BCRC-SEA's PROJECT:
DEVELOPMENT OF REGIONAL TECHNICAL GUIDELINES
FOR **E-WASTE INVENTORY**
AND **ESM 5R OF E-WASTE**

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TOPICS

- General Project Description
- Specific Project Part Description
    - E-Waste Inventory TGLDP
    - E-Waste 5R TGLDP
- Current Progress of the Project
- Important Issues for Consideration

GENERAL PROJECT DESCRIPTION

Initial Project Proposal

and

The Approved Project

Introduction

- **BCRC-SEA is curently conducting e-waste technical guidelines development project (E-Waste TGLDP), consisting of 2 parts:**
  - Inventory of E-Waste;
  - ESM 5R of E-Waste.
- **The Project is the approved 1 out of 4 components of a larger and integrated program/project proposed by BCRC-SEA through SBC in 2006**

Background

- Due to the rapid industrialization of the countries in Southeast Asia, there is an increase in the production rate of the electrical and electronic equipment and also the obsolescence rate of these products, becoming e-waste. This e-waste are composed of hundreds of different materials, often in high value such as gold, platinum, silver, copper, et cetera, which recyclers can recover.

- However, if improperly managed throughout its life cycle, e-waste can cause environmental problems due to the content of potentially hazardous waste such as heavy metals, halogenated substances, PCBs, et cetera. Therefore, an environmentally sound management of e-waste is strictly required to protect the environment.

Background

- This matter became the subject at the Conference of Parties to the Basel Convention 6. It was agreed that e-waste considered a priority waste stream and environmentally sound management should continue to be given a high priority under the work programme of the Basel Convention. It was also recognized that there is a lack of reliable data on the generation, collection, import and exports, and management schemes in general as well as implementation problems. Therefore, a 4-year programme will be carried out through concrete and well defined national and regional project efforts through multi-stakeholder partnership approach.

Background

- BCRC-SEA as one of the regional centres for training and technology transfer also serves as facilitator to provide assistance and support to Parties in its region. As it is, BCRC-SEA has proposed a project to assist the Parties in South East Asia to overcome these problems concerning e-waste management.

- It has been identified that it is important to target those types of equipment that have the greatest potential for impacting on human health and the environment, and at the same time have a greatest economic potential for refurbishment and recycling.

General Objective

- To promote environmentally sound management of e-waste in South East Asia through:
    - development of guidelines,
    - technical assistance,
    - training and coordination among Parties,
    - multi stakeholder partnership.

Specific objectives

- **To develop guidelines for inventory and 3R & repair/refurbishment to provide information and serve as guidance for implementation of inventory and 3 R & repair/refurbishment of e-waste by Parties in the region**
- To increase information/database that is useful for an improved understanding of the status of e-waste management in South East Asia
- To support pilot projects on assessments and repair/reuse/refurbishment schemes for priority types of e-waste (personal computers, TVs, refrigerators, and air conditioners).
- To implement training for trainers workshop on various components of ESM of e-waste and also organize a workshop on sound technology for improvement of e-waste management in South East Asia

Results

- Guidance documents on inventory and environmentally sound recycling/ reuse/ repair/ refurbishment/ disposal

- Database on sound technologies or processes for refurbishment, recycling and final disposal of e-waste is established and available for dissemination via the centre website

- Technical assistance for pilot collection in 4 countries and repair/refurbishment/recycling schemes in 3 countries in the region are provided

- Regional training for trainers on environmentally sound management and technology of e-waste are conducted

The Approved Project Description

- Development of Guideline Documents:
  - The Methodology on Inventory of Electrical and Electronic Waste
  - The 3R (Reduce, Reuse, Recycle) and Repair and Refurbishment of Electrical and Electronic Waste

