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BEFORE THE NATIONAL GREEN TRIBUNAL
PRICIPAL BENCH, NEW DELHI
ORIGINAL APPLICATIONAL No. 199 OF 2014

IN THE MATTER OF:-

ALMITRA PATEL & ANR

...PETITIONER

VERSUS

UNION OF INDIA & ORS

...RESPONDENTS

INDEX

S.N O.	PARTICULAR	PG NO.
1.	Counter Affidavit on Behalf of the Nagaland Pollution control Board	
2.	ANNEXURE R/1 A copy of the covering letter dated 30.7.2014 along with the report	
3.	ANNEXURE R/2 A copy of the Report on solid Waste Management Demo project	
4.	ANNEXURE R/3 A copy of the Publication	
5.	ANNEXURE R/4 A copy of Pamphlet prepared by the State Board	

NEW DELHI
DATED 09.03.2015

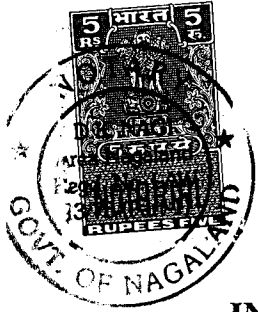
K. ENATOLI SEMA
Advocate for state of Nagaland
Pollution Control Board
310, LAWYERS CHAMBER
C.K. DAPHTARY BLOCK
SUPREME COURT OF INDIA
TILAN LANE
NEW DELHI-110003
Mob.9818139636
enatoli@gmail.com

6281

BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION No. 199 of 2014



Regd. No:..... Dt.....

IN THE MATTER OF:-

Almitra Patel & Anr Petitioner

Versus

Union of India & Ors Respondents

**COUNTER AFFIDAVIT ON BEHALF OF THE NAGALAND
POLLUTION CONTROL BOARD**

I, Rusovil John, aged about 55 years, S/O Lt. John Angami having my office at Signal Point, Dimapur, Nagaland, do hereby solemnly affirm and state as under:-

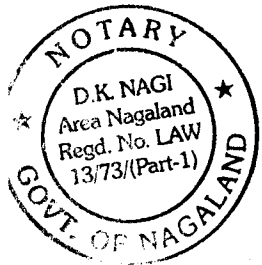
1. That I am the Member Secretary, Nagaland Pollution Control Board and being familiar with the facts of the case on perusal of the contents of the Petition and based on official records competent in my official capacity to swear this present affidavit.
2. I state that the Nagaland Pollution Control Board in compliance of the Municipal Solid Waste (Management & Handling) Rules 2000 has been submitting the Annual Report annually basing on the reports received from the Municipals. That for the year 2013-2014 the report was submitted vide a covering letter dated 30.7.2014 to the Central Pollution Control Board. A copy of the covering letter dated 30.7.2014 along with the report is marked and annexed as **Annexure**

R/1.

3/3/15
D. K. NAGI
NOTARY PUBLIC

6282

3. As a part of the CPCB's programme to create awareness on the implementation of the "Municipal Solid Waste Management (Management & Handling) Rules, 2000"; a demonstration project was successfully executed by the Kohima Municipal Council in collaboration with Nagaland Pollution Control Board which was sponsored by the CPCB. As a part of the program mass awareness on management of solid waste especially segregation of waste at source into biodegradable and non-biodegradable was taken up through display banners, distribution of pamphlets and also conduction public meeting by involving the stakeholders. By creating awareness of segregation at source the recyclable waste are purchased by scrap dealers from door to door and on the other hand food waste from individual households and from markets are used for animal feeds by families having backyard piggery and piggery farms in and around towns and villages. The Demo project has also resulted in development of waste processing facility at Viya Khukie which includes waste segregation centre, compost and vermin compost and this composting site is running successfully. A copy of the Report on Solid Waste Management Demo project is marked and annexed as **Annexure R/2.**

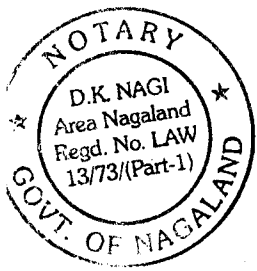


A handwritten signature in black ink, appearing to be "D.K. NAGI".

4. In order to improve in the implementation of the rule and also create general awareness among the public, Nagaland Pollution Control Board had also once again gave an advertisement on the salient features of the Rule in the local dailies on 20/02/2015. A copy of the publication is marked and annexed as **Annexure R/3.**

3/3/15
D. K. NAGI
NOTARY PUBLIC

5. It is stated that there is no district or village in the entire state of Nagaland where the MSW is collected in its entirety, segregated and disposed off in accordance with MSW Rules 2000. Some waste segregation is done at source and the recyclable materials such as bottles and scrap iron, plastic are sold to or collected by the rag pickers. Some of the food wastes from hotels/homes and vegetable wastes from vegetable markets are collected by backyard piggery farmers thereby reducing the wastes for disposal. The other mixed wastes are disposed in the community bins from where the authorities collect and disposed of in open dumps. That pamphlets has been prepared and distributed to create awareness and educate the public at large about the various types of MSW. A copy of pamphlet prepared by the State Board is marked and annexed as Annexure R/4.



6. That the Answering Respondent has been able to take into account and to consider the report prepared by the Central Pollution Control Board in compliance of the order dated 5.2.2015 of this Hon'ble Tribunal and is on a broad scale agreeable to suggestions submitted by the CPCB. In this context, the Answering Respondent makes the following observation and submit the State specific comments as under:-

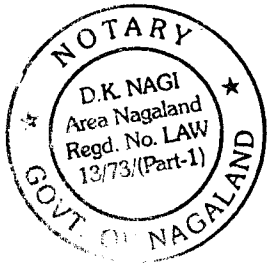
- a) The State Board is agreeable to the suggestion that each State should draw its own city/town specific action plan in the form of Detailed Project Report 'DPR'. It is stated that for the State of Nagaland consent to Establish as Solid Waste Management Facility at Kohima had been issued to the State Investment Programme Management and Implementation Unit with a

3/3/15
D. K. NAGI
NOTARY PUBLIC

6284

capacity of 50 TPD and is expected to be commissioned by May 2015. That for the other 2 Municipal Councils, the State has engaged a Private Company namely Eco-Save Systems Pvt Ltd for preparing a DPR which will be in compliance with the MSW Rules, 2000.

- b) That the suggestion of cluster- based approach for disposal of solid waste is under consideration by the concerned Department.
- c) The State Board submits that for a small State like Nagaland where the solid waste generation is between 100-500 TPD in 3 Municipal Councils, the State has laid its focus and priority in developing and construction waste disposal and processing plants in these 3 Councils.
- d) That for the other parts of the State the waste generation is less than 50 TPD and hence as suggested by CPCB such towns could be managed by simple technological solutions like a small scale waste segregation and composting plant which was developed and functioning successfully under the Demo Project undertaken by the State Board. It is submitted that such an approach will be feasible and practical as the generation of waste is mostly household waste and does not include large scale industrial waste.
- e) The suggested format of DPR by CPCB is agreeable to Nagaland Pollution Control Board.

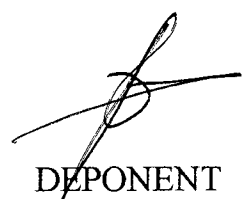


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7. I say that the facts stated in the above paras are true and correct to the best of my knowledge and information.

