

E-WASTE MANAGEMENT IN INDIA



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E-WASTE MANAGEMENT IN INDIA

What is E-Waste?

- ELECTRONIC WASTE (E-WASTE) COMPRISES OF WASTE ELECTRONIC GOODS WHICH ARE NOT FIT FOR THEIR ORIGINALLY INTENDED USE. AIR CONDITIONER, CELLULAR PHONE, PERSONAL STEREOS, COMPUTERS
- E-WASTE CONTAINS TOXIC SUBSTANCES AND CHEMICALS, WHICH ARE LIKELY TO HAVE ADVERSE EFFECT ON ENVIRONMENT AND HEALTH, IF NOT HANDLED PROPERLY E-WASTE IS HAZARDOUS ONLY IF IT CONTAINS HAZARDOUS CONSTITUTENTS.

E-WASTE MANAGEMENT IN INDIA

TOXIC CONSTITUENTS

COMPONENTS

- Printed circuit boards
- Cathode ray tubes (CRTs)
- Switches & flat screen monitors
- Computer batteries
- Capacitors and transformers
- Printed circuit boards, plastic casings cable
- Cable insulation/coating

CONSTITUENTS

- Lead and cadmium
- Lead oxide and Cd
- Mercury
- Cadmium
- PCB
- Brominated flame retardant
- PVC

E-WASTE MANAGEMENT IN INDIA

INTERNATIONAL SCENARIO

FINDINGS STATED IN REPORT BY *BAW*

- 50% TO 80% E-WASTES COLLECTED ARE EXPORTED FOR RECYCLING BY U.S. EXPORT IS LEGAL IN U.S.
- EXPORT IS DUE TO CHEAPER LABOUR AND LAXED STANDARDS IN DEVELOPING COUNTRIES.
- E-WASTE RECYCLING AND DISPOSAL IN CHINA, INDIA AND PAKISTAN ARE HIGHLY POLLUTING.
- CHINA HAS BANNED IMPORT OF E-WASTE
- LACK OF RESPONSIBILITY ON THE PART OF FEDERAL GOVT AND ELECTRONICS INDUSTRY, CONSUMERS, RECYCLERS AND LOCAL GOVERNMENTS TOWARDS VIABLE AND SUSTAINABLE OPTIONS FOR DISPOSAL OF E-WASTES.

E-WASTE MANAGEMENT IN INDIA

LEGAL PROVISIONS

(A) HW RULES, 1989

- ◆ WASTE GENERATED IN ELECTRONIC INDUSTRY COVERED IN SCHEDULE 1 (31).
- ◆ SCHEDULE 2 CONTAMINATIONS TO BE APPLIED IN CASE OF THEIR DISPOSAL
- ◆ SCHEDULE 3 AT SL.NO.A1180: WASTE ELECTRICAL AND ELECTRONIC ASSEMBLIES (FOR EXIM)
- ◆ SCHEDULE 3 AT SL.NO.B1110: ELECTRICAL AND ELECTRONIC ASSEMBLIES NOT VALID FOR DIRECT REUSE BUT FOR RECYCLING (FOR EXIM).

(B) BASEL

- ◆ A1180: ANNEX 8 (Cd, Hg, Pb, PCB) TO THE EXTENT THAT EXHIBIT ANNEX III CHARACTERISTIC
- ◆ B1110: ANNEX IX MIRROR ENTRY OF A1180

