

# **Technology Development and Transfer in Malaysia - 25 Years of Solving the Puzzle**



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# Background – turning dumpsite into proper landfill

- ✓ Waste management is traditionally a problem in Malaysia, under the management of the local authorities
    - Open dumping / Open burning
    - Leachate contamination
    - Bad smell / Hygiene problem
- } Alarming stage (1987)
- ✓ In 1987, the Malaysia Government requested the Japan Government to assist in improving the waste management as a whole, particularly looking at the disposal sites.
  - ✓ In 1988, JICA dispatched technical assistance to Malaysia, selected site at Seberang Prai.

1988





**1988**





1988





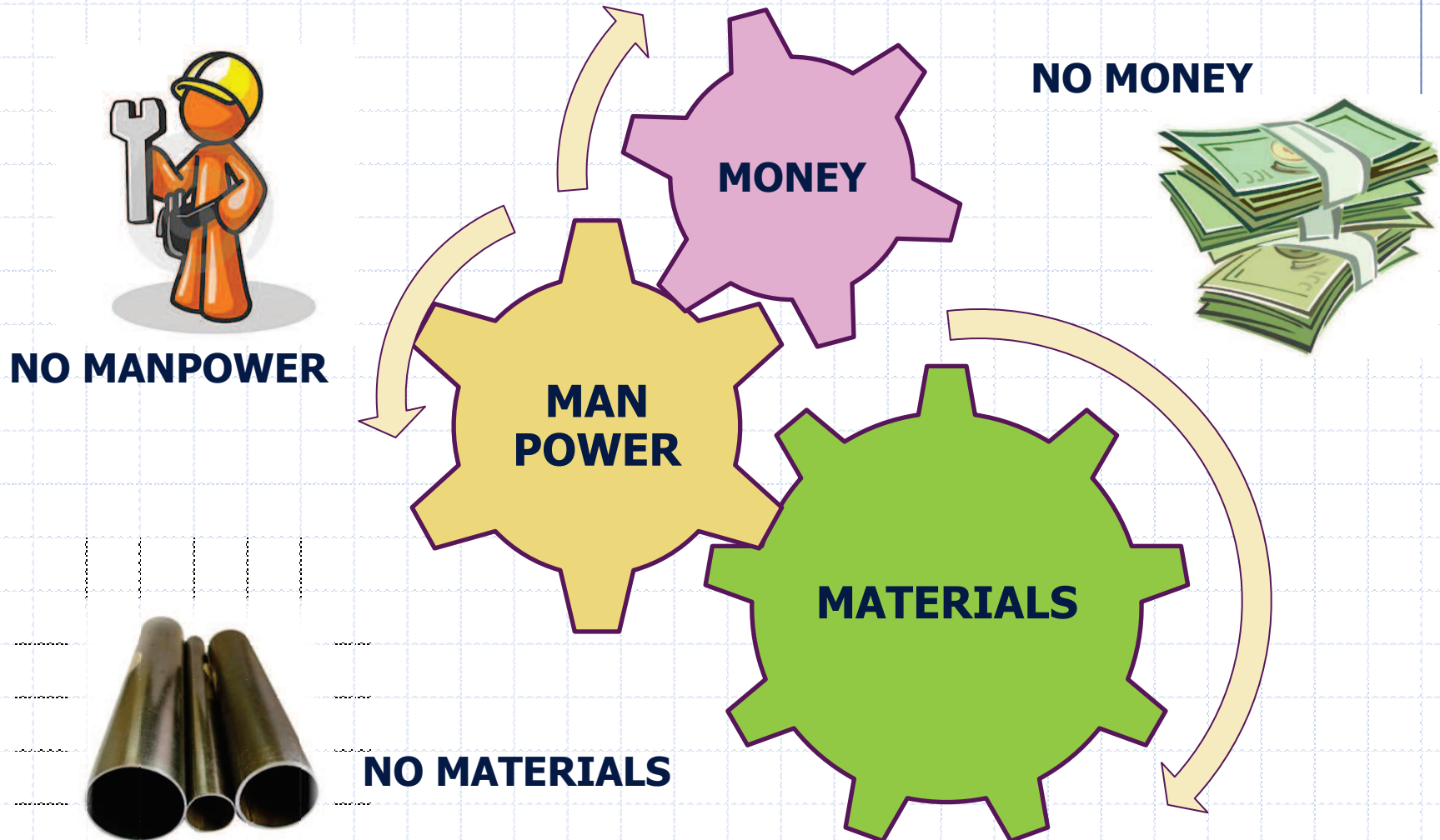
**Prof. Yasushi Matsufuji (松藤康司教授)**






# Main Issues Faced

**LACK OF 3M**

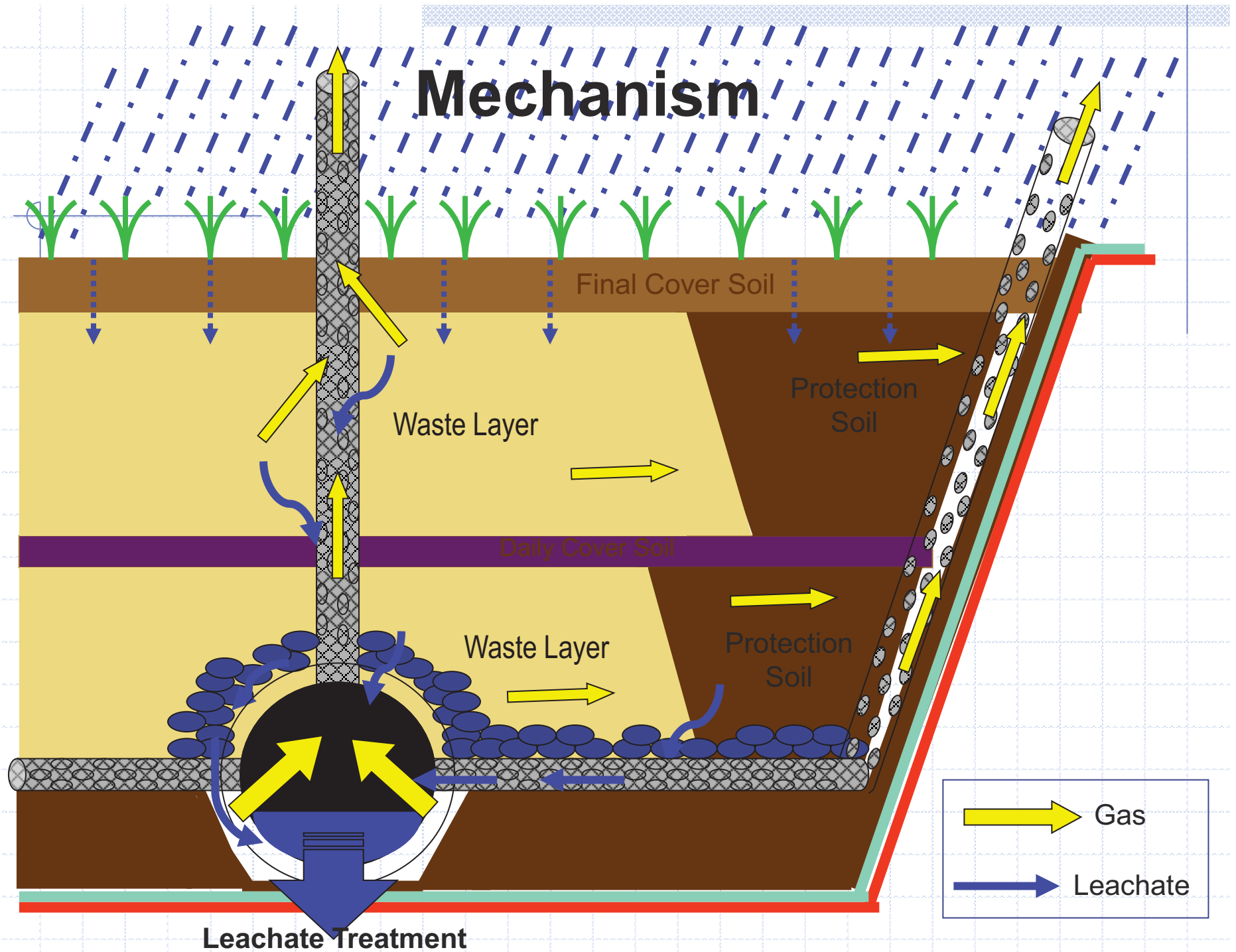


