



Analysis of Landfill Methane Capture and Use Opportunities in Asia

Methane to Markets Ministerial Meeting
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Mayflower Hotel, Washington, DC

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About the Asian Productivity Organization (APO)

Inter-government Organization

Established in 1961

19 Members – **ASEAN, East Asia
South Asia, *Fiji, Iran, Mongolia***

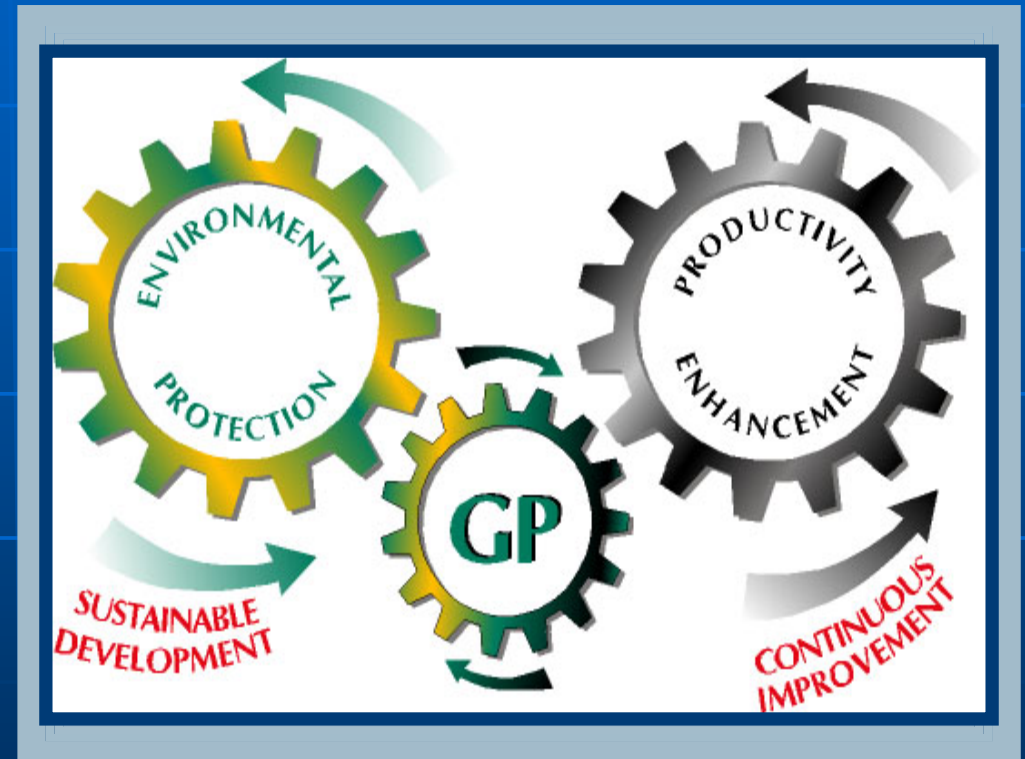


Propagating productivity consciousness
by performing the roles of:

- | Think-tank, catalyst, regional adviser,
- | institution builder, and
- | clearing house of information.

Productivity Approach to Sustainable Development

- Strategy to integrate productivity with environmental and social concerns



Activities

Promotion Mission

- In-country workshops
- Meetings with stakeholders
- Development of new GP Projects and opportunities

Demonstration Projects

- Industries
- Agriculture
- Communities
- Service sector

Dissemination

- Generic methodology 5 day workshops
- Training of trainers 5 week workshop
- Cross sector programs

International Cooperation

- UNEP, EPA, ADB, UBIFrance (ACTIM), etc.