E-WASTE MANAGEMENT IN INDIA



INITIATIVES TAKEN IN INDIA

PARTICIPATION IN BASEL

- EXPERT GROUP ON HWM
- NEED ASSESSMENT STUDY
- INDO GERMAN COLLABORATION
- INDO-SWISS STUDY / WORKSHOP

E-WASTE MANAGEMENT IN INDIA



NEED ASSESSMENT STUDY ON E-WASTE

- ◆ ASSESSMENT OF CURRENT SCENARIO: QUALIFICATION, CHARACTERISTICS, EXISTING DISPOSAL PRACTICES ENVIRONMENTAL IMPACTS ETC.
- ◆ PROJECTIONS FOR NEXT 10 YEARS REGARDING CONSUMPTION AND WASTE GENERATION OF ELECTRONIC GOODS PARTICULARLY PC & ITS ACCESSORIES, FAX, PHOTOCOPIERS ETC.
- ◆ REGULATORY MECHANISM IN OTHER COUNTRIES (OECD AND NON-OECD) AND COMPARISON WITH INDIAN CONDITIONS PARTICULARLY WITH REGARD TO REGULATION OF IMPACT.
- ◆ POSSIBILITY OF COLLECTION SYSTEM AND REQUIREMENT OF LEGAL INSTRUMENTS.

E-WASTE MANAGEMENT IN INDIA

- ENVIRONMENTALLY SOUND TECHNOLOGIES AND METHODS FOR RECYCLING AND RECOVERY.
- SUGGESTIONS FOR FISCAL INCENTIVES TO PROMOTE RECYCLING.
- TECHNICAL FEASIBILITY OF SETTING UP OF MODEL FACILITY (DEMONSTRATION PROJECT).
- AREAS OF BILATERAL /MULTILATERAL COOPERATION.
- TRAINING AND FIELD VISITS.

E-WASTE MANAGEMENT IN INDIA

INTERVENTION REQUIRED

- ◆ POLICY
- ◆ TECHNICAL
- ◆ FINANCIAL
- ◆ IMPLEMENTATION & CAPACITY BUILDING

E-WASTE MANAGEMENT IN INDIA



POLICY LEVEL INTERVENTIONS

- DEFINITION OF E-WASTE FOR REGULATION
- IMPORT AND EXPORT REGULATORY REGIME
- ACCESS TO EST & ESM
- FACILITATION & DEVELOPMENT OF INFRASTRUCTURE

E-WASTE MANAGEMENT IN INDIA



TECHNICAL INTERVENTIONS

- ◆ RESTRICTION FOR USE OF TOXIC MATERIAL
- ◆ USE OF ENVIRONMENTALLY FRIENDLY MATERIAL
- ◆ DEVELOPMENT OF CRITERIA FOR RECOVERY AND DISPOSAL
- ◆ DESIGN AND ENGINEERING INTERVENTIONS
- ◆ ADOPTABILITY FOR UPGRADATION

E-WASTE MANAGEMENT IN INDIA

GOAL AND EXPECTED RESULTS ENVIRONMENTAL SOUND MANAGEMENT OF E-WASTE

- ◆ QUALIFICATION AND ASSESSMENT OF THE E-WASTE GENERATION IN THE COUNTRY
- ◆ DEVELOPMENT OF ENVIRONMENTALLY SOUND RECYCLING FACILITIES FOR E-WASTE IN INDIA
- ◆ PROPER COLLECTION AND RECYCLING OF E-WASTE
- ◆ CONTROL ON IMPORT OF E-WASTE COMING IN THE COUNTRY IN THE NAME OF DONATIONS/CHARITY
- ◆ REGULATIONS FOR ESM OF E-WASTE

E-WASTE MANAGEMENT IN INDIA

KEY STAKEHOLDERS

- ◆ MOEF
- ◆ MOIT
- ◆ CPCB
- ◆ SPCBs/PCCs
- ◆ MANUFACTURERS ASSOCIATION LIKE MAIT
- ◆ INDUSTRIAL ASSOCIATIONS: TEMA, CETMA, ELCINA, CII ETC.
- ◆ NGOs
- ◆ MANUFACTURERS
- ◆ RECYCLERS
- ◆ RESEARCH INSTITUTIONS
- ◆ EXPERTS IN THE FIELD
- ◆ FUNDING AGENCIES LIKE UNEP, EEU ETC.