The Approved Project Description

- Responsibilities:
  - BCRC-SEA is to carry out the activities and tasks to complete the project according to a work plan
  - SBC is to provide financial support through the BC Technical Cooperation Trust Fund.
- Project deliverables from BCRC-SEA to UNEP/SBC
  - First Progress Report: 31 October 2006
  - Final Report: 30 December 2006
- Total cost of the project: US$ 26,100 only

Overall BCRC-SEA's E-Waste TGLD Project Timeline
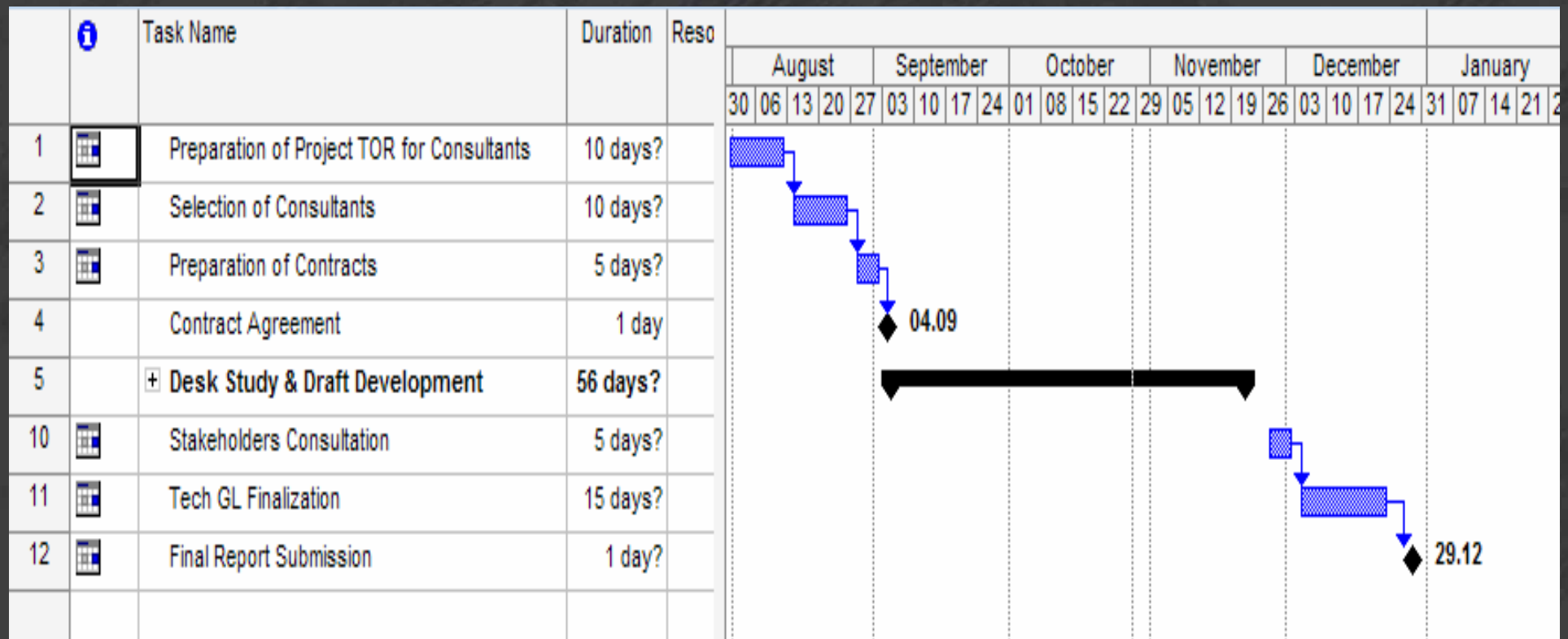
BCRC-SEA's Project Resources

- **2 Consultants have been assigned to undertake the Project**
  - E-Waste Inventory TGLDP
    - Undertaker: AmbikA Consultants, Jakarta
    - Contract Value: US$ 10,000
    - Contract & Start Date: 13.09.2006
  - E-Waste 5R TGLDP
    - Undertaker: SHW Laboratory, ITB, Bandung
    - Contract Value: US$ 12,500
    - Contract & Start Date: 1.09.2006

SPECIFIC PROJECT PART DESCRIPTION

E-Waste Inventory

Technical Guidelines

Development

Specific Objectives

- to develop methodological guidelines for inventory of e-waste within the Southeast Asia Region

- to provide information to the Parties in the Region in designing and implementing a national e-waste inventory program.

