Rs 7-800,000 was borne by the firm which was to be allotted a compost-plant site at that location, which did not materialise. Currently the site is used to grow flourishing vegetables like egg-plant (brinjals). Incidentally, an uncultivated brinjal used for medicinal purposes is found to naturally thrive upon uncleared old waste at Nagpur, and could be usefully and economically used as pioneer vegetation to colonise freshly cleared waste dumps.

Table 1 below lists, yearwise, thirteen sites already bio-remediated to date, and three planned, with site-wise details and cost comparisons with the exorbitant option of capping (at Gorai, No 9):

Table 1. Open Dumps Bio-remediated By Bio-mining, May 2010:

	Year	Location	Area cleared Hectare	Waste Height meters	Time taken, mnths	Total cost, Rs lacs	Cost, Rs/cubic meter	Final use
1	1997-98	Hyderabad Yusufguda	2 ha	3	3.M	7.0 lacs	Rs 12	Public garden
2	2002-03	Nasik	11.6	5 mtr	3 mo	64 lacs	Rs 15	Stadium
3	2003-04	Madurai	12	2 mtr	1 mo	7.5 lacs	Rs 3	Vegetables + Fodder Grass
4	2003-04	Mumbai, Goral	1	10mtr	3 mo	10 lacs	Rs 16	Creation of extra land-fill space
5	2003-04	Hyderabad Autonagar	3	20mtr	2 yrs	NIL, free	NIL	Garbage overflow on forest land removed
6	2007	Hyderabad	19	20 mtrs	< 5 yrs	NIL	NIL	Agreemnt signed
7	2006	Pune demo,	1	10 mtr	NA	NIL	NIL	For waste dumping
8	2007	Pune	N A	15 mtr	< 5 yrs	NIL	NIL	Agreement signed
9	2007	Goral Capping	16	17 mtr	24 mnths from April 2007	Rs 43 cr annual operat'n costs for 30 yrs	Rs 210 excludg leachate transp & treat-ment offsite	Pollution-abatement success uncertain, no gas capture till end 2010. Land-grab moves have begun.
10	2008-09	Faridabad: Dabva near grain market; Milk dairy site	3.00 2.00	2.5 4.0	4 4	2.4 2.8	32 35	Public utility Housing Project
11	2009-10	Nagpur: Bhande-wadi	8.00	12	8	45.00	48.	Setting up of MSW processing facility
12	2008-09	Alap-puzha: Kavaloor	2	3	6	2.5	33	" " "
13	2008-09	Kanpur: Pankl	14	3	9	4.2	30	" " "
14	2009-10	Bharatpur	2	2	4	1.0	25	" "
15	2010-11	Amritsar Bhagtawala n site Agr-mt signed	10	5	1Yr	28.50	57	" " "
16	2010-11	Pondicherry Karuvadikup pam STP nr runway, Agr-eemt signed	16a	Avg 2	2 yrs	NIL	NIL	Sewage grass farm

2. MADURAI

Next in 2003-04, the same firm cleared a 30-acre city dumpsite at Avanlapuram, Madurai. Old waste here was at an average height of 2 meters, and was cleared to ground level within one month, by similar bio-treatment and windrowing. The clearing cost of Rs 7-800,000 was borne by the firm which was to be allotted a compost-plant site at that location, which did not materialise. Currently the site is used to grow flourishing vegetables like egg-plant (brinjals). Incidentally, an uncultivated brinjal used for medicinal purposes is found to naturally thrive upon uncleared old waste at Nagpur, and could be usefully and economically used as pioneer vegetation to colonise freshly cleared waste dumps.

3. MUMBAI (BOMBAY)

A third project was in Mumbai, at Gorai, where waste dumping began many years ago in marshy land just beside a wide tidal creek. Here in 2003-04, the BMP (Bombay Municipal Corporation) paid Rs 1 million for a pilot project to clear down to ground level, one hectare of land under about 10 meters of old waste. This was done within budget in just 3 months, by a firm with compost-plant experience, again using the same biocultures, leaving a considerable amount of "bio-earth" soil conditioner for the city to use in its parks and gardens. Here too, despite the close proximity of multistory buildings which had sprung up adjacent to the Gorai dumping ground, there was no complaint of nuisance during the bio-mining operation.

This extremely quick and eco-friendly technology could have cleared the entire 17-hectare site (upto 33 meters high) to 3 meters above ground level for a cost-effective Rs 50 million at most and no off-site movement of solids or liquids. Instead, BMP engaged at a cost of Rs 170 million a quasi-Government consultancy firm which is now earning itself a bad name countrywide for its over-costly, unproven and unviable waste-management advice (see Capping Disasters at Mumbai below). Based on their recommendations, BMP awarded a tender to cap the site to a 1-in-3 slope and a 30-meter-high top of only 6.3 usable hectares instead of 17 hectares! The awarded cost of Rs 370 million excludes the cost of transporting and treating leachate at distant sewage-treatment plants not designed for such high levels of BOD, COD and contaminants, and the horrendous environmental consequences explained below.

4. HYDERABAD

The same year, 2003-04, an almost identical project was begun in Hyderabad by a compost- marketing entrepreneur, though both parties came to know of the others' activities only through my site visits. The firm began clearing the fringes of a huge hill of old garbage at Autonagar which received 800 tons a day of waste for decades, and in 2007 signed a five-year contract with the Municipal Corporation of Hyderabad for "bio-mining" the entire 47-acre site on no-payment-either-side basis. Excavating the waste in vertical layers from a garbage 'cliff', and using their own biocultures on aerobic windrows along with upto 25% of fresh garbage, their bio-mining costs are covered by enriching, blending and selling the recovered organics as a compost much appreciated by farmers and flower nurseries.

5. PUNE

The Hyderabad firm, after a year-long demonstration and product test-marketing in nearby farmlands, signed a similar long-term contract in 2007 with Pune Municpal Corporation for no-payment-either-side levelling of their extensive hill of garbage at Urali-Devachi within five years. They have applied for renewal of the lease.

6. FUTURE PROJECTS

Convinced by the tremendous proven benefits of bio-mining old waste dumps, the Government of India through its JNN Urban Renewal Mission cleared funding for similar landfill bio-remediation projects at Chennai, Madurai, Kochi and Faridabad, with more to follow. The technology is no longer experimental, but mainstream now.

CARBON CREDITS

Historically, landfill-gas capture has been tried in fully bottom-and-side-lined and capped landfills. To date, at best only 55% of the landfill gas from these gets extracted for flaring or for power generation, with the rest leaking slowly into the atmosphere or causing landfill explosions.

Electricity from extracted landfill gas is everywhere financially unviable and has always needed Govt subsidy even in the US, given for environmental reasons. Since landfill-gas capture has been adopted at several locations now, the calculations for earning Carbon Credits from such reduction of methane release are well established.

Calculations extend at most from 15 to 25 years, ignoring the fact that gases continue to be released to the atmosphere thereafter in annually decreasing amounts, even after extraction for flaring is abandoned.

Bio-mining or bio-remediation of waste dumps to produce ZERO emissions and ZERO leachate by totally recovering and recycling all the waste from the levelled site, leaves only limited inerts and no problems for future generations, with maximum recovery of usable space. This is a recent cost-effective technology fine-tuned in a hitherto developing country and it has not been tried in the West yet, where use of bio-cultures for composting is uncommon. So the initial investment, time and effort needed to make this very eco-friendly option eligible for Carbon Credits has not yet been undertaken by any of the firms who have developed and used the technique so far, though the potential fiscal benefits could exceed those from the landfill-gas-capture route.