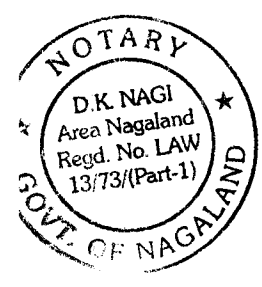
D. K. NAGI
NOTARY PUBLIC

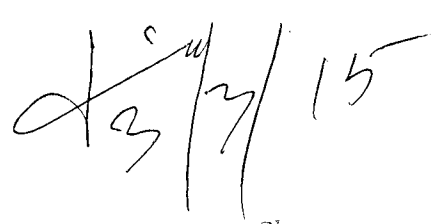
 6288
DEPONENT

Verification

I, the deponent above named do hereby verify that the contents of the paras 1 to 7 of the above affidavit are true to the best of my knowledge and nothing material has been concealed there from.

Verified at Dimapur, Nagaland on this 3 day of March 2015





D. K. NAGI
NOTARY PUBLIC


DEPONENT

6286

ANNEXURE R/1

NAGALAND POLLUTION CONTROL BOARD

NPCB/MSWIAR-1/

O/C

Dated: 30.07.2014

To

The Member Secretary
Central Pollution Control Board
Parivesh Bhawan,
East Arjun Nagar,
Delhi-110 032

Sub: Annual Report (2013-14) under the Municipal Solid Wastes (Management & Handling) Rules, 2000.

Sir,

I am enclosing herewith the Annual Report for the year 2013-14 under the Municipal Solid Waste (Management & Handling) Rules, 2000 for the state of Nagaland. This is for your kind information and necessary action.

Thank you.

Enclosed: As stated

Yours faithfully

(Rusovil John)
Member Secretary

NPCB/MSWIAR-116-9

Dated: 30.07.2014

Copy to:

- 1. *Principal*
The Commissioner & Secretary, Department of Forests, Ecology, Environment & Wildlife, Nagaland for kind information.
- 2. The Secretary, Department of Urban Development, Nagaland for kind information.
- 3. The Zonal Officer, CPCB North-Eastern Zonal Office, Shillong for kind information

[Signature]
30/7/14
Member Secretary

NAGALAND POLLUTION CONTROL BOARD

ANNEXURE-I

Schedule I
[see rules 4(2) and (3)]
Implementation Schedule

Sl No	Compliance Criteria	Schedule as per MSW Rule	Comment
1	Setting up of waste processing and disposal facilities	By 31.12.2003 or earlier	Kohima Municipal Council is implementing the Demo project on Municipal Solid Waste where waste processing and disposal facility is being set up. In the rest of the Municipal Councils/Town Councils no such facilities have been initiated.
2	Monitoring the performance of waste processing and disposal facilities	Once in six months	Not applicable
3	Improvement of existing landfill sites as per provisions of these rules	By 31.12.2001 or earlier	Not applicable
4	Identification of landfill sites for future use and making site(s) ready for operation	By 31.12.2002 or earlier	Landfill site for Kohima had been identified at Lerie.

30/7/14
Member Secretary

Member Secretary
Nagaland Pollution Control Board
Nagaland Dimapur.

6288

O/C

NAGALAND POLLUTION CONTROL BOARD

ANNEXURE-II

Schedule II [see rules 6(1) and (3), 7(1)] Management of Municipal Solid Wastes

Sl. No	Parameters	Comment
1	Collection of Municipal solid waste	Collection of wastes is done by the Municipal Councils and Town Councils and transported to the dumping site and disposed off. Door-to-door collection of municipal solid wastes is under trail in some wards in Kohima. Bio-medical wastes is collected separately from hospitals and nursing homes and disposed off by separate vehicles.
2	Segregation of municipal solid wastes	Segregation of municipal wastes does not arise as all types of wastes ends at the same place. However, some recyclable wastes are out sourced from the source by the residents and by the rag pickers from community bins.
3	Storage of municipal solid wastes	Community bins
4	Transportation of municipal solid wastes	Vehicles used for transportation of wastes are not covered.
5	Processing of municipal solid wastes	Not done
6	Disposal of municipal solid wastes	All the municipal wastes are disposed off at open dumping site maintained by the Municipal Council/Town Council.

The MSW (M&H) Rules, 2000. Rule 6 (1): As regards to monitoring the compliance of the standards regarding ground water, ambient air, leachate quality and the compost quality including incineration standards as specified under Schedules II, III and IV by the SPCB, shall be taken up as and when waste processing and disposal facilities comes up.

The MSW (M&H) Rules, 2000. Rule 6 (3): Authorization had been granted to Kohima Municipal Council for setting up of a waste processing and disposal facility.

30/7/14
Member Secretary

Nagaland Pollution Control Board
Nagaland, Dimapur

NAGALAND POLLUTION CONTROL BOARD

6289

o/c

Form - IV
[see rule 8(1)]

Format of Annual Review Report to be submitted by the State Pollution Control Board/
Committees to the Central Pollution Control Board

To,

The Chairman
Central Pollution Control Board
(Ministry of Environment & Forests)
Government of India
Parivash Bhawan, East Arjun Nagar
Delhi - 110032

1. Name of the State/ Union Territory : Nagaland
2. Name & address of the State Pollution Control Board/ Pollution Control Committee : Nagaland Pollution Control Board
Signal Point,
Dimapur - 797112, Nagaland
3. Number of Municipal Authorities responsible for management of municipal solid wastes in the State/ Union Territory under these rules : 9 (Nine)
4. A Summary Statement on progress made by Municipal Authorities in respect of implementation of Schedule I [rule 4(3)] : Enclosed at Annexure - I
5. A Summary Statement on progress made by Municipal Authorities in respect of implementation of Schedule II [rule 6(1) and (3), 7(1)] : Enclosed at Annexure - II
6. A Summary Statement on progress made by Municipal Authorities in respect of implementation of Schedule III [rule 6(1) and (3), 7(2)] : Not implemented
7. A Summary Statement on progress made by Municipal Authorities in respect of implementation of Schedule IV [rule 6(1) and (3), 7(2)] : Not implemented

Date : 30.07.2014
Place : Dimapur


Member Secretary
Nagaland Pollution Control Board

Waste generation and collection by the Municipal Councils/Town Councils

o/c

6298

Municipality	Waste generated (Tons/day)	Waste collected/day (Tons)	Area covered for collection of waste	Total Manpower Available on site	Whether all bins are collected daily	Transport Vehicles nos.	Other machinery i.e. Excavator, loader etc.	No. of slums	No. of Health Care Facilities under the control of the Corporation	BHW Treatment Facility	Proper landfill sites available or not/open dumping	Whether the area is Sanse
Kohima	3,78,811	80	18 Sq Km (approx)	15	No	Truck: 1 No. Truck Tipper: 8 Nos. Tractor-Trailer: 8 Nos. Refuse collector: 2 nos. Tricycle: 30 Nos.	JCB: 1 no Water tanker: 2 nos Cesspool: 1 no	0	18 Hospitals, 14 Private Nursing Home, 64 Clinics	No	Open Dumping	No
	45-50	25-30	Data not available	Data not available	No	Dumper placers: 1 no, Truck: 1 no			Data not available			