Scope of E-Waste Types

- E-waste types to be assessed is the primary e-waste, that is the e-waste generated from (discarded by) first users in its originally manufactured or intended form.
- 2 main groups of e-waste types under the Project:
  - Electronics
    - Personal Computer Central Processing Units (CPUs)
    - Cathode Ray Tubes (CRT) Television Sets & PC Monitors
    - Cellular Phones
  - Electrical Home Appliances
    - Home Air Conditioners
    - Dry Power Batteries
    - Fluorescent Lamps

E-Waste Inventory TGLD Methodology
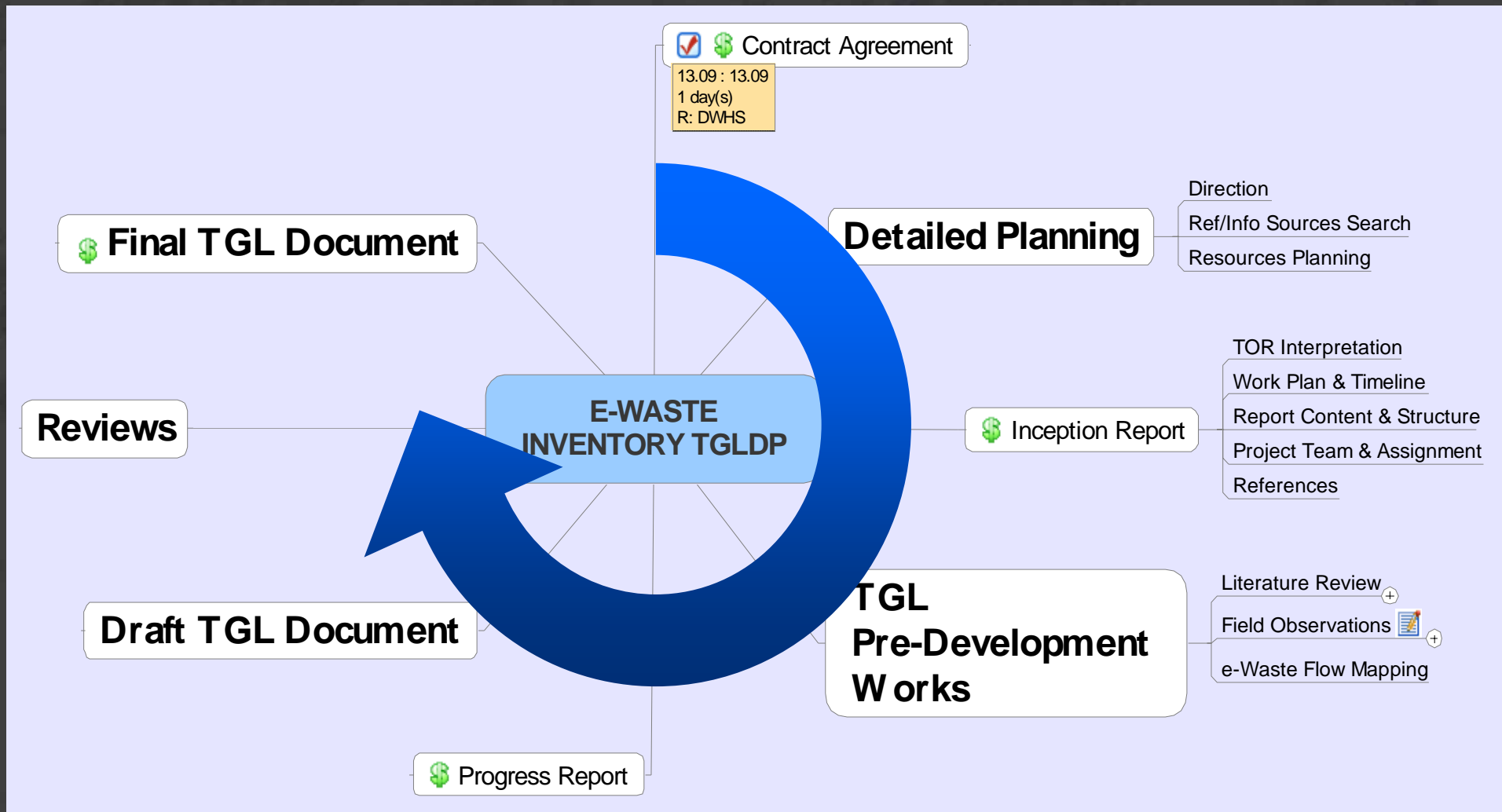
E-Waste Inventory TGLDP Timeline