It is now necessary for all the biomining operators along with the Govt of India to take the lead in ensuring that this fully well-proven bio-mining option becomes eligible for Carbon Credits, which is what is driving disastrous decisions like capping and cosmetic gas-tapping of the creek-side Goral dump, where waste piled above an old quarry continues to be waterlogged to a depth of 12 meters.

More importantly, should carbon credits be earned at the cost of public safety, as BMP seeks to do at Goral?

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CAPPING DISASTERS AT MUMBAI

Water-logging of the waste

The purpose of "capping" the existing 17-hectare dump at Gorai, upto 33 meters high, is presumably to keep out water, which accelerates decomposition and methane production, and produces leachate which permanently contaminates the groundwater. Capping is a common technology, but not where garbage is bounded on one side by a tidal creek, daily lapping against the garbage heap. It is like laying a large sheet of plastic over wet sea-sand on a beach to keep the area below it dry. Of course water finds its own level, so sand beneath the plastic will remain as wet as the sea-sand around it.

That is the problem at Goral. The bottom of the garbage heap is in some places several meters below creek level, so moisture will continuously rise up into the garbage hillock. This permanently waterlogged base of the garbage hill will accelerate methane generation and leakage from the unlined side walls.

Curtain wall

The capping plan aimed to keep water out of the heap by erecting, only on the creek side, a waterproof barrier wall of pre-cast concrete slabs going 7-8 meters down into the garbage. Since there will be massive settlement over time (especially if the intention is to extract methane for flaring or for power-generation), there will naturally be movement of the slabs and opening of the joints between them, letting in creek water and defeating the purpose. Even before that there will be water entry, because the capping contractor's deepest (43 meter) geotechnical test bore went only upto "completely weathered rock" which is quite porous,

and stopped drilling 11 meters below ground level, before finding out where bedrock is found. Keeping water out and gases in would require a deep wall around the entire garbage hillock, going right down to hard bedrock, and even that would not guarantee that there will be no leakage. Constructing such a wall is technically very difficult and needlessly wasteful of time and money. Bio-mining, instead, removes the problem instead of hiding it.

Fire and flies

Work began at Goral in late April 2007, using excavators to move waste around and level the 33-meter-high top to a uniform 30 meter height and to shape the steep sides to a one-in-three slope. Within a week of commencement, this opening-up of the heap released large quantities of methane which fed huge continuous fires and smoke. Fire-brigade efforts to douse the flames with copious water in fact aggravated the problem and generated more uncollected methane by introducing water deep into the airless mass which one wants to keep dry, apart from generating more leachate to pollute the groundwater. This vicious cycle of methane – fire – water-dousing – more methane – and - leachate will persist daily unless there is a change in practices. Instead, if the topmost garbage had been levelled and removed by 'bio-mining' as described above, there would have been no generation of methane or leachate and no fires.

Landfill Capping Risks Exposed at Mumbai

The MSW Rules, poorly enforced, state that "Use of closed landfill sites after fifteen years of post-closure monitoring can be considered for human settlement or otherwise only after ensuring that gaseous and leachate analysis comply with the specified standards." Germany, Holland, Turkey

and elsewhere have experienced the catastrophic consequences of building upon or very near to old landfills, even those closed in a state-of-the-art manner. Now India has its own horror story to add to this list.

The press in March 2007 exposed the disastrous consequences for the IT industry of a premier Mumbai builders' flaunting of the MSW Rules, with official apathy, to construct the pricey Mindspace complex on a former dumpsite at Malad. All electronic equipment has been failing with such regularity, due to corrosive landfill gases in the atmosphere, that Annual Maintenance Contracts are unobtainable. Residents are moving away because of almost monthly failures of their air-conditioners, washing-machines, electric irons or mixers. Human health effects have also been highlighted. So it is clear that "capping" the Gorai dump, which is so very near to residences, will merely convert it to an environmental time-bomb for them in a few years, for which no-one will later take responsibility, as at Malad.

It would have been far better to remove the root of the problem by converting all the waste to a useful bio-earth via bio-mining. This can still be done, though at a needlessly huge cost of removing the soil & plastic cover.

Monitoring

Despite the recent shocking Mindspace experience at Malad, there has been no move by the State Pollution Control Board to monitor air, soil and water quality at Malad or at any other waste dumps in Mumbai or Maharashtra State, although six-monthly monitoring by them is mandatory. They are evading this responsibility Statewide by claiming that open dumps are not "disposal facilities", though that has been India's

only disposal method since Independence. At Mumbai, they are not even monitoring the leachate brought to sewage treatment plants not designed for it, nor the ecological damage of releasing inadequately-treated leachate into the sea.

Energy and pollution costs of capping waste

Bio-mining requires one-time energy (diesel) for four weekly turnings of waste in aerobic wind-rows, which is then stabilized and releases no leachate, just like a sun-dried tomato. Capping makes the whole hillock anaerobic, so that all the waste in it will liquefy like a rotten tomato inside a plastic bag. All this leachate will eventually find its way into groundwater through the unlined bottom and sides of Gorai's garbage hill. So far, all this was oozing into the creek and getting washed away by daily tides. Instead of standard leachate capture and treatment, the promoters, over 15 years of site maintenance, plan to collect and send the leachate in tankers to Mumbai's existing municipal sewage treatment plants and "pay for its treatment". These are already massively overburdened by increasing population and wastewater release, and mainly dispose of the city's liquid waste by sending it through ever-longer pipes into the sea. What will happen when leachate which has already "killed" the Gorai creek, is now let out through pipes to distant new areas? Which unfortunate fishermen, near which sewage outfall in the sea, will have to bear the brunt of the discharge of concentrated 15,000-plus-BOD leachate compared to the 250-BOD average concentration of sewage? Which Mumbaikars will get sick eating fish exposed to such leachate discharges? This will happen regardless of whether the promoters construct a leachate-treatment plant near Gorai, or add to Mumbai's daily traffic

congestion and vehicular pollution load by shipping it elsewhere. It is far better to Prevent leachate formation through bio-mining instead.

Methane Generation

Flaring of methane and monitoring it is costlier than permanently avoiding its generation through bio-mining. All "waste-to-energy" plants are heavily subsidised in the US and elsewhere, all eventually at public expense. So as methane production gradually tapers off over time, the production of energy is no longer worthwhile and is abandoned after a few years, leaving the methane to be flared, and later released to the atmosphere when levels fall below that needed to feed a flame. It is far better instead to Prevent methane generation altogether through useful conversion and removal of all the waste through bio-mining.

Capping Failure and Explosion

As waste decomposes, even under a capping, its volume decreases and the heap settles, leaving a dangerous vacant pocket near the top. A leading waste-management journal (Waste Management World March-April 2007, page 94-100 : "Landscapes of Risk: Landfill liabilities and environmental insurance") quotes experts as saying that "a landfill's top cover and leachate collection system will 'undoubtedly' fail. The malfunctioning of the leachate collection system (such as due to clogging) will cause the site to overflow; this would allow fluids to infiltrate and trigger a 'second wave of landfill gas generation' which could blow out the cover". Another expert claims "all liners will fail no matter how well constructed they are". That is why "Europe is phasing out organics as required by the Landfill directive, while some Member States have even banned biodegradable waste from landfill completely". Even US experts

are quoted as saying what India has wisely mandated in 2000: 'If organics are separated for composting, then we can convert a problem into a solution by restoring fertility to our depleted soils.'