6291

9/1

			Waste generated /day (Tons)	Waste collected/ day (Tons)	Area covered for collection of waste	Total Manpower Available on site	Whether all bins are collected daily	Transport Vehicles nos.	Other machinery i.e. Excavator, loader etc.	Nos. of bins	Nos. of Health Care Facilities under the control of the Corporation	BMV Treatment Facility	Proper landfill site available or not/ open dumping	Whether the area is Fenced	Other
4	Zunheboto	1,10,787	12	10	6 Sq.Km.	10	Yes	Tractor Trailer: 1 no. Truck Tipper: 2 nos. Refuse collector: 2 nos. Dumper placers: 4 nos	Nil	Nil	2 Hospitals	Nil	Open Dumping	No	-
6	Phek	1,83,418	13	3	2.5 Sq.Km	Nil	Yes	Truck Tipper: 1 no Tractor Trailer: 2 nos	Excavator: 1 no.	Sum population: 1811	1 Hospital, 3 Clinics	Nil	Open Dumping	No	-
8	Mokmohung	1,44,088	60	35	8 Sq.Km	Nil	Yes	Truck Tipper: 3 nos.		4 wards	Nil	Nil	Open Dumping	Yes	-
7	Wikhim	1,01,343	10 loads/day 40	10 loads/day	Data not available	1	Data not available	Truck Tipper: 2 nos. Tractor.	Nil	Data not available	2 Hospitals, 5 Clinics	Nil	Open Dumping	Data not available	-

6299

Sl. No	City/Town	Population (2011)	Area covered for collection of waste	Total Manpower Available on site	Whether all bins are collected daily	Transport Vehicles nos.	Other machinery i.e. Excavator, loader etc.	Nos. of slums	Nos. of Health Care Facilities under the control of the Corporation	BMW Treatment Facility	Proper landfill site available or not/ open dumping	Whether the area is fenced	Others
0	Mon	2,60,282	Whole area of town	7	Yes	Tractor-Trailer: 1 no.	Nil	Nil	1 Hospital		Open Dumping	No	-
9	Tuenang	1,88,856	Data not available	Nil	No	Truck Tipper: 2 nos. Tractor-Trailer: 2 nos.	Nil	Data not available	Data not available	Nil	Open Dumping	Data not available	-

Data based on report submitted by the Councils/Committees for the year 2013-2014.

(Rusovll John)

Member Secretary

30/12/14
 Member Secretary
 Nagaland Pollution Control Board
 Nagaland Dimapur

(TRUE COPY)

KOHIMA MUNICIPAL COUNCIL

ANNEXURE #/2

SOLID WASTE MANAGEMENT
DEMONSTRATION PROJECT

62013

on

*Implementation of Municipal Solid Waste
(Management & Handling) Rules, 2000*

In collaboration with

Nagaland Pollution Control Board



Sponsored by

Central Pollution Control Board

2006-13

6294

CONTENTS

INTRODUCTION	1
ABOUT KOHIMA MUNICIPAL COUNCIL	1
GENERAL PROFILE	2
CLIMATE	2
OBJECTIVES OF THE DEMO PROJECT	3
INAUGURATION OF KOHIMA DEMO PROJECT (PHASE - I)	3
LAUNCHING OF KOHIMA DEMO PROJECT (PHASE - II)	4
AWARENESS	5
SEGREGATION OF WASTE	6
IMPACT OF THE PROJECT	7
WASTE PROCESSING FACILITY AT VIYA KHUKIE	8-9
ACHIEVEMENTS OF KOHIMA DEMO PROJECT	10

6295

INTRODUCTION

Solid waste Management is one of the most important obligatory functions of Urban Local Bodies. But, this service falls short of desired levels, resulting in various problems such as health, sanitation, environment, etc. Due to rapid pace of urbanization and growth in urban population, waste generation has increased in manifold and its management has become a more complex. And thereby, waste management issues are assuming greater importance due to legal intervention and rising in public awareness towards cleanliness.

Municipal solid waste is heterogeneous in nature inclusive of waste from residents and commercial activities and its composition varies with place and time. But with committed effort solid waste management can be managed efficiently with improvement of human and financial resources

ABOUT KOHIMA MUNICIPAL COUNCIL

Kohima Town Committee came into existence in 1957 with only 8 (eight) wards. Then in 19th November 2005 it was upgraded to Municipal Council status under the provision of the Nagaland Municipal Act, 2001. The total area occupied by the present town covers approximately about 30 sq.km and with a population of 123149 (2011 Census) consisting of 19 (nineteen) wards namely;

- i) High School Area
- ii) Bayavu
- iii) North Block
- iv) Nagabazar
- v) Kitsubozou
- vi) Daklane
- vii) D Block
- viii) New Market
- ix) Midland
- x) Naga Hospital Area
- xi) PWD Colony
- xii) Upper Chandmari
- xiii) Lower Chandmari
- xiv) P.R. Hill
- xv) Potter Lane
- xvi) Jail/ Agri Colony
- xvii) Lerie
- xviii) A.G. Colony
- xix) Paramedical



Map of Kohima Town

62/ab

GENERAL PROFILE

Kohima, the capital city of Nagaland is lies between 25° 48' 37" and 25° 51' 37" North latitudes and 93° 03' 40' and 94° 06' 24" East longitudes covering an area of approximately 30 sq. km. The National Highway 29 which goes to Myanmar passes through the town of Kohima and the other highways passing through Kohima are NH 159 and NH 61. The elevation of Kohima is 1444 metres above the sea level.

Physiographically the area is traversed by hill ranges and hillocks, thus forming hilly and undulating topography. The town is dissected by a good number of perennial streams viz. Sitsie Ru, Vurie Ru, Kimho Ru, Dzutsu Ru, all of which drains into the Dzu-u river.

CLIMATE

Kohima features a more moderate version of a humid subtropical climate. Kohima has a pleasant and moderate climate - not too cold in winters and pleasant summers. December and January are the coldest months when frost occurs and in the higher altitudes snowfall occurs occasionally. During the height of summers, from July-August, temperature ranges an average of 80-90 Fahrenheit. Heavy rainfall occurs during summer.

Climate data for Kohima

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Average high °C	16.6	17.9	22.1	24.1	24.4	24.9	25.0	25.4	25.0	23.4	20.6	17.7	22.2
Average low °C	8.1	9.3	12.7	15.6	16.9	18.1	18.8	18.9	18.1	16.6	13.1	9.4	14.6
Rainfall mm	11.7	35.4	47.6	88.7	159.2	333.8	371.8	364.0	250.1	126.0	35.2	7.8	1831.3
Average rainy days	2	3.9	5.8	12.2	16.9	23.1	24.6	22.9	19.1	10.7	3.6	1.4	146.2

OBJECTIVES OF THE DEMO PROJECT

62/17

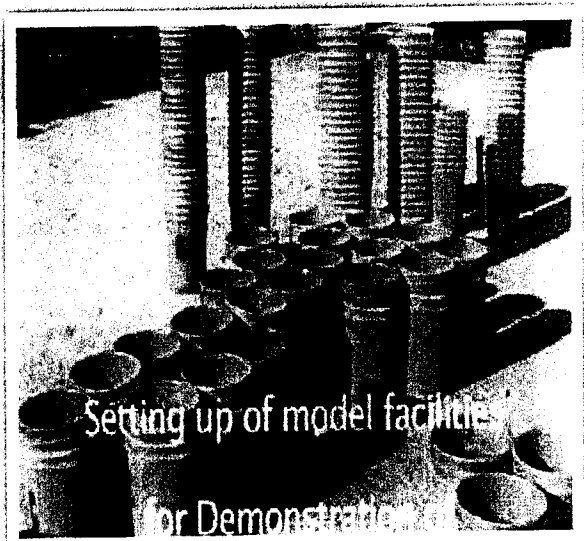
The objectives of the Kohima demo project for setting up of demonstration facility for management of municipal waste were;