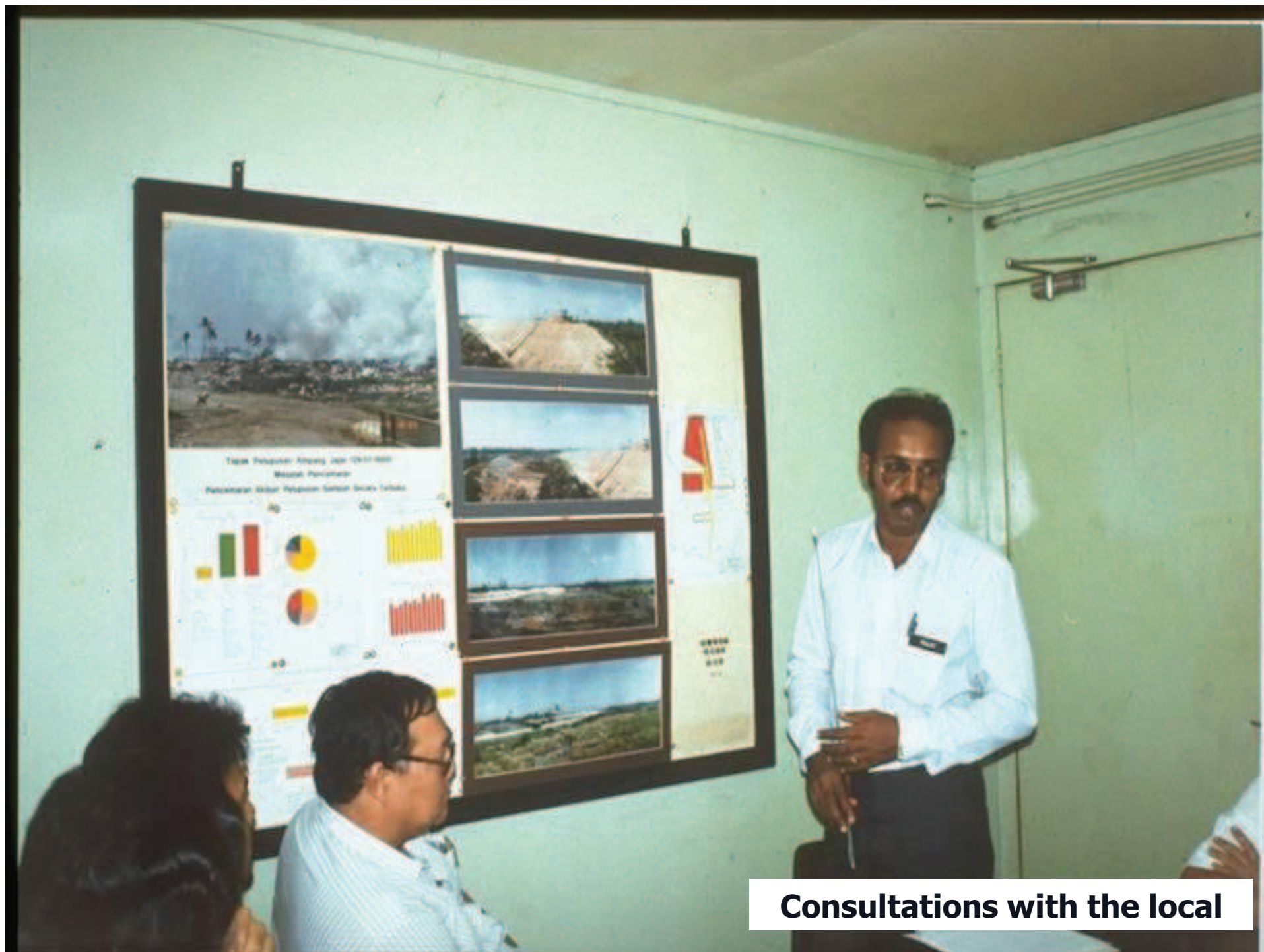


# **Development of Semi Aerobic Landfill in Malaysia**



# Mechanism





**Consultations with the local**





**Utilization of local available materials – used metal drums**





**Utilization of local available materials – used metal drums**





**Utilization of local available materials – bamboo**





**Utilization of local available materials – bamboo**





**Utilization