		Task Name	Duration	Start	Finish	Pre	Resource Na
1	✓	Contract Agreement	1 day	Wed 13.09.06	Wed 13.09.06		
2		Detailed Planning	9 days	Thu 14.09.06	Tue 26.09.06		
3		Referencing Relevant Documents	6 days	Thu 14.09.06	Thu 21.09.06	1	
4		Report Content & Structure Dvlpm	3 days	Fri 22.09.06	Tue 26.09.06	3	
5		Inception Report Submission	1 day	Wed 27.09.06	Wed 27.09.06	4	
6		TGL Pre-Development Works	30 days	Thu 28.09.06	Wed 08.11.06		
7		Literature Review	7 days	Thu 28.09.06	Fri 06.10.06	5	
8		Field Observations	15 days	Thu 28.09.06	Wed 18.10.06	5	
9		Info & Data Analysis	5 days	Mon 30.10.06	Fri 03.11.06	8	
10		e-Waste Flow Map Dvlpmt	2 days	Mon 06.11.06	Tue 07.11.06	9	
11		Progress Report Dvlpmt	1 day	Wed 08.11.06	Wed 08.11.06	10	
12		Progress Report Submission	1 day	Thu 09.11.06	Thu 09.11.06	11	
13		TGL Development	23 days	Fri 10.11.06	Tue 12.12.06		
14		First Draft TGL Development	20 days	Fri 10.11.06	Thu 07.12.06	12	
15		First Draft TGL Review	2 days	Fri 08.12.06	Mon 11.12.06	14	
16		First Draft TGL Submission	1 day	Tue 12.12.06	Tue 12.12.06	15	
17		Stakeholders Consultation	10 days	Wed 13.12.06	Tue 26.12.06	16	
18		TGL Finalization	18 days	Wed 27.12.06	Fri 19.01.07		
19		Stakeholders' Comments Review	1 day	Wed 27.12.06	Wed 27.12.06	17	
20		Final TGL Dvlpmt	9 days	Thu 28.12.06	Tue 09.01.07	19	
21		Final TGL Review	3 days	Wed 10.01.07	Fri 12.01.07	20	
22		Final TGL Revision	5 days	Mon 15.01.07	Fri 19.01.07	21	
23		Final Report Submission	1 day	Mon 22.01.07	Mon 22.01.07	22	

SPECIFIC PROJECT PART DESCRIPTION

E-Waste 5R

Technical Guidelines

Development

Specific Objectives

- to provide guideline for Reduce, Reuse, Recycle (3R) & Repair/Refurbishment of e-waste to all stakeholders particularly Parties to the Basel Convention in the region / Southeast Asia countries served by BCRC-SEA

- the guideline will assist Parties/Southeast Asia countries in management of e-waste in an environmentally sound manner.