- i) setting up of a system for waste collection, segregation, storage and transportation
- ii) creating mass awareness on segregation of waste at source into biodegradable and non-biodegradable
- iii) improve the transportation system for collection of waste
- iv) setting up of waste processing facility
- v) development of sanitary landfill
- vi) decentralization of administration
- vii) capacity building for various stakeholders
- viii) involving NGOs/ public participation

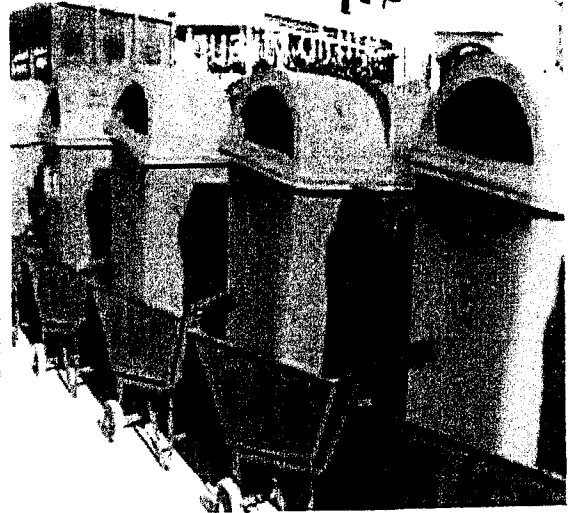
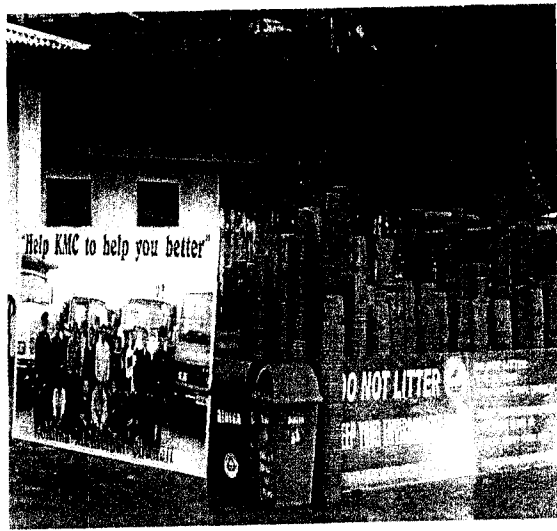
The overall objective of the proposed project is to create an efficient, reliable and holistic system for management of solid waste so as to achieve a cleaner environment and improve the quality of life.

INAUGURATION OF KOHIMA DEMO PROJECT (PHASE - I)

The Kohima Demo project on Solid Waste Management was inaugurated by Shri. Shurhozelie, Honb'le Minister of Planning and Urban Development on 11th February 2006.

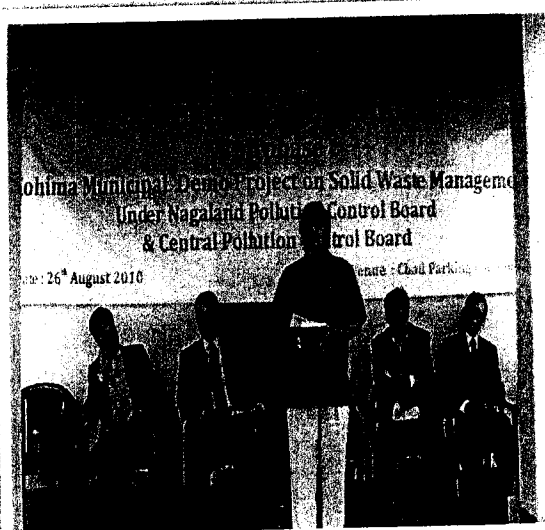


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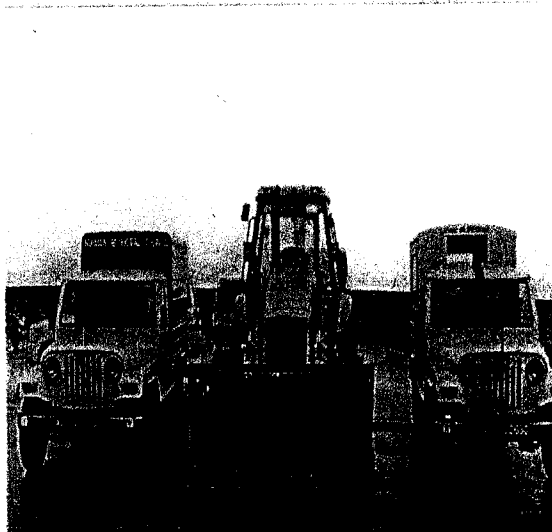


LAUNCHING OF KOHIMA DEMO PROJECT (PHASE - II)

The Kohima Demo project on Solid Waste Management phase - II was lunched by Shri. Nicky Kire, Honb'le MLA on 26th August 2010.

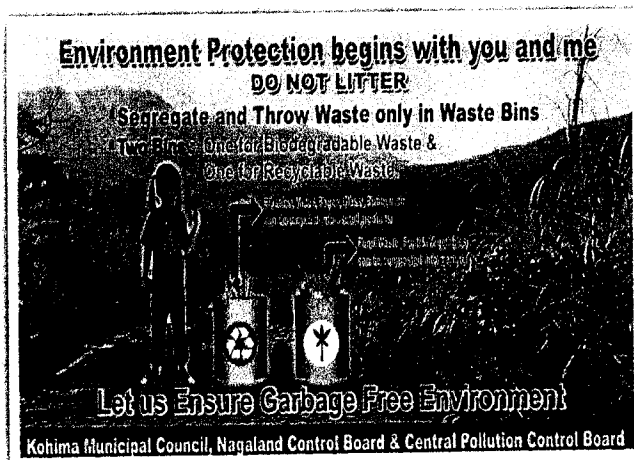


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AWARENESS

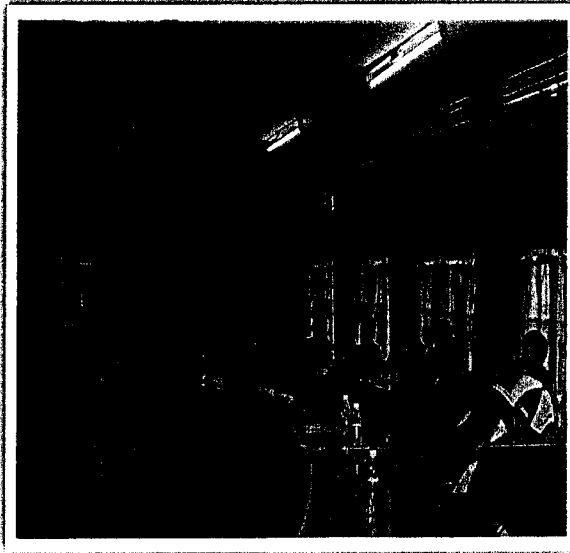
Awareness always play a pivotal role in the society for success of any programme. Workshop on Kohima Demo Facility for Implementation of Municipal Solid Waste (Management & Handling) Rules, 2000 was organized by Nagaland Pollution Control Board on 9th January 2006 at KMC conference hall. Pamphlets, banner and print media, was also used for disseminating information on the need and importance of waste segregation.



Banner for awareness on segregation of waste

12/11/00

Kohima Municipal Council had also issued public notice for segregation especially households, shops and establishments not to mix recyclable waste with domestic food/ bio-degradable waste.