Technical Information and Advisory Services

- Publications, website, CD-ROM
- GP expert deputation

GP Program Future Directions

Sustainable Development

Green Supply Chain & Green Procurement

- Survey
- Symposium & workshops
- GPDP

Resource & Waste Management

- Energy Efficiency
- Water Resources Management
- Solid Waste Management
 - *On line Data Base*
 - *Methane gas recovery*
 - *Hazardous Waste Management*

- Symposium & workshops
- Demonstration projects

WSSD Partnership Initiative & Commitment

- SIGN3-Asia
- GP-ICD projects with focus on CDM

- GPDP
- E-Conference
- Publications

Other Windows

- ***Based on NPO priorities***
- Environmental Management System
- GP methodology and techniques for Training of Trainers
- Occupational Environmental Health and Safety,
- GP in Formal and Informal Education,
- Benchmarking / measurement

- Survey & studies (indicators & measurement)
- Deputation of experts.

Vietnam

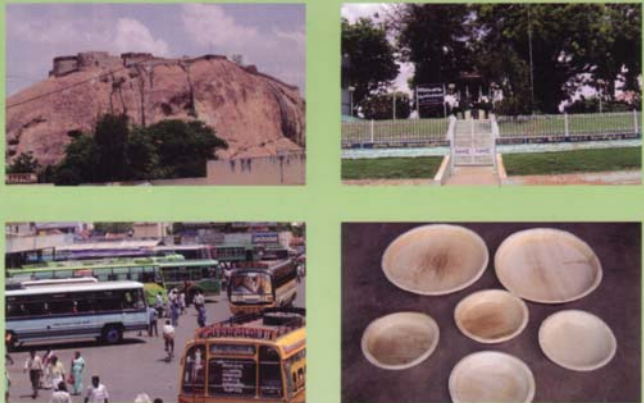
Solid waste management for Hanoi City, including examining the feasibility of a sanitary landfill with methane recovery and processing household waste into fertilizers and feed





India


Creating an eco-city for Namakkal involves landfill option, vermi-worm composting, rain harvesting, and establishing a good management system

DEVELOPMENT OF MODEL ECO-CITY
through
GREEN PRODUCTIVITY
at
NAMAKKAL, TAMILNADU-INDIA



 GREEN PRODUCTIVITY

Sponsored by :  Asian Productivity Organization

Implemented by :  National Productivity Council

Singapore

Processing organic food waste as soil conditioner for roof top vegetable planting in Changi General Hospital to reduce energy consumption in buildings and maximize use of limited space



Current Survey on Solid Waste Management

■ Objectives:

- To study the current situation and practice of SWM in member countries
- To gain information on the prevailing technologies associated with SWM
- To explore current and potential policy measures and legal framework to minimize undesirable impacts, including impacts on climate change, sanitation, and sustainable development.

Survey Participants

- Japan, South Korea, Taiwan, India, Iran, Malaysia, Philippines, Thailand, Singapore, Sri Lanka, Bangladesh, Nepal
- Project participants: Solid waste experts from organizations including local and national government agencies, academia, and non-governmental organizations

Survey Outputs

- Publication on country specific case studies and regional analysis
- Data on solid waste generation, management, and disposal, including landfill specific information

Primary Solid Waste Management Practices

- Incineration
 - Japan, Singapore, and Taiwan
- Landfills and Open Dumps
 - India, South Korea, Iran, Malaysia, Philippines, Thailand, Sri Lanka, Bangladesh, Nepal

Methane Recovery Potential from Existing Landfills in India

- High levels of waste generation in urban areas
 - Mumbai – 7,025 MT, Delhi – 5,500 MT
- High organic content of waste
 - Over 70% biodegradable material
- Current uncontrolled landfills are deep
 - Delhi landfills are 18 to 22 meters deep

Landfill Methane Recovery Issues at New Sites in India

- New legislation requires sanitary landfills
- Need to consider methane recovery projects at the development phase
- Need objective and unbiased expertise on appropriate technologies

Potential APO

Methane to Markets Activities

- Encouraging partner countries to join the Methane to Markets Partnership
- Gathering data on landfills in member countries
- Developing training material and conducting training sessions on SWM practices, including methane recovery
- Conducting feasibility assessments to identify cost-effective opportunities for landfill methane recovery
- Developing pilot projects for methane recovery

To Know More About APO and Green Productivity

- APO website:
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