Pollution Risks and Insurance

The same article points out that most US regulations "do not require landfills to have assured mechanisms for post-closure funding for monitoring, maintenance and pollution clean-up, 'for as long as the wastes in the landfill will be a threat to cause groundwater pollution'. Therefore the current minimum 30-year post-closure funding period is insufficient ...this is especially a problem for privately developed landfills, where the ability of private companies to provide funding, 'effectively forever', is of concern." They also point out that "since 1996 the Netherlands has mandated 'eternal' after-care" after capping. Since Mumbai's landfill operator has a Dutch technical partner, its citizens need to inquire, in their own interest, whether "eternal aftercare" liability and insurance and disaster-management provisions have been built into the contract terms for Gorai. It is in the Government's long-term interest to make public, on its website or by other means, the complete terms and responsibilities of the persons assigned the present and future care of the Gorai landfill closure. The public today are very well informed and can bring improved solutions to the attention of the Government.

Bio-mining as a Safe Alternative to Capping

Given all the advantages listed above, it is not too late for the BMP and State Govt, to abandon all thought of capping Deonar and other open dumps and adopt bio-mining instead. Hopefully within a year some

progressive Carbon Credit trader may complete the arithmetic and paperwork for claiming global Carbon Credits via the eco-friendly bio-mining route, based on the Total Avoidance of potential methane generation from the entire volumes of waste in landfills which will be stabilized by bio-mining. The Central Govt, Maharashtra State and Mumbai civic authorities should go all out to help speed up this process of accreditation, based on the same data and assumptions used for carbon credits via capping. All that is needed is political support for this progressive alternative.

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[Ref para 1.10, 4.2, 8.12]

ANNEXURE- M

PROGRAMME OBJECTIVE SERIES: PROBES/122/2008-2009

PERFORMANCE EVALUATION OF POLYMER COATED BITUMEN BUILT ROADS

By Central Pollution Control Board **(Ministry of Environment & Forests)**

"Foreword: ... I hope the report will be useful for road making agencies such as Municipal Corporations / Councils / Panchayats, Public Works Departments, and National Highways Authorities etc. for using plastics waste in road laying / construction. It will also help IRC for evolving specifications using plastics waste in road construction."

"1, Introduction : Plastics waste constitutes a significant portion of the total municipal solid waste (MSW) generated in India. It is estimated that approximately **10 thousand tons per day (TPD)** of plastics waste is generated (i.e 9 % of 1.20 lakh TPD of MSW).... To address the plastics waste disposal issue, an attempt has been made to describe the possibilities of reusing the plastics waste (post-consumer plastics waste) in road construction. Central Pollution Control Board (CPCB) Delhi has published **"INDICATIVE OPERATIONAL GUIDELINES ON CONSTRUCTION OF POLYMER – BITUMEN ROADS FOR REUSE OF WASTE PLASTICS (PROBES/101/2005-06).** The document explains the method of collection, cleaning process, shredding, sieving and then mixing with bitumen for road laying. This studies was carried out by Thiagarajar college of Engineering, Madurai and the report was circulated to all the State Pollution Control Boards / Pollution Control Committees and other road laying agencies for reference.

By using this technology (plastics waste coated aggregate bitumen mix), several roads have been laid in the States of Tamil Nadu, Maharashtra , Puducherry, Kerala ,Andhra Pradesh and Goa. To evaluate the performance of the built roads using plastics waste coated aggregate (PCA) bitumen mix and also to generate data base for evolving Standards by Indian Road Congress (IRC), CPCB has instituted a study on "Performance Studies of Polymer Coated Bitumen Built Roads during 2002-2007" to Thigarajar college of Engineering, Madurai. In this report parameters suggested by Central Road Research Institute (CRRI) and Indian Road Congress (IRC) have been incorporated. Further details of each test and its comparison with the IRC Standards have also been given in this report."

"6.2 Consolidated test results of the roads : Monitoring of test Roads were carried out using structural evaluation, functional evaluation and conditional evaluation studies. **Generally all the roads laid over a period from 2002 to 2006 are performing well."**

"The results obtained for these roads helped to ocnclude that these roads are performing very well in spite of their age. Under the similar conditions most of the bitumen roads are not performing well at all.

The roads were distributed over the different localities of Tamil Nadu exposed to various environmental conditions like temperature, rainfall etc yet the roads are performing well."

"7.0 Salient Features of Plastic Coated Aggregate Bitumen Road

7.1 Salient Features of the Process :

Plastic is coated over stone.

Coating is easy and the temperature needed is the same as the road laying temperature.

Use of plastics more than 15% is possible

Flexible films of all types of plastics can be used.

Plastics present in municipal waste can also be used including laminated sheets, aluminium coated and plain sheets.

Bitumen is bonded with the aggregate by means of plastic which acts as a binder

Bitumen bonding is strong as evidenced from the Extraction of bitumen and higher Marshall value.

Coated plastics acts as binder and the added bitumen binds strongly.

In situ process. Waste plastic is collected, shredded and can be used in the hot mix plant to lay the roads.

No new technology is involved. The existing Mini hot mix plant or Central Mix plant can be used without any modification.

Marshall Stability Value is around 2500 kg and the aggregate quality is improved.

The coated aggregate shows increased strength (Higher LAV, Aggregate crushing and Impact value.)

Bitumen to the extent of 10-155 can be saved and thus reducing the cost of the process.

No pothole formation, rutting or raveling has been observed after 5 to 6 years after construction.

Dry process can be practiced in all types of climatic conditions. Process can be modified by varying the percentage of plastic with respect to the environmental conditions namely, Temperature, rain, Snow, load, etc.

Dry process with 15-20% of plastics can be used in low temperature areas and water logged areas."

[Ref para 1.9, 5.1, 6.13,]

ANNEXURE- N

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Petitioner's 2005 suggestions to CPCB for Rules to Reduce Waste Quantity & Pollution

Mrs Almitra H Patel, MS MIT USA, **50 Kothnur, BagalurRoad, Bangalore 560077.** Tel 080-2846 5365, almitrapatel@rediffmail.com
Member, Supreme Court Committee for Solid Waste Management
Advisor, Ganga ICDP Project, Clean Jharkhand Project

22.3.2005

Mr Rajagopalan,Chairman, CPCB
East Arjun Nagar,Delhi 100032

Dear Mr Rajagopalan

WASTE MINIMISATION & POLLUTION PREVENTION

Greetings. I refer to our conversation yesterday when you had kindly agreed to consider facilitating a list of interventions which CPCB could undertake either directly or through various concerned ministries, to minimize waste as well as to prevent pollution and inform the consumer of potential health hazards.

WASTE MINIMISATION

After the Supreme Court Committee submitted its recommendations in March 1999, there remained several areas not covered by its Terms of Reference or the Report, which a member suggested I could take up separately in my capacity as Petitioner, such as citizen involvement, good accounting practices and Waste Minimisation and Ecofriendly Packaging.

This last item is the final one of twelve Directions Sought in September 1999 in WP 888/96, and may be taken up by the Court after December 2005 or so, as we are currently on Directions 8 and 9.

I would like to record here my great appreciation of the positive and constructive role of CPCB, despite being a Respondent, and Dr Akolkar in particular, in the task of cleaning up India, by preparing, on its own initiative, two Drafts of the Municipal Solid Waste Rules which were then formally discussed with the Supreme Court Committee before sending on to MOEF. I look forward to similar proactive initiatives by CPCB in advance of my request to the Court for the drafting of Waste Minimization and Ecofriendly Packaging Rules for our country, similar to several prevailing in the EU and many North American States and Provinces, especially California. Some examples of the elements of their rules, not necessarily in order of priority, are given below. Most succeed best through economic incentives, so even in the absence of Rules; a slight rebate in Sales Tax or VAT for eco-friendly packaging and take-back participants can work wonders.