Workshop on solid waste management conducted by NPCB at KMC conference hall

SEGREGATION OF WASTE

For efficient management of waste, segregation at source is necessary. Each household were provided two bins of 5kg capacity (green and blue) free of cost for segregation of waste at household level. The green coloured bins for storing food and biodegradable wastes for composting and the blue coloured bins for storing recyclable wastes such as paper, plastics, metals, etc.

The Kohima Municipal Council after conducting awareness programme/meeting at each ward involving the respective Panchayats, Youth Organizations, Women Groups, and local NGO's, distributed the bins.



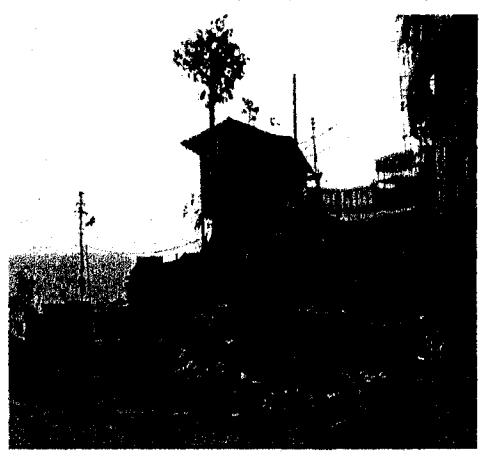
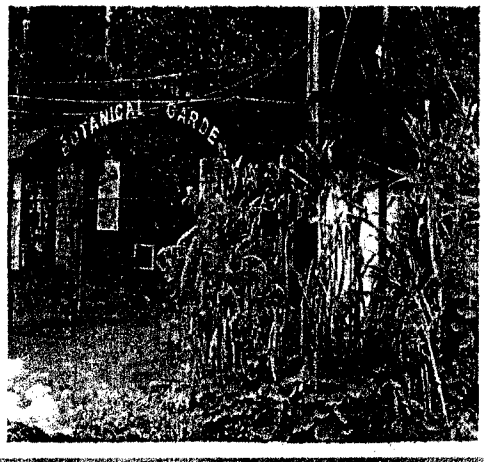
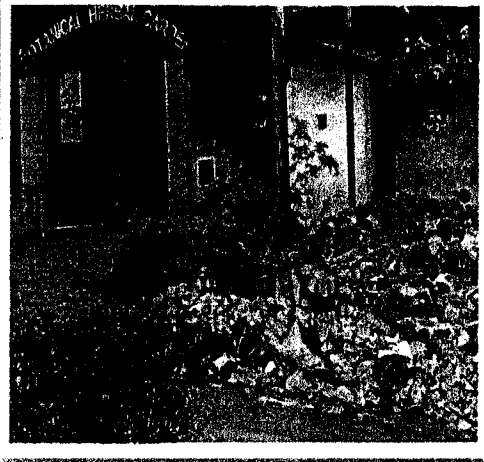
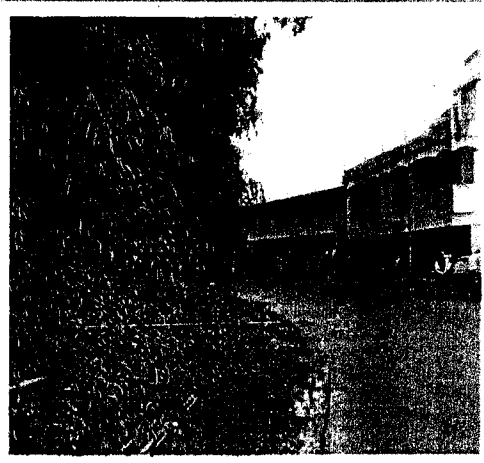
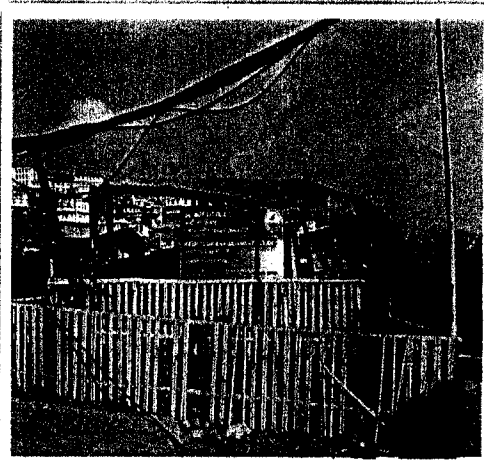
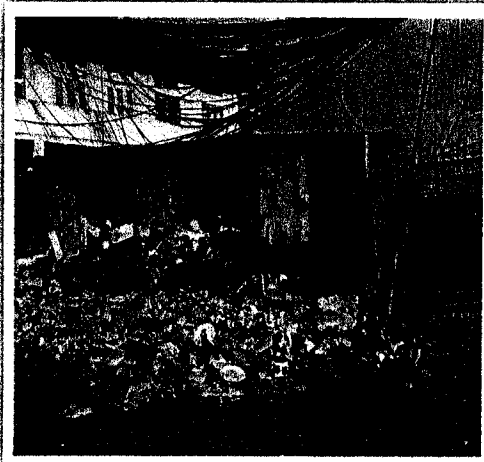
Segregated waste kept for disposal

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IMPACT OF THE PROJECT

Before

After

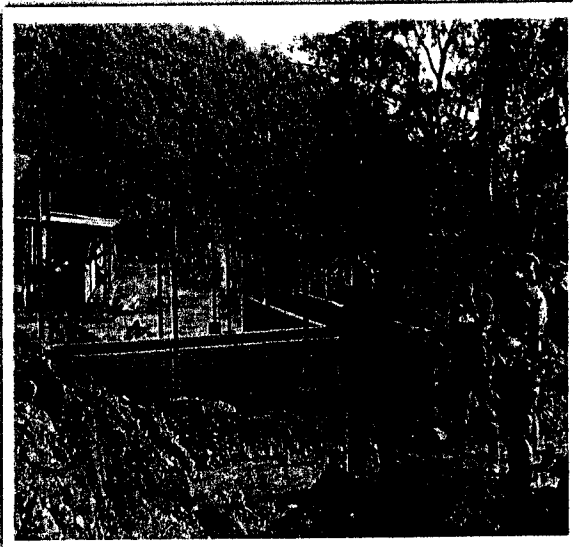


WASTE PROCESSING FACILITY AT VIYA KHUKIE

WJ 6502



Member Secretary, Shri. Rusovil John inspecting construction works at Viya Khukie



Joint inspection by CPCB & NPCB during construction of Kohima demo Project at Viya Khukie