of local available materials – bamboo**



## Construction of 1<sup>st</sup> Semi Aerobic Landfill System





## Construction of 1<sup>st</sup> Semi Aerobic Landfill System





**1992**



**Further improvement of leachate quality**





**Further improvement of leachate quality**



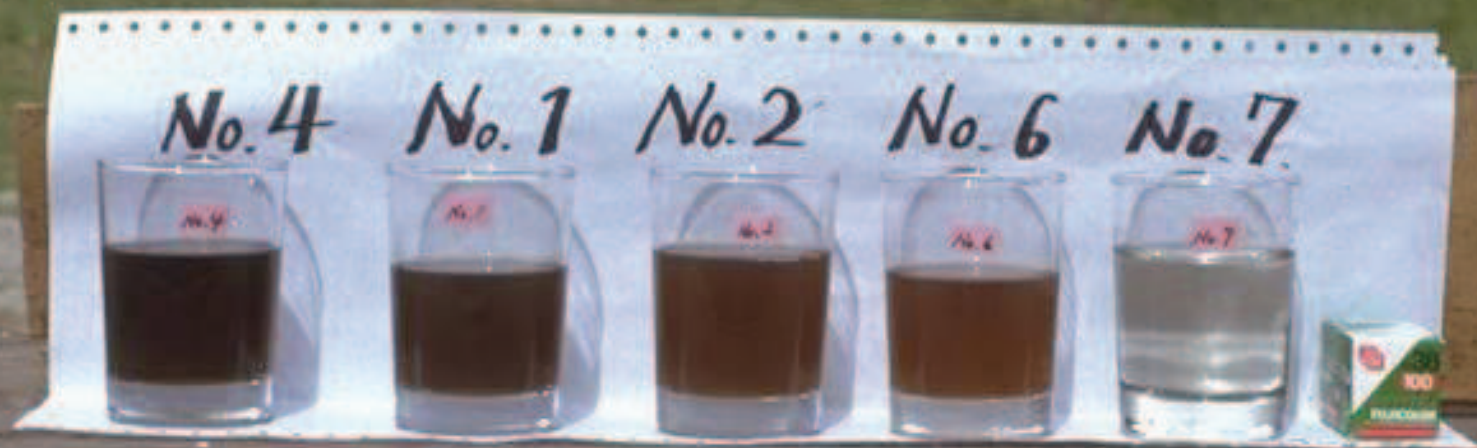
1993

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**Leachate Re-circulation and filtration systems**