1. **BottleTax or Take-Back Rules** for single-use packaging like PET bottles for soft and hard drinks and mineral water. Even a nominal rebate works wonders: 5 cents or 10cents per bottle or can brings in upto 85% of units sold, as Ireland discovered in the first few months of introducing such a policy. Even if yuppies or housewives do not bother to return these, their employees do, or failing that the ragpickers. We already have this practice in India since almost a century, for "goli-soda" bottles and beer bottles, currently at Rs 5 per glass bottle of carbonated drinks. So the public will have no difficulty accepting this for PET as well, at a rate of say Re 1 refundable surcharge per bottle returned. (Less is not practical, since nobody handles change smaller than Re 1 nowadays). The current

recycling in proportion to their annual tonnage purchase and use of such packaging. In India, given our high informal recycling rates, we may do this through say the Cardboard Manufacturers' Association or Carrybag Manufacturers' Associations, leaving it to registered members to rope in unregistered ones for contributions.

4. In India this has been tried successfully but sporadically for sales promotion in one-free-for-ten-or-twenty wrappers etc for items packed in tiny multifilm sachets, which are another huge nuisance in Indian wastes. We can find economic incentives for firms that institutionalize this, either for their own products or for generic products (e.g. any paan-masalas or shampoos or namkeens). Similarly for non-recycled items like expanded polystyrene use-and-throw plates and cups.

5. Some countries have **economic disincentives to discourage needlessly large packaging**, such as half-full cereal boxes. In Russia, toothpaste tubes were sold without any cardboard packaging addition, which is not really required for protecting the contents.

6. Eco-friendly substitutes for non-recyclable packaging can be mandated, such as a pre-announced gradual **phase-out of Styrofoam packaging** [expanded polystyrene, EPS] by papier-mache moulded shapes or folded-cardboard supports. This already being done since long by Sony, Nokia and others in Japan because of the costly volume of landfills occupied by Styrofoam or Ufoam. In India in the late nineties, PSI was voluntarily recycling polyurethane foam packaging for electronic hardware received and shipped out again by a cut-and-paste peon in the

stores department. Suppliers of white goods like refrigerators, washing machines etc should also be required to take back their bulky packaging by offering refunds for its return to the store. This will automatically force them to use collapsible modular shapes for compact return shipping and reuse.

POLLUTION PREVENTION THROUGH TAKE-BACK

7. India's first and laudable effort is the Rule for Take-Back of lead-acid batteries. We can learn from its weaknesses and improve subsequent such rules. In an effort to keep Household Hazardous Waste out of the MSW stream, we need similar mandatory take-back (preferably driven by economic incentives) initially for:

a) Insecticide spray-cans (e.g. HIT) and anti-termite chemicals etc.

b) Garden pesticides, herbicides and agro-chemicals (maybe for ALL Red-Triangle and even Yellow Triangle Agro-chemical packaging)

c) Fluorescents containing more mercury than levels currently exempted in EU's RoHS legislation. [Restriction of Hazardous Substances]

d) Torch batteries and Button Cells.

e) Cosmetics & Paint cans containing heavy metals (See Labelling below).

POLLUTION PREVENTION THROUGH PRODUCT LABELLING

8. If paraffin oil is being objected to in baby oils, and pesticide traces in soft drinks, how much greater is the need to label the exact content of lead in hair dyes and ayurvedic medicines and paints (also cadmium and chromium), of mercury in sindoor or in light-up switches in kiddie shoes and toys, of arsenic in wood preservatives etc. A list can be made of these highly polluting toxic elements, whose presence MUST be reported on labelling for ALL products containing them.

rate of Rs 5 per glass bottle does not represent its market value as recyclable raw material, but covers the cost of the "reverse-distribution" chain.

A Bottle Tax is being strenuously resisted by the major players, of which Pepsi is the most cooperative and Coke the most defiant and indifferent. For example, at Bangalore's "healing sessions" by Benny Hinn, attended by 5 lakh people and sponsored by Coke, the Jakkur aerodrome used was littered with uncollected PET bottles, despite advance offers of free cleanup by an experienced recycler who left Benny Hinn's Mumbai event spotless the previous year, when Pepsi were sponsors and provided both space and permission for bottle collection. The same thing must be happening at cricket matches sponsored by Coke.

2. So in addition to a Bottle Tax or Take-Back Policy, we need national policy or legislation under the E P Act to **prevent litter pollution at events** sponsored by producers of consumables like soft drinks, ice creams, distributors of fliers etc, by requiring them to file an Ongoing Cleanup Plan for any sponsored event before being granted permission for the event by civic authorities. Can this find a place in the anti-littering para of our MSW Rules?

3. **Mandatory Recycling Targets for packaging suppliers** has worked wonders in Europe. Germany's Duales System, for instance, required annually increasing targets (currently 55 to 80 %) for categories like glass, cardboard, plastics, aluminum cans, Styrofoam etc. Europe has about 22 different such schemes in various countries. In all of them, basically the packaging user industries bear the cost of take-back for

POLLUTION PREVENTION AND HEALTH PROTECTION THROUGH PRODUCT PHASE-OUTS AND BANS

9. Lead-based paints are now banned since years in most developed countries, but not in India. UNICEF ordered (and got, in India) lead-free paint on childrens' playground equipment sponsored by them. But these same well-informed suppliers continue to use lead-based paints on all their play equipment out of sheer indifference or because there is no blanket legislation to create a level economic playing-field for compliance. Dr T Venkatesh, Head of Biophysics and Biochemistry at St John's Hospital Bangalore and founder of NRCLPI (National Referral Centre for Lead Poisoning in India) can send you documented evidence of the lead levels found in playground soils and in the blood of children frequenting these in Mangalore. Contact venkatesh.thuppil@gmail.com or 93412-42430.

10. We can start by charging an **Eco-Tax for Haz-Waste Disposal** of containers for such toxic-containing paints, with a time-table for their phased total discontinuance. The Eco-Tax can be either straightaway or progressively raised to equal the difference in cost between cheap toxic paints and their maybe costlier eco-friendly alternatives, so that compliance can be market-driven.

11. Similarly, since we cannot ban immersion of painted idols at festivals, we can certainly ban the use of paints containing lead, mercury, cadmium, selenium, chromium, mercury etc for such purposes. The paint industry will have to indicate with say a Green

Dot or Blue Fish on such eco-friendly paints so that even illiterate persons know what can be permissibly used.

12. We also need **economic incentives to move away from chlorine-bleached paper and feminine products**, as their production process gives rise to large amounts of dioxins in their environs, especially water bodies contaminated by their effluents. This can be done either by a phased ban on bleached toilet paper, Huggies, sanitary napkin filler etc, or by an Eco-tax on bleached products or a tax rebate on non-bleached items.

13. We can and should ban needlessly polluting items like mercury-containing light-up kiddie-shoes and toys which have a short life and end up in municipal waste, not haz-waste sites.

14. We also need to **ban one-time-use rigid PVC containers** like bottles for ketchup, mineral water (even for duplicates of popular brands!), cosmetics etc. These end up in municipal waste which is still commonly burnt countrywide, generating dioxins. A more important reason is that just one missed PVC bottle in 10,000 PET bottles spoils the whole batch as it chars and darkens at a lower temperature. That is why Reliance ended up with a useless batch of 5000 tons of PET flakes when it tried to enter this recycling market.

A ban on PVC bottles would automatically make PET collection and recycling viable, keeping these out of storm drains and sewer pipes and thereby reducing urban flooding in the rains. PVC has its uses and place, in long-life construction items like fire-retardant electrical wiring and casings, or flexible medical tubing. Even the common cheap PVC chappals have at least a year's life. But there is no excuse for permitting its use in one-time-use rigid packaging for which dozens of eco-friendlier substitutes

exist. I have a collection of several of these needlessly-PVC bottles which I can send you if required.