E-WASTE MANAGEMENT IN INDIA



STATUS 2003

HISTORICAL PERSPECTIVE:

TOXICS LINK REPORTS ON E-WASTE GENERATION
AND IMPORTS IN INDIA

OUTCOME:

- E-WASTE A NEW SUBJECT IN INDIA BOTH FOR GENERATORS & REGULATORS
- NO APPRECIATION OF PROBLEM DUE TO LACK OF AWARENESS
- NO ESTIMATES OF ACTUAL AMOUNT OF E-WASTE IN INDIA
- NO METHODOLOGY FOR BASELINE ESTIMATES
- NO INTERVENTION

E-WASTE MANAGEMENT IN INDIA

REPORTED SOURCES OF E-WASTE IN INDIA

1. DOMESTIC SOURCE

- ◆ DISMANTLING/RETROFITTING OF OBSOLETE E-PRODUCTS
- ◆ MANUFACTURING PROCESS.

2. IMPORTED

- ◆ SCRAP DISMANTLING/REPROCESSING
- ◆ DONATIONS

E-WASTE MANAGEMENT IN INDIA



INITIATIVE - 1

- ◆ **INDO-SWISS PILOT ASSESSMENT IN DELHI:
MANAGEMENT, HANDLING & PRACTICES OF E-WASTE
RECYCLING IN DELHI**
 - APPRECIATION OF PROBLEM BY DOCUMENTING ABOUT E-WASTE TRADE IN A PILOT AREA
 - ESTABLISH E-WASTE TRADE VALUE CHAIN TO IDENTIFY STAKEHOLDERS
 - ESTABLISH METHODOLOGY FOR ESTIMATION
 - ESTIMATE E-WASTE QUANTITY
 - IDENTIFY EXISTING E-WASTE TREATMENT & DISPOSAL PRACTICES
 - ESTABLISH E-WASTE TRADE ECONOMICS
 - IDENTIFY MACRO LEVEL IMPACTS
 - FUTURE INITIATIVES & ACTION PLAN

E-WASTE MANAGEMENT IN INDIA



INITIATIVE - 2

NATIONAL LEVEL WORKSHOP ORGANISED IN
COLLABORATION WITH GTZ-ASEM: 15TH MARCH, 2004

WAY FORWARD:

- ◆ FORMATION OF NATIONAL LEVEL WORKING GROUP ON E-WASTE
- ◆ POLICY LEVEL INTERVENTION
- ◆ PLANNING FOR A NATIONAL LEVEL STUDY
- ◆ PLANNING FOR A "RAPID ASSESSMENT" IN THE MAJOR WEEE PRODUCING REGIONS/CITIES OF INDIA
- ◆ BRINGING STAKEHOLDERS INCLUDING PRODUCERS (FORMAL & INFORMAL) AT A COMMON PLATFORM

E-WASTE MANAGEMENT IN INDIA

INITIATIVE - 3

1. WORKING GROUP FORMED IN JULY 2004 AND CONSISTING OF:
 - ◆ MOEF, CPCB, MINISTRY OF IT
 - ◆ REGULATORY AGENCIES (REPRESENTATIVES OF SPCBs)
 - ◆ NGOs
 - ◆ INDUSTRY ASSOCIATIONS/INDUSTRY (MAIT, TEMA, CETMA, ELCINA, CII REPRESENTATIVES)
 - ◆ EXPERTS IN THE FIELD
 - ◆ PRODUCERS BOTH FORMAL & INFORMAL

*MANDATE: IDENTIFY, PLAN AND IMPLEMENT ALL ISSUES
RELATED TO E-WASTE IN INDIA*

TWO MEETINGS OF WORKING GROUP HELD IN 2004

E-WASTE MANAGEMENT IN INDIA



INITIATIVE - 3 (CONTD.)