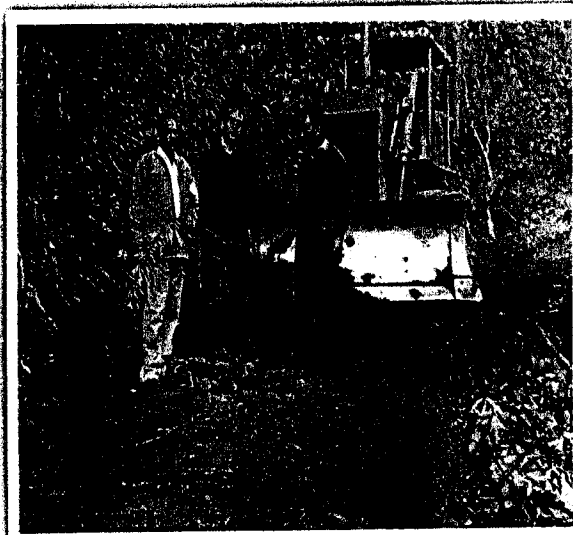
Waste Management site at Viya Khukie



(L-R) Dr. Changsang, Rusovil John, Shri. Karforma & Shri Zakie

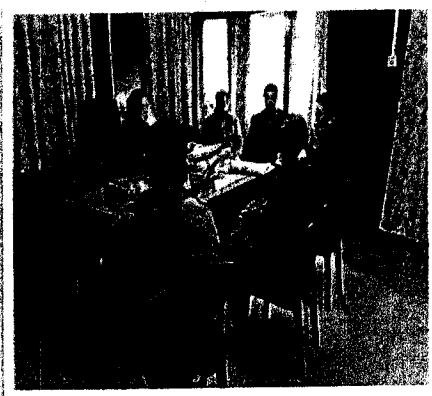


CPCB, NPCB & KMC officials after the meeting

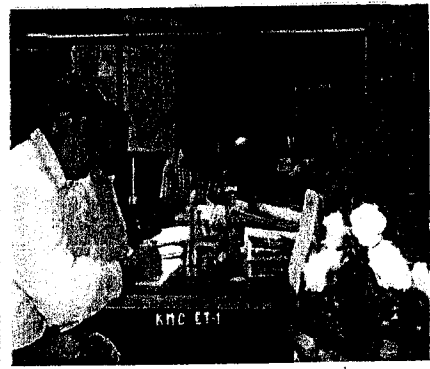


Member Secretary, NPCB inspecting during road construction at Viya Khukie

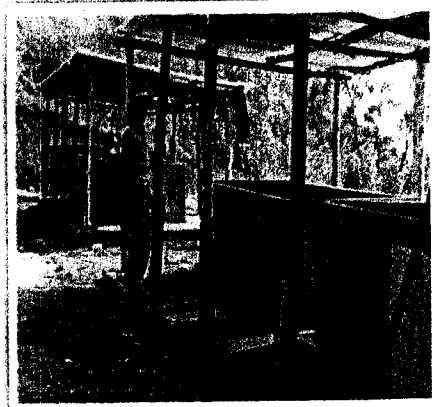
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Kohima Demo Project Monitoring Committee Meeting



CPCB, NPCB & KMC official meeting at KMC office



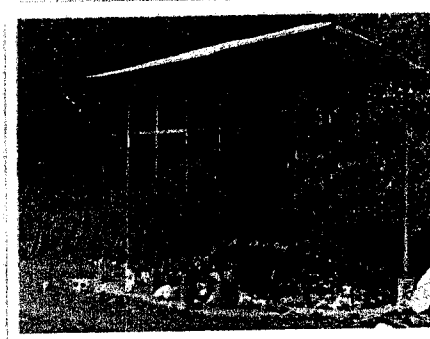
Construction of vermi-compost pit in progress



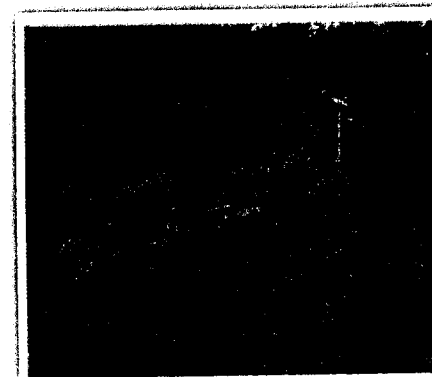
CPCB, NPCB & KMC monitoring during construction at Viya Khukie



CPCB, NPCB & KMC officials inspecting road construction to Viya Khukie



Waste Segregation centre at Viya Khukie



Solar lighting at Kohima demo site



CPCB and NPCB officials inspecting vermi-compost at Viya Khukie

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ACHIEVEMENTS OF KOHIMA DEMO PROJECT

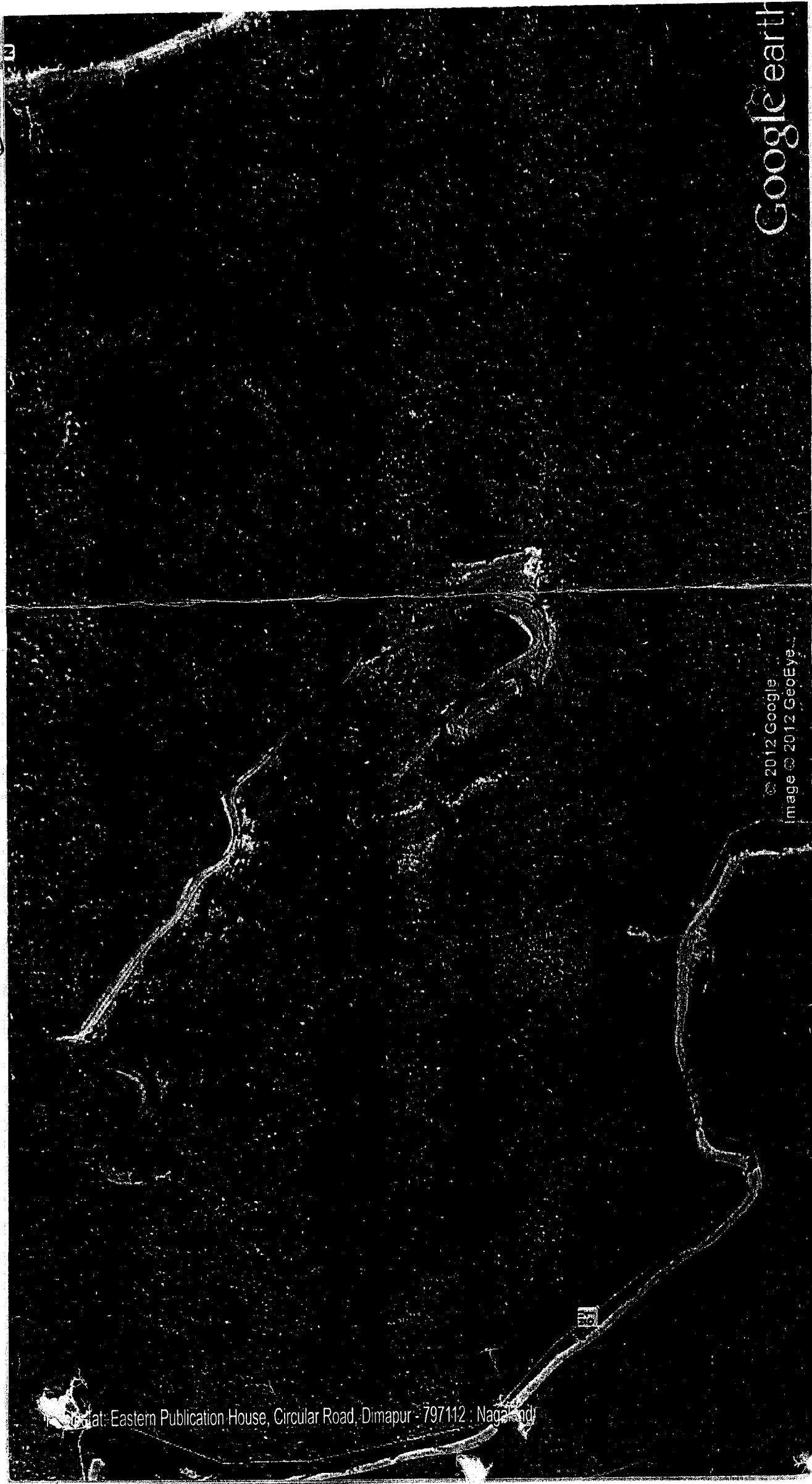
1. Collection of waste directly from the source preventing less hazards to human and environment.
2. Mass awareness on management of solid waste especially on segregation of waste at source into biodegradable and non-biodegradable and basing on 3R (Reduce, Reuse, Recycle) was taken up through banner, pamphlets and public meeting. By creating awareness in segregation of waste; recyclable waste such as scrap iron, tin, bottles, broken glass, PET bottles, plastics, cartoon boxes, paper, etc. are purchased by scrap dealers door to door. On the other hand; the food waste (wet waste) that is suitable for use as feed are collected separately in many households and are collected by the families who are having backyard piggery farms in and around the city. Now-a-days vegetable waste from the vegetable vendor are collected and sold to these backyard farms, thereby reducing vegetable waste while increasing food production.
3. The litter bins kept outside shops has an educating impact on the citizens and people have become more conscious to throw their waste into the bins rather than into the street.
4. The tipper truck of medium size (Tata 407) purchased under this project are found suitable to carry loads and maneuver in the narrow hill streets of Kohima
5. A Mahindra pick up has been fabricated to carry BMW from the Authorized HCFs and disposed in deep burial. The Front end Loader (JCB) purchased under this project is effectively used in digging the pits for deep burial.
6. Segregation at source into biodegradable and non-biodegradable waste was introduced after distribution of two bins at household level.
7. KMC staffs were also provided safety materials such as hand gloves, gumboots, helmets, etc.
8. Rag pickers were encouraged for collection of non-biodegradable waste. KMC had distributed push carts to rag pickers free of cost and they were exempted from taxes.
9. KMC has been experimenting the possibility of door to door collection through the colony/ward councils. The councils were given a small vehicle and were allowed to levy sanitation tax and assigned to collect waste door-to-door. This system has indirect link to the demo project because on seeing the waste segregation practice the confidence of KMC was hyped. The success of the system is however, too early to comment because the terrain of Kohima is so rugged that to deliver a waste bin to the waiting vehicle; some persons have to track upto 500 metres up or down the slope depending on the location.
10. Development of waste processing facility at Viya Khukie which include, waste segregation centre, compost, vermi compost, etc. The concept of waste to compost is known earlier also. However, the fact that the MSW; which is garbage when segregated properly can be composted to useful manure has gone down well because of the fact that quite a few VVIPs have already visited the Composting site at Viya Khukie. The Vermi-composting site at Viya khukie is away from the city and there are no electricity nor water supply. Therefore, water had been drawn from a rivulet above the project site through pipes and lighting is provided at night by installing solar lamps. A gobar gas unit is installed for lighting and cooking.