WASTE MINIMISATION & POLLUTION PREVENTION THROUGH PRODUCT SPECIFICATIONS

15. The most urgent need is for a **reduction in the permissible free-phosphate levels in detergents.** Eutrophication and slow death of Lake Erie was arrested by both US and Canada jointly bringing down the levels of free phosphorus to 2.2% in a briefly-phased manner. This was done decades ago, so the know-how for alternatives is well established. In contrast, VOICE and CERC in Ahmedabad found, in a study reported by Down To Earth, that our top brands of Surf, Ariel etc have upto 21% free phosphorus. This penny-wise attitude of detergent producers leads to huge waste-management costs for cities that have to deal with removal of water-hyacinth etc from their water-bodies, where they flourish on this free fertilizer.

Whenever this issue has been raised over the years, either in NGO forums or even at MOEF meetings, Hind-Lever has said first stop the inflow of human waste into your water bodies as faeces contain more phosphorus than our detergents. At our stage of development, I think we have no room for such a cynical and irresponsible response.

We need to act on BOTH fronts, simultaneously, not sequentially targeting the poorest persons and most difficult problems first.

MAKE ECO-MARKS MANDATORY NOW

16. CPCB has spent enormous valuable effort since 1991 in preparing criteria for certification of 14 categories of industries to qualify for Ecomarks. These were to be voluntary. Till 1999 I think there was not a single taker for any category. Soon after Godrej came forward to get an Ecomark for its detergent, its then joint-venture partner Proctor and Gamble forced them to withdraw their application. I think the country has lost patience with non-compliance on a voluntary basis. After giving industry a chance for 15 years to behave responsibly, it is time to **make these Ecomark criteria (if not the mark itself) mandatory in a phased manner.** This may require, on a case-by-case basis, a joint review with industry on slight initial relaxations. For example zero free-phosphate for Ecomarked detergent may be neither feasible nor necessary if 2% is acceptable to industry. The edible oil industry could not guarantee lead-free oil from peanuts grown by the roadsides in leaded-petrol days, but may be more receptive now.

17. Another objection voiced at the time was, that industries were not willing to pay for the additional BIS-type charges and bureaucratic interference in production that goes with it. Also, that their label designers, fighting for every square millimeter of space for product promotion, were reluctant to spare space for an additional Ecomark symbol. Hence I suggest that the use of and payment for the Ecomark itself can continue to be voluntary, but the STANDARDS and norms implied in them, perhaps with some relaxation, must now be made progressively mandatory as norms for the industries where so much homework is ready. It is a pre-condition for us to consider ourselves a

[Ref para 1.10, 5.1, 6.14]

ANNEXURE-Q

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Petitioner's email letter re mandatory use of low-mercury tubelights

28.10.2006

Dr H C Sharatchandra
Chairman KSPCB
Bangalore 1 . By email to : kspcb@kar.nic.in

Dear Dr Sharatchandra

MERCURY POLLUTION PREVENTION

Greetings. A major source of urban mercury pollution is from tubelights and fluorescents. They are the ONLY form of E-waste that I have actually found discarded countrywide in municipal waste dumps. (Other E-waste seems to be eagerly harnessed for backyard recycling).

One 40W tube light contains 20-40 mg mercury, depending on the brand. This quantity, which is equal to the daily safe exposure limit for 4000 persons, is released within 8 hours of tube light caps being removed on roadsides for the sake of recovering 50 paise to Re 1 worth of aluminum for sale for recycling. (Currently, unless analyses prove the contrary, I believe these mercury limits fall below the 50mg Mercury and mercury compounds limits for Haz-waste in Class A Sch 2 of the Haz-Waste Rules).

Nowadays throughout the EU and in much of the US, RoHS and WEEE legislation classifies fluorescents as hazardous waste unless each contains less than 5 mg mercury. These LOW-MERCURY TUBELIGHTS are readily available there as standard products. These are not yet produced in India for want of adequate demand, but are readily available as OGL imports

from Singapore etc at slightly higher cost. CFL alternatives are low-mercury, and LED arrays are even less polluting and more power-saving.

Abroad, high-mercury tubelights end up in Haz-waste landfills which are readily available and conscientiously used. In the absence of such an infrastructure and culture in India, I have the following suggestions for the KSPCB to take a national lead in mitigating this source of pollution:

1. Require all Urban Local Bodies in Karnataka, or at least those with over 1 or 2 lakh population, and all PWD and Highway establishments, to tender for and PURCHASE only LOW-MERCURY FLUORESCENTS from now on, and to auction their stocks of discarded tubelights (all high-mercury ones currently) only to Authorised Recyclers.
2. Similarly, wherever KSPCB has an opportunity to issue consents to large housing or commercial and industrial complexes and technology parks etc, they should be required as a pre-condition to install and permanently use ONLY LOW-MERCURY LIGHTING FIXTURES, so that we move forward to a less polluting future.
3. If possible, ULBs may be urged to issue annual consents to existing large institutions and commercial complexes subject to their switching over to low-mercury lighting fixtures and showing proof of compliance.
4. Simultaneously, if such State legislation or persuasion is possible, all electrical dealers in the State (or at least in our 50 largest ULBs) should be required to TAKE-BACK discarded high-mercury tube lights for any similar products sold, with effect from a given date,

on conditions similar to our car-battery take-back rules, with Extended Producer Responsibility for the reverse-distribution chain.

5. Economic instruments are also necessary to move society in this direction. Sales Tax authorities may be asked to cooperate in this effort, by announcing a lower State ST on low-mercury tube lights. With the help of CPCB, the Centre may be urged to reduce or waive import duties etc for at least three years on low-mercury tube lights to bring their costs in line with locally manufactured high-mercury ones.

   Philips etc may be asked to make a presentation on the cost-effectiveness of low-mercury alternatives and what would equalize costs.

6. Another potential economic incentive, if sufficient ULBs cooperate to switch to not just low-mercury but also low-energy-consuming streetlights, is their clubbing for earning VERs (instead of CERs which are cumbersome to apply for and monitor). KSPCB could facilitate this by being the "clubbing agency" and might want to consider keeping a part of the VER earnings of ULBs as facilitator fees. (An energy cess similar to water cess?).

7. It may be worth posting these proposals or intentions on the KSPCB website to invite comments and suggestions.

With best wishes and always with pleasure at your service,

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Yours sincerely,

[Note 2011: Simple low-cost equipment is now available for safe recycling of tubelights and capture of mercury vapour in activated carbon for haz-waste landfilling. But recycling tubelights is a Cost, not a Profit. So Pollution Prevention phase-out of high-mercury tubelights and creating demand for low-mercury tubelights via Govt and public-sector demand for economies of scale in modernization is a preferred option].

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[Refer Para 1.6, 5.3, 6.14] **ANNEXURE- P**

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6.6.10

Dr Giridhar J Gyani, Secy-General
Quality Council of India
Institute of Engineers Bldg
Bahadur Shah Zafar Marg
New Delhi 110001 By email to: sg@qcin.org CC:vijai.sharma@nic.in

Dear Dr Gyani

TESTING, LABELLING & PHASE-OUT OF LEAD CONTENT IN PAINTS

Greetings. I have been for 19 years working to clean up India's waste and detoxify it. With help from the Supreme Court, we now have Municipal Solid Waste (Management & Handling) Rules 2000 to show the way forward: This involves separate collection of dry waste for recycling and wet waste for composting, to return vital nutrients and humus to rural soils. One of the criteria for quality compost is its heavy metal content, so that we do not contaminate our nation's food chain through their uptake by plants.

Lead has always been, and still is, a difficult element to minimize and control in waste. Earlier the source in city compost was thought to be leaded petrol exhaust deposited on fallen leaves etc. Now that is rarely the case. It appears that high levels of lead in paints are the source.