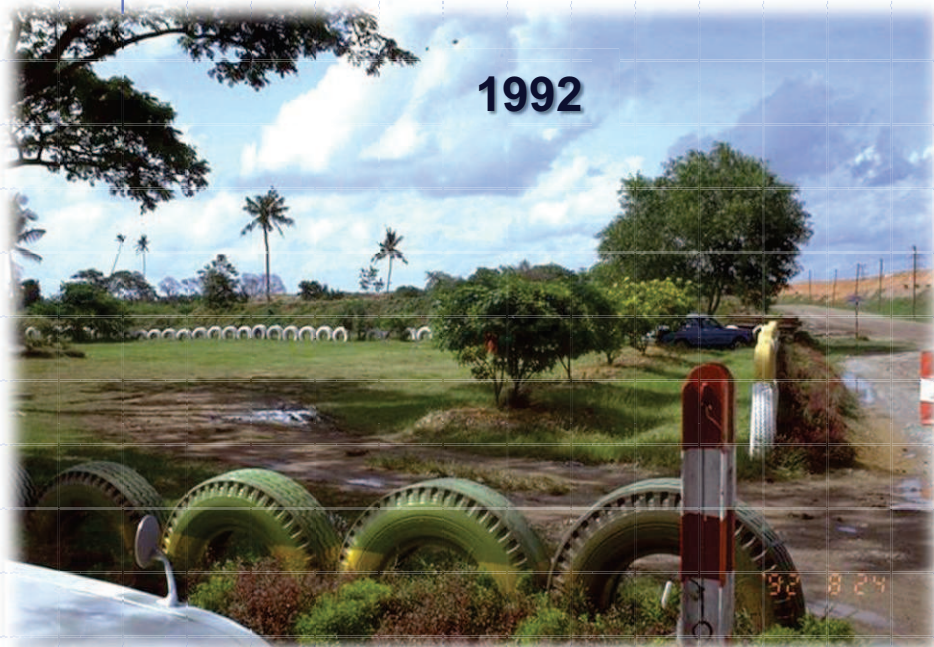


**Comparison of Leachate from Anaerobic landfill, semi aerobic landfill and filtrated leachate**





Tapak Pelupusan Ampang Jajar (29-07-1988)