Sd/-

(Rusovil John)

Mem'

Handwritten notes in the top left corner, possibly including a date or reference number.



Google earth

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ANNEXURE - R/3

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NAGALAND POLLUTION CONTROL BOARD

Date: 19.02.2015

NPCB/MSW-2/286

**SALIENT FEATURES OF
MUNICIPAL SOLID WASTES (M & H) RULES, 2000.**

Sec. 4: Responsibility of Municipal Authority:-

- 1) Every municipal authority shall, within the territorial area of the municipality, be responsible for the implementation of the provisions of these rules, and for any infrastructure development for the collection, storage, segregation, transportation, processing and disposal of municipal solid wastes.
- 2) The municipal authority or an operator of a facility shall make an application in **Form-I**, for grant of authorization for setting up waste processing and disposal facility including landfills from the State Board in order to comply with the implementation programme laid down in **Schedule I**.
- 3) The municipal authority shall comply with these rules as per the implementation schedule laid down in **Schedule I**.
- 4) The municipal authority shall furnish its annual report in **Form-II**.
 - a) to the Secretary-in charge of the Department of Urban Development.
 - b) to the Deputy Commissioner with a copy to the Nagaland Pollution Control Board on or before the 30th day of June every year.

Sec 5: Responsibility of the State Government:-

- 1) The Secretary-in charge of the Department of Urban Development.
- 2) The Deputy Commissioner of the concerned district shall have the overall responsibility of the enforcement of the provisions of these rules within the territorial limits of their jurisdiction.

Sec. 7: Management of Municipal Solid Wastes:-

- 1) Any municipal solid waste generated in a city or a town, shall be managed and handled in accordance with the compliance criteria and the procedure laid down in **Schedule-II**.
- 2) The waste processing and disposal facilities to be set up by the municipal authority on their own or through an operator of a facility shall meet the specifications and standards as specified in **Schedules-III and IV**.

Sec. 8: Annual Reports:-

The Nagaland Pollution Control Board shall prepare and submit to the Central Pollution Control Board an annual report with regard to the implementation of these rules by the 15th of September every year in **Form-IV**.

Sd/-
(Rusovil John)
Member Secretary

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ANNEXURE - 2/4



KOHIMA MUNICIPAL WASTE MANAGEMENT DEMONSTRATION PROJECT



The Kohima Municipal Waste Management Demo Project, sponsored by the Central Pollution Control Board was inaugurated in the year 2006 by the Hon'ble Minister for Urban Development Dr. Shürhozelie Liezietsu on the 11th February 2006.

In the 1st phase emphasis was given to Solid Waste Management and in particular "segregation of waste" at the house hold level. As a result, the KMC is now taking up a door-to-door collection of segregated waste at Naga Bazaar area on a trial basis. In this experiment, the household waste are segregated into dry waste i.e. that which can be recycled. Example, plastic, paper, scrap iron, tin bottles etc (blue bin) and this can be sold/ given to the scrap collectors or kawariwallah who will be routinely collecting the scraps.

The vegetable and other food wastes are to be collected in the green bin and these may be disposed in the following ways:

- a) The vegetable waste can be collected and handed over to those neighbours who have well maintained backyard piggery farms as is usually practised in Kohima.

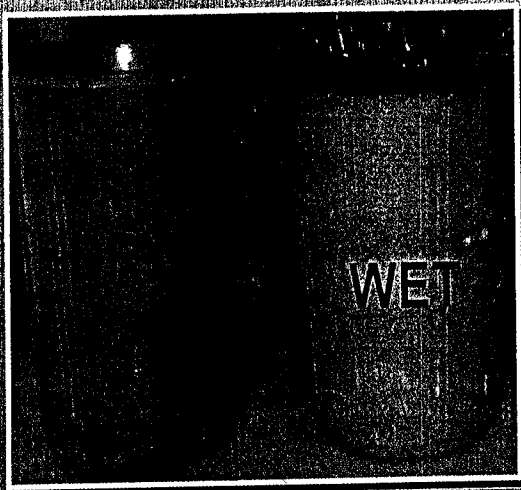
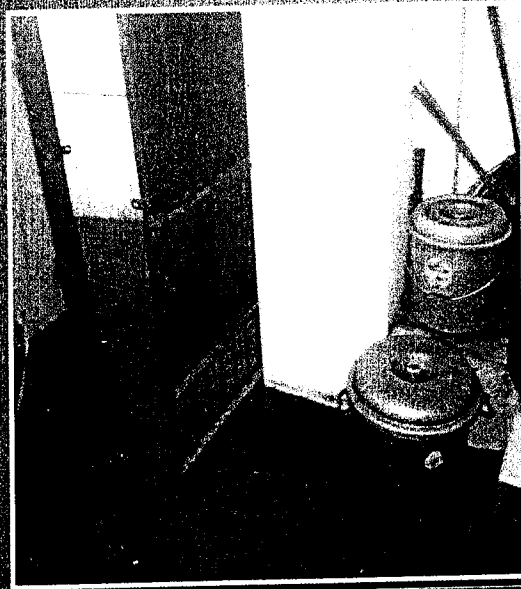