I recently visited our centre of excellence on the subject, the National Referral Centre for Lead Poisoning in India (NRCLPI) to urge a study of the lead content in paints. I found that they had already, with your

sponsorship, conducted a limited study on a few brands and colours. They found that while some firms, including one Government factory, were below or close to recommended maximum levels, one firm had exorbitantly high levels of 126600 ppm, over one hundred and twentysix times higher than even our already-loose BIS standards of 1000 ppm lead (vs 90 ppm in most advanced countries).

The NRCLPI study is credible because it is double-blind, with neither dispatcher nor tester knowing the brand or source of paint, and because it was done by accredited third-party analytical laboratories, to avoid any taint of bias.

This scenario is totally unacceptable. Sadly, this is not a new subject either. In 2008, the Centre for Science and Environment (CSE) reported that while some major paint manufacturers had reduced their lead levels in paints, two major brands, Berger and Shallmar, were still producing silent-poison paints, though both have access to cleaner technology and no excuse for noncompliance with BIS levels. CSE pressed for mandatory standards.

I found that the NRCLPI is doing an extensive amount of awareness raising about the hazards of lead: that as many as 63% of Indian kids under 12 years had blood-lead levels above the safe limit of 10 micrograms, and are therefore at risk of morbidity and low IQ, a needless waste of our nation's future physical and intellectual capital.

But while it is helpful to raise public awareness of the health hazards of lead, it is totally useless in influencing responsible consumer behaviour if

the public does not know which products are safe and which are not and is denied the right to choose.

So I now write to you with a 5-point agenda for immediate practical action:

1. Please urgently sponsor a much larger double-blind study through NRCLPI at accredited labs, covering as many (30-40) large and informal common paint brands and colours as possible, drawn countrywide from retail sources both urban and rural.

2. PLEASE PUBLICISE THE RESULTS, along with the paint producer's names and tested colours, on your QCI website and on that of the MOEF, whose Hon Minister Jairam Ramesh yesterday pledged them to public transparency.

3. Please forward this letter to the Environment, Industries and Health Ministries and PMO and Planning Commission and others concerned, requesting action to require **IMMEDIATE MANDATORY LABELLING of lead content on all paint cans and pigments etc,** of both formal and informal producers. Ideally, levels of mercury, cadmium and arsenic should also be indicated on the label. That way consumers will have a choice of avoiding toxics in their and their childrens' lives.

Since lead even affects fetuses, mandatory labeling can significantly help reduce maternal and infant mortality and morbidity and help India attain these Millenium Development goals to which it is committed.

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4. Consumers also look to the Quality Council of India to finally ensure the **urgent phase-out of all paints with heavy-metal levels, especially lead, exceeding BIS recommended levels,** whether the paint producers choose to go for BIS labeling or not. To avoid hardship and give enough time for a switch to clean technology, the phase-out notification by the relevant Ministries at the Centre and States/UTs if necessary, can for example ban the sale after 31st March 2011 of all non-conforming paint production by firms with an annual turnover exceeding Rs 2 crore, by March 2012 of firms with annual turnover exceeding say Rs 50 lakhs, and by 2013 of all paint producers including the tiny and cottage sector.

5. To help the latter, QCI should collaborate with the Paint Producers of India or some such industry association to **disseminate technology relating to the switch-over to cleaner alternatives.** This should cover not just substitute materials and their relevant costs but also modifications to the sequence of addition and mixing methods, to create a level playing field for small firms with multinationals who already know how to comply with international norms.

So many decades after the knowledge of lead hazards became known, there is no time to be lost. It is time for immediate proactive legislation and Rules, since we Indians never seem to behave responsibly except under compulsion.

Thanking you for urgent action on all 5 fronts, and always with pleasure at your service,

Almitra H Patel

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[Para 5.4, 6.14]

ANNEXURE-Q

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7.3.2010

Mr Jairam Ramesh, Hon'ble Minister for Environment
Govt of India jairam54@gmail.com

Dear Jairam ji

MINIMISE POLLUTION BY DETERGENTS

Greetings. India's lakes, tanks and rivers can be saved from eutrophication and needless pollution by one essential and simple measure: limit the phosphate in detergents. A plant nutrient, phosphates create algae blooms that rob underwater ecosystems of oxygen. All our rural water-bodies are under threat too: a 1996 NCAER study reported that 55% of all washing-powder sales are generated by rural demand.

When Lake Erie was under similar threat, Canada and the US through the Great Lakes Water Quality Board of the IJC (Int'l Joint Commission) passed regulations in 1970 to limit phosphorus content in detergents to 8.7%, and brought it down further to just **2.2% in 1973.**

In India, by contrast, the very MNCs who follow these norms abroad, are the worst offenders here. ATIRA (Ahmedabad Textile Industry Research Assn) in 2001 completed an 18-month study of 14 common detergent brands at the request of VOICE ((Voluntary Organisation in Interest of Consumer Education). As reported in Down To Earth magazine of June 30,

2001, the study showed that the worst six brands showed the following levels of phosphate, reported as STPP content by weight:

Surf Excel	30.6 %
Ariel Microshine	22.4 %
Surf Wash Booster	21 %
Nirma Super	13.8 %
Ariel Super Soaker	7 %
555	5.5 %

It is past time for us to introduce Rules under the EP Act to incrementally prevent and control such pollution-promoting levels of free phosphate.

1. Begin with requiring labeling to show the level of phosphate (as STPP or otherwise) so that consumers can make an educated choice. (My attempts to get this information from ISTMA, the Indian Soaps and Toiletries Makers Assn at Mumbai, have been met with deafening silence).

2. Set an upper limit of say 10% phosphate immediately on introducing the Rules. This should apply to all major brands having more than say 2% of national market share or of a given quantum of sales. They will very well know how to effect such reductions, and an upper limit will create a level playing field about which none can complain. ATIRA can be required to furnish you their report on all the 14 brands they tested. They can also be provided Environment Education funding to undertake an annual updated survey to be posted in the public domain, with matching MRPs to enable inflation-reducing optimal choices.

3. Set subsequent annual declining limits of 8%, 6%, 4% and finally 2% of phosphorus.

4. Thereafter make CPCB's 1991 Ecomark compliance mandatory for avoiding an Eco-tax for higher limits of phosphates. This eco-tax of say 10-20% of MRP, depending on phosphate levels, should go to a dedicated escrow fund earmarked for actual cleanup of eutrophication in the worst-affected spots, and perhaps grants for public research on cost-saving cleaner technologies. Twenty years is long enough to wait for voluntary compliance, which has not worked. Only economic pressure can bring about the compliance needed to protect our country's water-bodies in the long term.

5. These limits are not unrealistic. Washington became the first State in the US to ban residential diswashing detergents that contain phosphates, starting 2008. Details are available from Sierra Club, whose Richard Reed led the effort for a ban. Their logic : "By taking phosphates out of the consumer flow, we are saving money on technology. It's a lot cheaper to get it out of the stores than to try to remove it through wastewater-treatment plants."

We have many examples of MNCs falling in line when pressured to do so, such as a major bread-supplier researching biodegradable plastic wrapping for loaves, as a precautionary response to Delhi State's anti-plastic moves. Without legislation they are openly defiant. Hindlever's response in public meetings to requests for taking the lead in responsible phosphate reduction has been "control open defecation first"

6. We also need positive economic instruments to encourage cleaner alternatives like the biodegradable Pepfactants developed in 2007 at the University of Queensland in Australia. Their specially designed surfactants

are made of upto 21 biodegradable amino acids, some hydrophilic, some hydrophobic. Attached to a Zinc atom, Pepfactants can bind or release oil reversibly, a huge benefit for getting out hard-to-reach oil film residues from "dry" oil wells. Details available in http://economist.com/science/tq/displaystory.cfm?story_id=9677960, which also explains how adding a dash of Pepfactants to laundry detergent and changing the acidity of a wash-load between the washing and rinsing cycles could save a lot of the water required to remove soap-suds.