2012







**Monitoring / Analysis at the Closed Landfill**





# 25 Years of Solving the Puzzle

**Technical  
Know-how**

**Capacity Building**

**Money,  
Materials and  
Manpower**

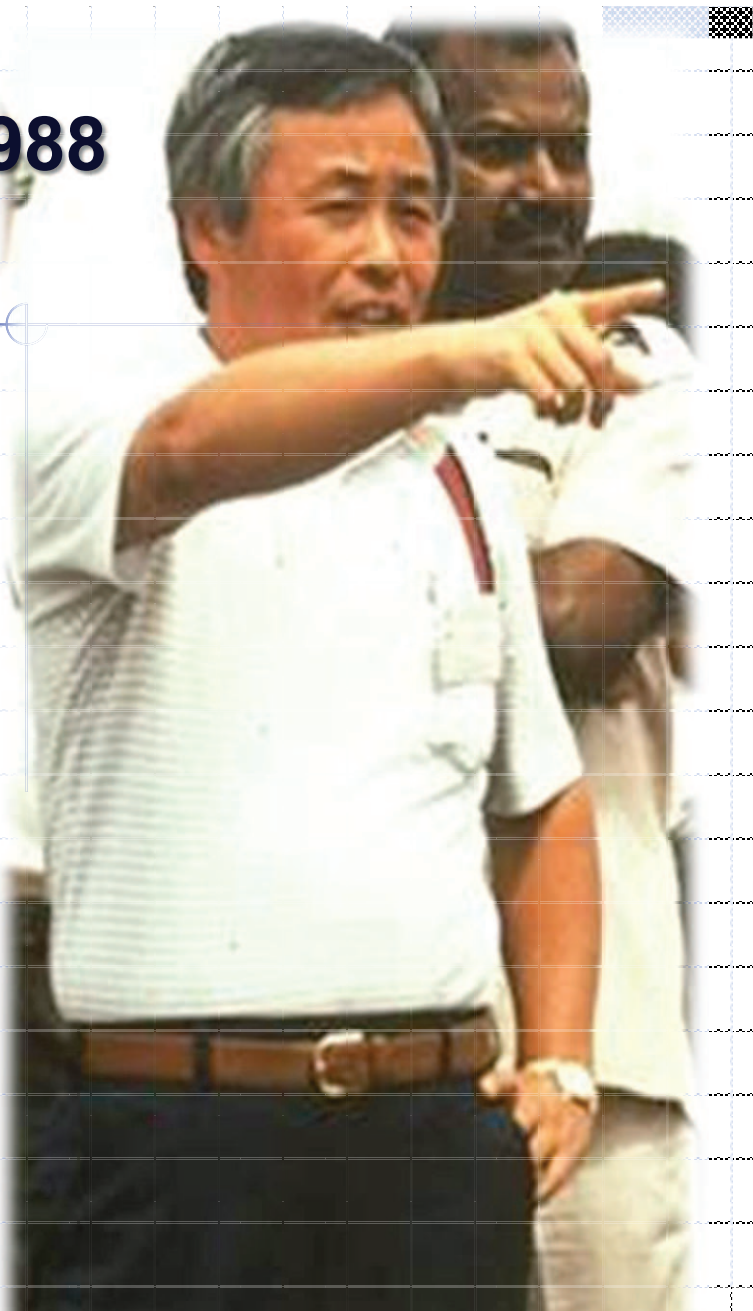
1987 - 2012

- ✓ Development of technical Guidelines
- ✓ Trainings in Japan
- ✓ Conducts of pilot projects
- ✓ Supports of local experts
- ✓ Advisory
- ✓ Continuous monitoring

**Commitments /  
Self-efforts by the  
Malaysians**



**1988**



**2012**



**Prof. Yasushi Matsufuji (松藤康司教授)**



# Other Technology Development and Transfer projects in Malaysia



Ministry of Housing and  
Local Government  
(MHLG), Malaysia



Ministry of Environment  
(MOE), Japan

- ✓ Collaboration project between the Ministry of Housing and Local Government Malaysia (MHLG) and the Ministry of the Environment Japan (MOEJ)

## "Development of a National Strategic Plan for Food Waste Management in Malaysia" (October 2011 – March 2013)



### **Component A (Baseline research)**

Gathering and analyzing baseline information and data regarding the existing practices and current situation for organic food waste management in Malaysia

### **Component B (Pilot Projects)**

Implementation of pilot projects to develop effective and replicable models for proper food waste management, including proper treatment of organic food waste