Fig. Household bins for segregation of wastes



Food wastes kept for back yard piggery at Kohima

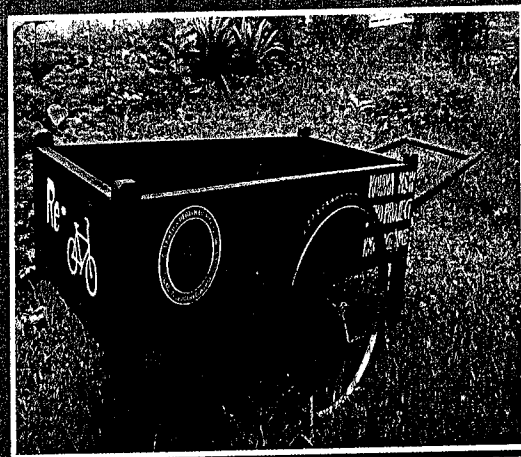


Fig. Push-cart for collecting recyclable wastes

- b) The vegetable waste can also be disposed into the community bins.

Collection of waste in business establishments and markets:

All business establishments should maintain proper waste bins for the public to use which will be cleared by the KMC or disposed at the community bins.



Waste bins for business establishments etc.

HOSPITAL WASTE

(An Environmental Hazard if not properly managed)

A modern hospital is a complex, multidisciplinary system which consumes thousands of items for delivery of medical care and is a part of physical environment. All these products consumed in the hospital leave some unusable leftovers i.e. hospital waste. With development, our state is witnessing a rise in hospitals in the public as well as private sector, dictated by the needs of expanding population. The advent and acceptance of "disposable" has made the generation of hospital waste a significant factor in current scenario.

What is hospital waste?

Hospital waste refers to all waste generated, discarded and not intended for further use in the hospital.

Classification of hospital waste

- 1) **General waste:** Largely composed of domestic or house hold type waste. It is non-hazardous to human beings, e.g. kitchen waste, packaging material, paper, wrappers and plastics.
- 2) **Pathological waste:** Consists of tissue, organ, body part, human foetuses, blood and body fluid. It is hazardous waste.
- 3) **Infectious waste:** The wastes which contain pathogens in sufficient concentration or quantity that could cause diseases. It is hazardous e.g. culture and stocks of infectious agents from laboratories, waste from surgery, waste originating from infectious patients.
- 4) **Sharps:** Waste materials which could cause the person handling it, a cut or puncture of skin e.g. needles, broken glass, saws, nail, blades and scalpels.
- 5) **Pharmaceutical waste:** This includes pharmaceutical products, drugs, and chemicals that have been returned from wards, have been spilled, are outdated, or contaminated.
- 6) **Chemical waste:** This comprises discarded solid, liquid and gaseous chemicals e.g. cleaning, house keeping, and disinfecting product.
- 7) **Radioactive waste:** It includes solid, liquid, and gaseous waste that is contaminated with radio nuclides generated from in-vitro analysis of body tissues and fluid, in-vivo body organ imaging and tumour localization and therapeutic procedures.

Biomedical waste

Any solid, fluid and liquid or liquid waste including its container and any intermediate product which is generated during the diagnosis, treatment or immunisation of human being or animals, in research pertaining thereto or in the production or testing of

biological and the animal waste from slaughter houses or any other similar establishment. All biomedical wastes are hazardous. In hospital, it comprises of 15% of total hospital waste.

APPROACH FOR HOSPITAL WASTE MANAGEMENT

(Based on Bio-medical Waste (Management and Handling) Rules 1998, notified under the Environment (Protection) Act, 1986 by the Ministry of Environment and Forest)

1. Segregation of waste

Segregation is the essence of waste management and should be done at the source of generation of Bio-medical waste e.g. all patient care activity areas, diagnostic services areas, operation theatres, labour rooms, treatment rooms etc. The responsibility of segregation should be with the generator of biomedical waste i.e. doctors, nurses, technicians etc. (medical and paramedical personnel). The biomedical waste should be segregated as per categories mentioned in the rules.

2. Collection of bio-medical waste

Collection of bio-medical waste should be done as per Bio-medical waste (Management and Handling) Rules. At ordinary room temperature the collected waste should not be stored for more than 24 hours.



Fig. Contaminated bins in a hospital.

3. Treatment of hospital waste:

Treatment of waste is required:

- To disinfect the waste so that it is no longer the source of infection.
- To reduce the volume of the waste.
- Make waste unrecognizable for aesthetic reasons.
- Make recycled items unusable.

The methods of treatment/disposal for biomedical waste is given below:

COLOUR CODING	DESCRIPTION OF THE WASTE	TREATMENT/ DISPOSAL
YELLOW	Infectious waste: Pathological, Anatomical waste (body parts, tissues & organs, body fluids), soiled cotton, plaster, dressings, animal carcasses, microbiology & bio-technology, other laboratory wastes.	Deep burial, Incineration
BLACK	Chemical & liquid waste : Discarded medicine & cytotoxic waste, chemically contaminated containers, chemicals & radioactive waste	Deep burial

4. Transportation

Within hospital, care should be taken while transporting bio-medical waste to reduce chances of its mixing with general waste. Trolleys, carts and containers used should be thoroughly cleaned and disinfected in the event of any spillage.

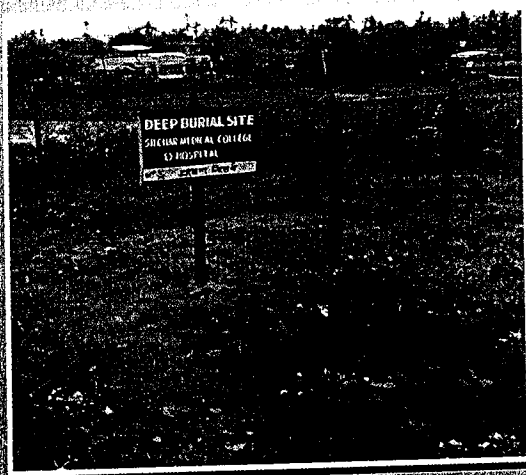


Vehicle for transporting Bio-Medical waste

Bio-medical waste and hazardous waste should not be mixed with any other waste.

5. Coordination between Health Care Facility and Kohima Municipal Council

- As quite a large percentage of waste generated in hospitals, belong to general category (non-toxic and non-hazardous), the hospitals should have constant interaction with municipal authorities so that this category of waste is regularly taken out of the hospital premises for land fill or other treatment as done to other waste of Kohima city.
- For the segregated Biomedical Waste, the KMC shall arrange separate transportation from the Health Care Facility to the disposal site.



Deep burial site

NB: The Health Care Facilities are required to obtain trade license from the Kohima Municipal Council and Authorization under the Bio-Medical Waste (Management and Handling) Rules, 1998 from the Nagaland Pollution Control Board besides others.

Local bodies to apply for authorization from the Nagaland Pollution Control Board as per Municipal Solid Waste (Management and Handling) Rules, 2000 for monitoring of compliance.

REFUSE, REDUCE, RE-USE, RE-CYCLE
.....
COMPOST ORGANIC WASTE FOR YOUR GARDEN

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