More information, and contacts of those working on detergent issues, will be available from Sunita Narain of CSE. And of course I am always with pleasure at your service.

Sincerely,
Almitra H Patel

[Note 2011: Google 'Lake Erie detergents' for 332,000 entries, and read the Historical Perspecitve of the Phosphate Detergent Conflict and its resolution by consensus in US on http://www.colorado.edu/conflict/full_text_search/AllCRCDocs/94-54.htm .]

[Ref Para 5.5, 6.14]

ANNEXURE- R

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PHASE-OUT OF SHORT-LIFE PVC

A Mission for the Environment Ministry

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almitrapatel@rediffmail.com, www.almitrapatel.com 9 October 2007

Dear Friends

We have all read about the recall of Chinese-made toys with lead-content paints. How have we reacted --- with shock or sympathy? surprise or complacency? a sense of superiority? We could be next. Has this led any of us to seek a ban on, or availability of, leaded paints and printing inks in India? Or at least disclosure of heavy-metal content in all our paint containers? Indian industry is full of similar skeletons, awaiting discovery. Even after The HINDU in October 2006 reported high levels of lead and cadmium in Indian PVC toys, there has been little effective action or self-regulation.

Today is a golden opportunity for each and every one of us to show a sense of leadership and pride in our country by proactive measures and policy advocacy for cleaner technologies. The plastic industry itself is an excellent place to begin, starting with PVC, a poison plastic now being phased out worldwide even for piping and cables. India is no longer a poor nation and has no excuse to continue with the use of PVC in short-life one-time-use applications. Sadly, most Indians and Indian industries are not eco-friendly unless legally forced to be so, hence the need to lobby for clear phase-out legislation. The plastics industry needs to help this along by providing technical solutions for cleaner alternatives.

PVC is toxic at every stage of its life cycle: manufacture, use and disposal.

Its global production of 40 million tons a year uses 40% of global industrial chlorine, converted first to Ethylene DiChloride, then to volatile Vinyl Chloride Monomer (VCM) which at even one part per billion increases cancer risks by one per five thousand individuals exposed to fugitive emissions during VCM transfer from ships, from plant pumps, compressors, pressure relief devices, connectors and valves, from dryer exhaust and even evaporation from discharged effluents.

During use, toxic phthalates leach into foodstuffs, yet we turn a blind eye to use-and-throw PVC for mineral water, food packaging and even baby milk-bottles! Twenty countries have already banned phthalates in toys for children below 3 years. India is not one of these. Surely our kids also deserve protection from such 'poison lollipops' ?

During disposal, the 57% chlorine content of pure PVC generates deadly dioxins when waste is burnt on roads or waste-dumps or as refuse-derived fuel in waste-to-energy incinerators or in boilers. At waste dumps and landfills, toxics in PVC, like phthalates and heavy metals, leach into soil and water. Burning releases them into the air and landfill gases.

PVC recycling is not an answer. It is a health hazard for those handling and recycling electrical cabling. In mixed waste it increases the toxic impacts of other discarded products like computers, auto parts, coated papers. One PVC bottle can ruin a batch of 100,000 PET bottles during their recycling and adds a lot to plastic recycling costs. Hence the 1990 Swiss ban on PVC bottles. Even recycled alone, PVC's variable formulations make it difficult to recycle all PVC economically.

Where is PVC useful?

Abroad, 84% PVC is used in long-life items like piping and the construction industry. PVC pipes are corrosion-resistant, easy to install and give low-friction flow of liquids. PVC in cables does not burn, though its HCl gas release in fires kills many. Fires in buildings and vehicles also release dioxins.

Despite this, countries like Canada and Slovakia, and cities in US, UK and the EU have already banned or are banning the use of even long-life PVC items like piping. Six German States, 62 Spanish cities and the Sydney Olympic Village are PVC-free.

Industry is following suit. GM, VW and Honda are removing PVC from cars. (Indian exporters take note!) and Sony from electronics. The US Navy and Airforce and NASA are eliminating PVC. The USEPA HQ in Washington DC and major architects have vastly reduced or stopped the use of PVC in walls, floors and roofing.

Where is PVC unnecessary?

PVC need not and should not be used in use-and-throw items like bottles, packaging for food, water and medicines, stationery and labels, toys, footwear and consumer goods, amounting to 24% of global use. Replacing PVC with other plastics will cause no labour or technical problems. But one should be careful not to replace PVC labels, say, with nuisance non-recyclables like BOPP labels for soft-drink bottles, which in many countries including Pakistan have been replaced by easily removed paper, or no-wrapper printing.

Hidden toxics like PVC in multi-film sachets and packaging, must be eliminated. All of us must decline to promote its use and work for safe recyclable alternatives.

PVC for Biomedical Use

PVC is used in 25% of all medical plastics, because it is flexible, transparent, low cost and bio-compatible. That is why the Biomedical Waste Rules require that all biomedical plastics can only be sterilized and shredded, not incinerated. Still, it is time to develop and promote safer alternatives and make them cost-effective. Soft PVC for medical gloves and intravenous bags is easily replaced by polyethylene and even compostable plastic film. Till full replacement is done, the low-cost treatment invented by Trivandrum's Sree Chitra Tirunal Institute for Medical Sciences to prevent leaching of toxic phthalate plasticizers into life-saving fluids should become mandatory for Indian producers of all PVC items.

The Way Forward

At an Asia Pacific conference on Recycling of Plastics in February 2007 at Mumbai and Delhi, this proposal for a ban on use-and-throw short-life PVC items was met with surprising acceptance by all. So what is now needed is a compilation of Indian producers or importers of PVC, the percentage of their raw material going into short-life items, an inventory of PVC rigid and film producers who would be affected by a ban, the cost of conversion to non-PVC production, the added cost of such non-toxic products, a reasonable time-table for phase-out, policy advocacy with the industry, with MoEF & CPCB, and any economic instruments necessary to ease the transition.

[Ref Para 5.6, 6.14]

ANNEXURE- S

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7.3.2010

Mr Jairam Ramesh
Hon'ble Minister for Environment
Govt of India jairam54@gmail.com

Dear Jairam ji

COMPOSTABLE GARBAGE BAGS TO BE MANDATORY

Greetings. I am delighted that after 7 years of effort, the Finance Ministry has finally removed the duty on compostable fully-biodegradable plastic raw material imports, for polymers from potato starch or poly-lactic acid etc. I am also optimistic that your Ministry's new Plastic-Bags Amendment will not require a totally-unnecessary minimum thickness for compostable bags conforming to IS 17088, as such bags even in 10-15-micron thickness have adequate strength to hold 2 kg or so of kitchen food waste. This combination will make such bags immediately competitive price-wise with LDPE HDPE carrybags which are currently used in most towns and cities to line garbage bins before disposal of wet waste. This is such a problem in the West that their compost plants have to put in expensive bag-ripper lines before further processing.

This competitive pricing of thin bags made from duty-free material will lead to a welcome explosion of suppliers of compostable bags, so that we can now make their use mandatory for garbage-liners in say all metros and all Class 1 cities to begin with. This is not heretical. In the US, 'GLAD' bags (a proper noun turned common noun like Vaseline) are

mandatory, meaning colour-coded transparent-translucent bags so the waste pickup team can see the contents and immediately leave behind mixed-waste bags uncollected till the next week.