## KitaQ System / Takakura Method



**Demonstration at University Malaya**







**Composting of Food Waste at University Malaya Using KitaQ System**







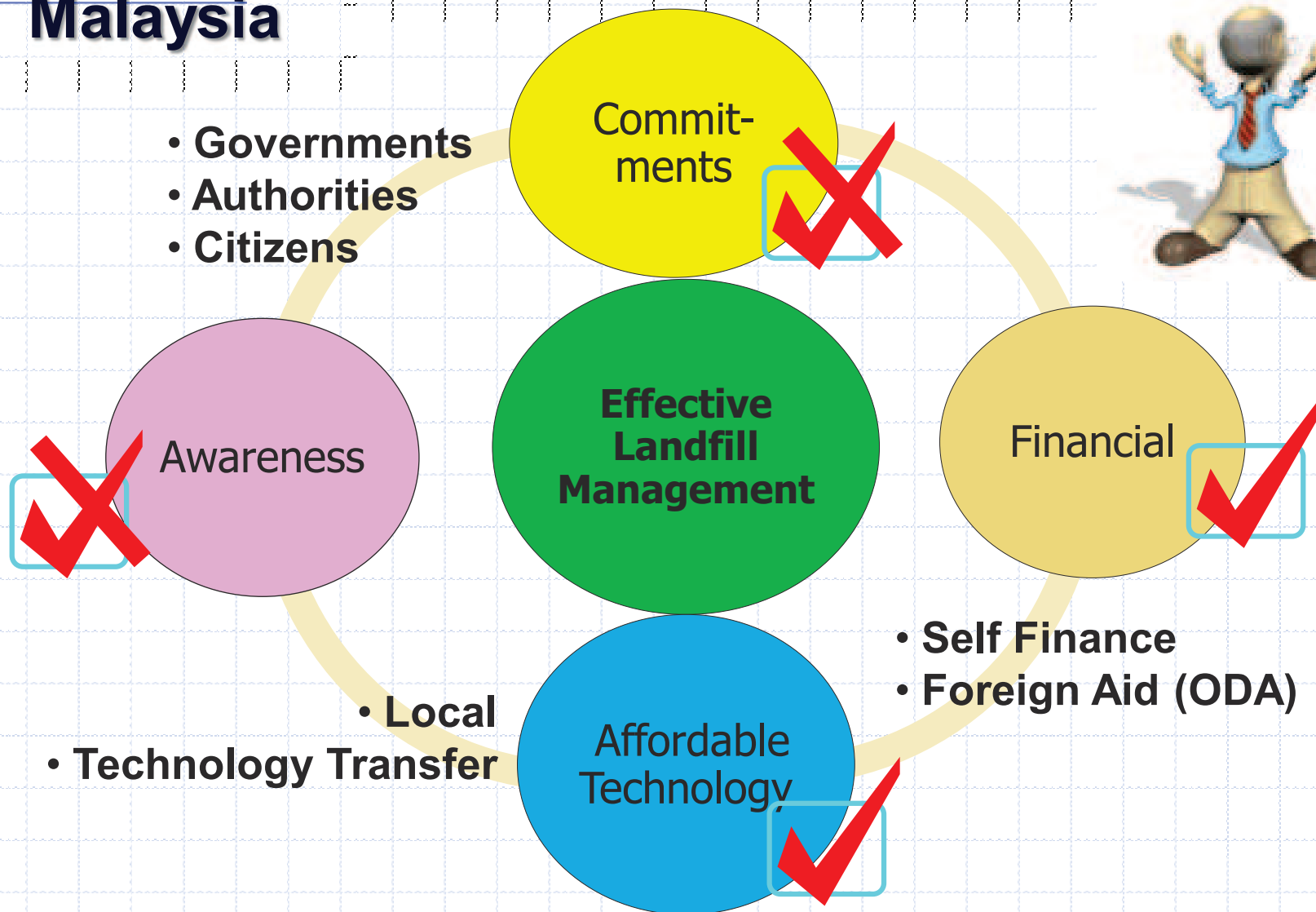
**Duplication of Composting of Food Waste at Kampar District Council**



# **Lessons Learnt about Technology Development and Transfer projects in Malaysia**

- ✓ Solving immediate problems, lack of long term planning.
- ✓ Weak in duplication of projects.
- ✓ Commitments from the decision makers
- ✓ High turn over of trained personnel
- ✓ Constraints of local experts
- ✓ Availability of other options / alternatives
- ✓ Other local constraints such as political and economical constraints

# Lessons Learnt about Technology Development and Transfer projects in Malaysia





# Conclusion

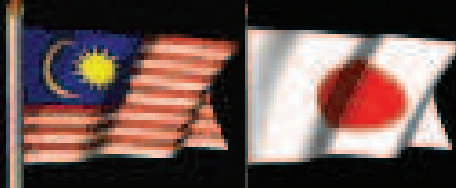
- ❑ Transfers of know-how from Japan to Malaysia have contributed significantly to the waste management of Malaysia for the past 25 years, particularly on the upgrading and effective management of landfill sites
- ❑ Technology Development and Transfer projects in Malaysia have achieved the objective of “transfer”, however, still lacking in terms of “duplication” due to various local constraints







**Arigato  
gozaimashita !  
(Terima Kasih)**



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