Scope of E-Waste Types

- Initially, the Guidelines will be focused on all types of e-waste. However, the possibility of focusing on any particular electronic wastes depends on the problems faced by ASEAN countries and current technologies availability.

- The Project will include the ones that mostly can be found in electronic waste flow such as:
  - PCs,
  - TV-set,
  - mobile phone,
  - refrigerator,
  - washing machine,
  - air conditioner, and
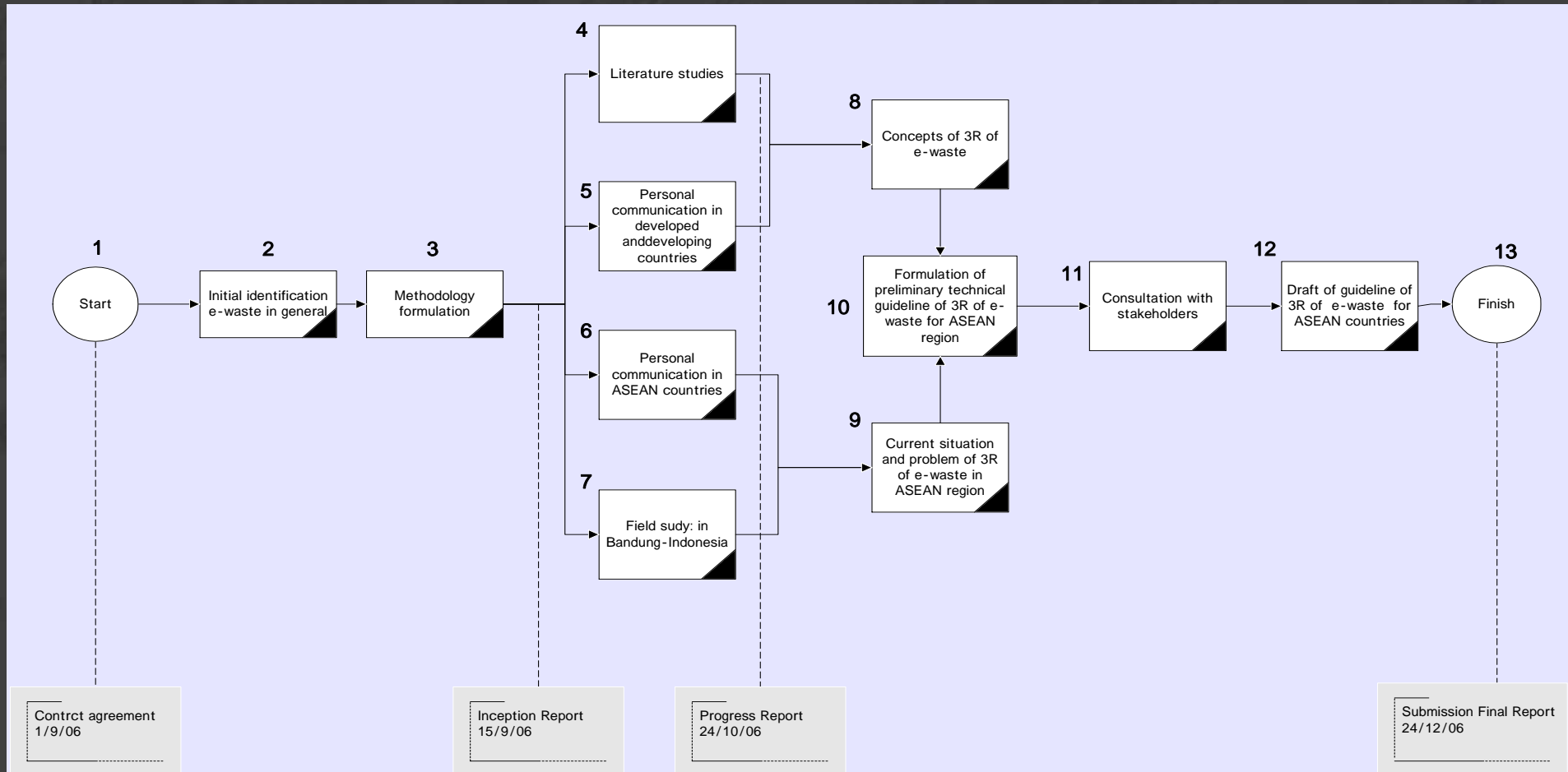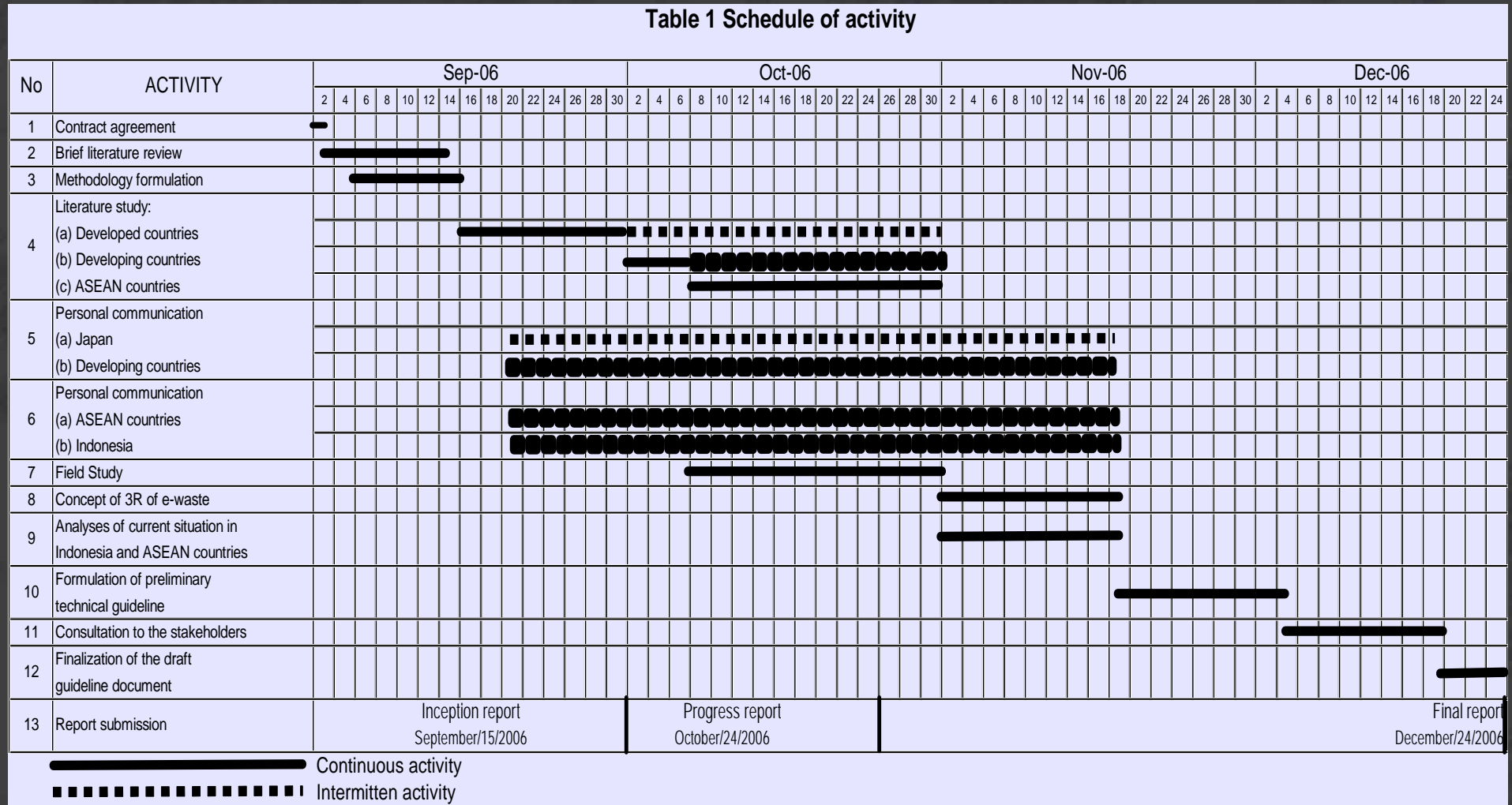 - lamps.