As the customs duty exemption was not known at the time MOEF circulated the Draft Amendment, and will hopefully be ratified by July 2010, it may not be possible now to include this clause in the Plastics Bag Amendment Rules where it perhaps properly belongs. But it is so vitally important that it justifies new Rules of its own, to facilitate 'biological stabilizing' (mainly composting) which is mandatory in the MOEF's Municipal Solid Waste Rules 2000.

Always with pleasure at your service,

[Note: fully-compostable plastic should also be used in disposable diapers & sanitary napkins as these are also composted with domestic waste, not recycled]

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[Ref Para 1.6, 5.7, 6.14] **ANNEXURE-T**

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6.2.2011

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Dear Dr Gyani

MANDATORY BIS CERTIFICATION FOR PULVERISED FUEL ASH (PFA) USED AS PARTIAL CEMENT REPLACEMENT IN CONCRETE OR MORTAR

Greetings. Thanks for the invitation to QCI's 6th Conclave on Feb 11-12, 2011 on 'Future of Quality - The National Agenda'. I regret I cannot attend but I wish to raise an important issue for your Conclave, where poor quality threatens human lives and property. Please circulate this as an open letter to all delegates and especially forward or give a copy to Mr Arun Maira and Mr Montek Singh, for discussion at the Conclave.

I have been working for 20 years to clean up India's waste and detoxify it. I became interested in fly ash when I prepared a Report on Kanpur waste for the Ganga ICDP Project during a 10-week stay in 2001. There I found the municipal nalas/drains of KDA's new Ashok Vihar Colony filled with fly ash overflowing from the adjoining 104 ha ash pond of the 274 MW Panki Thermal Power Plant. Fly ash became a municipal waste problem for which the city had to spend for desilting the drains. I observed the same problem at Faridabad later. The Fly Ash Notification 8.0.763(E) dt 14.9.1999 was not being followed at all in both places. Obviously, such fly

ash pollution becomes the countrywide problem of host municipalities and suburbs near thermal power plants and their ash ponds, when growing cities extend around and downstream of fly ash ponds.

The MOEF's Amendment S.0.2804 dt 3.11.2009 to the Fly Ash regulations requires use of fly ash in roads, mines, bricks and blocks etc and also requires construction tenders to specify use of fly ash products including cement and concrete. Power plants have targets for upto 100% utilisation of fly ash by 2014 but are now free to charge a price for most of their fly ash.

This year I inquired at a town in western Maharashtra whether ash quantities going to ash ponds had decreased. Yes, fresh fly ash inflows are very much reduced, but the reasons are alarming, as **substandard fly ash has now become an adulterant in ready-mix concete!**

IS 456 with IS 1489 Part 1:1991 + its 3rd Amendment in July 2000 allows upto 35% use of fly ash in concrete and in PPC=Pozzolanic Portland Cement. **But compliance with use of fly ash has come at a dangerous price which endangers the safety of buildings, especially those built by the public sector for the poor, because the fly ash quality is uncertified.**

Permitting power plants to sell PFA = Pulverised Fuel Ash (from their ESPs = ElectroStatic Precipitators), mandating fly ash use and allowing 35% fly ash use with OPC (Ordinary Portland Cement) in concrete has been good for the environment and has also dramatically lowered the cost of concrete production :-

Plain OPC binder cost in concrete is **Rs 5560 per ton** today, while **65% OPC + 35% PFA @ Rs 2200/t = Rs 4410/ton in "OPC+Fly Ash Readymix" concrete.**

This huge potential saving of Rs 1150 per ton of binder used (21% cheaper) has led to the mushrooming of ready-mix concrete plants, now increasingly owned by cement majors like Grasim, Holcim and Lafarge – over 125 plants in Mumbai alone. It has also created a demand for quality PFA which cannot be currently met in the country. So a booming mafia has sprung up to fill the void, supplying ready-mix concrete units in a cut-throat market situation with untested and unprocessed fly ash (totally unsuitable, less reactive and dangerous) as-is, randomly discharged from the ESPs of power plants, at a somewhat lower price of Rs 1700 per ton. Using uncertified PFA, binder costs come down to Rs 4,235/t, a saving of an additional Rs 500 per ton at the cost of citizen safety for unscrupulous users.

BIS, working on PFA standards since 1966, issued **IS 3812 (Part 1) : 2003 for Pulverised Fuel Ash – Specification for use as Pozzolana in Cement, Cement Mortar and Concrete**. This is a good BIS Standard, **but it is not mandatory as it is for all cements !**

The BIS website www.bis.org.in/cert/man.pdf lists 81 items for which BIS certification is mandatory in the interest of public health and safety, like baby foods, electricals, steel and cements. **All fifteen different types of cement are all required to undergo BIS testing and certification and carry the BIS mark, as per Notification S.O. No. 191(E) Dt. 17 Feb 2003= Cement (Quality Control) Order, 2003 issued by**

the Ministry of Commerce & Industry, Dept. of Industrial Policy & Promotion, with compliance monitored by Central and State officials.

High-quality PFA is a cementitious binder in its own right and its blending is said to improve the durability of a structure by upto 300%. But **substandard non-BIS fly ash can severely weaken the strength of concrete, leading to building collapses.** If it is allowed as a 35% replacement of cement in concrete, **it is absolutely necessary to similarly include PFA also in the BIS Mandatory List,** to ensure the life and safety of the public and their trust in the soundness of structures using cement concrete.

Without BIS testing and quality certification, there is no guarantee of the PFA's necessary fineness, uniformity, reactivity with lime, strength-improving qualities and freedom from deleterious carbon content. Would you build your home with cement which had 35% fine clay or talc as filler? When such adulterated substandard "cement" is further diluted with sand and stone, you can imagine the weakening effect of using only 66% of the required quantity of quality binder. Constructions with such dangerously poor mixes can fail at any time, risking lives, as during the unexpected Ahmedabad earthquake. I believe the use of substandard or excessive fly ash caused the deadly collapse of the Mandovi Bridge in Goa in 1970 or so during the Antulay cement shortage, giving valuable fly ash a bad name from which it is only now recovering, two generations later. We cannot afford any setbacks at a time when all-India fly ash quantities generated are rising exponentially, from 80 million tons per annum in 2000 (on 58,000 acres of precious land) to 150 mtpa today, 210 mtpa in 2015 and 900 mtpa in 2030.

It has long been suggested that "PFA used as partial cement replacement in concrete or mortar" definitely needs to conform to IS 3812 – Part 1, with independent verification from the BIS in the form of ISI kite mark or others. Cement majors have been resisting this move because currently there are only 2 or 3 locations supplying BIS-certified PFA and they fear they will lose their new price advantage. But the supply of certified PFA will automatically shoot up once the BIS certification is mandatory, just as CNG supplies in Delhi increased over time only after its use became mandatory.

So I urge your Quality Council of India to immediately on a war footing work towards **Mandatory IS 3812 – Part 1 certification for all PFA used as partial cement replacement in concrete or mortar**.

The world's top fly ash expert is Prof P K Dhir at Dundee University, which along with 8 Indian institutes is organizing a Concrete Congress on March 8-9 2011 at IIT Delhi under UKIERI (UK-India Education and Research Initiative).

See http://ukiericoncretecongress.com/~jagdeep/UKIERI_Congress.pdf . You may like to attend this to understand the whole picture, perhaps air the need for mandatory BIS standards and/or certification of all PFA sold as cement replacement, and see what response is forthcoming.

You will also find it useful to discuss certification with Mr S K Chawla, retired Chief Engineer of CPWD who won Aslad Jyoti for his fantastic work during the Asiad Games (what a contrast with CWG !) and who was my fellow member on the Supreme Court Committee for Solid Waste Management.

Thanking you and always with pleasure at your service,

Almitra H Patel