2. INITIATIVES TAKEN BY WORKING GROUP:
 - ◆ NATIONAL LEVEL STUDY FOR E-WASTE ASSESSMENT
 - ◆ APPROVAL OF TOR FOR NATIONAL LEVEL STUDY
 - ◆ ASSESSMENT OF PRESENT SCENARIO
 - ◆ PROTECTIONS FOR FUTURE GENERATION OF PCs MOBILE PHONE, TVS ACS, REFRIGERATORS AND OTHER ELECTRONIC EQUIPMENT
 - ◆ PRIORITISATION OF CITIES FOR RAPID ASSESSMENTS

E-WASTE MANAGEMENT IN INDIA



INITIATIVE - 3 (CONTD.)

3. BASE - LINE AND DATA MANAGEMENT

- ◆ WORK AWARDED TO IRG SOUTH ASIA PVT LTD. FOR DEVELOPMENT OF E-WASTE MANUAL HAS BEEN COMPLETED AND DRAFT REPORT HAS BEEN SUBMITTED
- ◆ GUIDELINES FOR ASSESSMENT: APPROACH AND METHODOLOGY
- ◆ GUIDELINES FOR TRAINING AND CAPACITY BUILDING

E-WASTE MANAGEMENT IN INDIA



OTHER INITIATIVES (2004-05)

NATIONAL:

MCD ORGANISED A WORKSHOP ON E-WASTE IN DELHI

- ◆ FICCI ORGANISED A WORKSHOP WHERE E-WASTE IN DELHI
- ◆ MAIT ORGANISED A WORKSHOP IN BANGALORE, WHERE E-WASTE WAS DISCUSSED
- ◆ GTZ/EMPA ORGANISED A WORKSHOP IN BANGALORE
- ◆ CITY ASSESSMENT IN BANGALORE
- ◆ DST, GOI ORGANISED A WORKSHOP AT NEERI, NAGPUR FOR SOLICITING PROPOSAL ON E-WASTE

E-WASTE MANAGEMENT IN INDIA



STATUS (2005)

NATIONAL LEVEL STUDY FOR E-WASTE ASSESSMENT
COMMENCED IN JAN 2005 UNDER
CPCB/MOEF/GTZ/ASEM/EMPA PROGRAM

OUTCOMES:

E-WASTE MANUAL - APRIL 2005

TOR FOR CITY TEAM - APRIL 2005

STANDARDIZED/UNIFORM APPROACH & METHODOLOGY-APRIL
2005

DATABASE FORMATS FOR ASSESSMENT - APRIL 2005

TOR FOR PROJECT COORDINATOR - APRIL 2005

NATIONAL LEVEL ASSESSMENT - MID JULY 2005

PRIORITIZATION OF CITIES - MID JULY 2005

LR-E-WASTE

E-WASTE MANAGEMENT IN INDIA



NEXT STEPS IN 2006

CITY LEVEL ASSESSMENT STUDIES IN THE MAJOR CITIES
WITH THE HELP OF CITY TEAMS

ASSESSMENTS OF CAPACITIES OF EXISTING SMELTERS
(INFORMAL & FORMAL) FOR COPPER, LEADED GLASS AND
PLASTIC RECYCLING

FORMULATION OF TOR FOR THE STUDY

CONDUCTION OF STUDY

STUDY ON APPLICABILITY OF EPR IN INDIAN CONDITIONS

UNDERTAKE A STUDY ON E-WASTE MANAGEMENT AT MAJOR
PORTS AND ICDs

POLICY INITIATIVES

TRAINING & CAPACITY BUILDING

INFORMATION DISSEMINATION THROUGH WORKSHOPS

E-WASTE MANAGEMENT IN INDIA



REQUIREMENTS

KNOW-HOW OF THE EXISTING SYSTEM OF EXTENDED
PROCEDURES RESPONSIBILITY IN DEVELOPED
COUNTRIES

TECHNICAL SUPPORT FOR SETTING UP RECYCLING
FACILITIES

EXPOSURE TO THE LEGISLATIONS EXISTING IN
DEVELOPED COUNTRIES

TRAINING AND CAPACITY BUILDING

E-WASTE MANAGEMENT IN INDIA

THANK YOU