E-Waste 5R TGLD Methodology

Figure 1 Methodology for developement of guideline document on the 3R of e-waste

E-Waste 5R TGLDP Timeline

Table 1 Schedule of activity

No	ACTIVITY	Sep-06	Oct-06	Nov-06	Dec-06
1	Contract agreement	▬			
2	Brief literature review	▬▬▬▬			
3	Methodology formulation	▬▬▬			
4	Literature study:				
	(a) Developed countries	▬▬▬ ▪▪▪▪	▪▪▪▪▪▪▪▪		
	(b) Developing countries		▬▬ ●●●●●●●●●		
	(c) ASEAN countries		▬▬▬▬▬▬▬		
5	Personal communication				
	(a) Japan	▪▪▪▪▪▪	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	▪▪▪▪▪▪▪▪▪	
	(b) Developing countries	●●●●●●	●●●●●●●●●●●●●●●	●●●●●●●●●	
6	Personal communication				
	(a) ASEAN countries	●●●●●●	●●●●●●●●●●●●●●●	●●●●●●●●●	
	(b) Indonesia	●●●●●●	●●●●●●●●●●●●●●●	●●●●●●●●●	
7	Field Study		▬▬▬▬▬▬▬▬		
8	Concept of 3R of e-waste			▬▬▬▬▬	
9	Analyses of current situation in Indonesia and ASEAN countries			▬▬▬▬▬	
10	Formulation of preliminary technical guideline				▬▬▬▬
11	Consultation to the stakeholders				▬▬▬▬
12	Finalization of the draft guideline document				▬
13	Report submission	Inception report September/15/2006	Progress report October/24/2006		Final report December/24/2006

▬▬▬▬ Continuous activity
▪▪▪▪▪▪ Intermitten activity

CURRENT PROGRESS

Current Progress

- By the time of this presentation, both consultants have performed:
    - Inception Report submission;
    - Literature Review;
    - Field Survey;
    - Progress Report submission.

Current Progress
Visual Record - Field Survey

Photo: DanWHS, 2006

Current Progress
Visual Record - Field Survey

Photo: DanWHS, 2006

IMPORTANT ISSUES
FOR CONSIDERATION

Some Issues for Consideration

- E-waste stream generation inventory is relatively more complex/difficult to perform accurately comparing to the common industrial haz waste streams
    - Broad range of lifetime of e-products
    - Longer chain of ownerships and uncertain fate
    - Involvement of repair or refurbishment
    - Economic value of e-waste components
    - Scarcity or lack of records or reliable information
    - No single estimation method appropriate for all cases

Some Issues for Consideration

- E-waste management problems within the SEA region may be country specific:
    - level of economic development;
    - legal basis for e-waste management;
    - intersectoral coordination;
    - law enforcement;
    - monitoring and evaluation.
- Some common and more specific approaches to the ESM of E-Waste in the Region may be required.

Some Issues for Consideration

- E-waste importation may not be properly controlled nor noticed by a BC national focal point and not in accordance to BC
  - false declaration of importers;
  - lack of intersectoral coordination;
  - Lack of international cooperation.
- Neglecting EHS aspect in e-waste 5R in developing countries in SEA is apparently due to:
  - Lack of awareness;
  - Desperate needs for job (economic factor);
  - Lack of regulatory control and enforcement.

Some Issues for Consideration

- There must be more important issues to be
  - raised;
  - discussed; and
  - (more importantly) resolved; or
  - planned to be resolved

  in this forum.

- Thank you.

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