



Green Productivity and Sustainable Waste Management in the Asia-Pacific Region to Promote Eco-town Model

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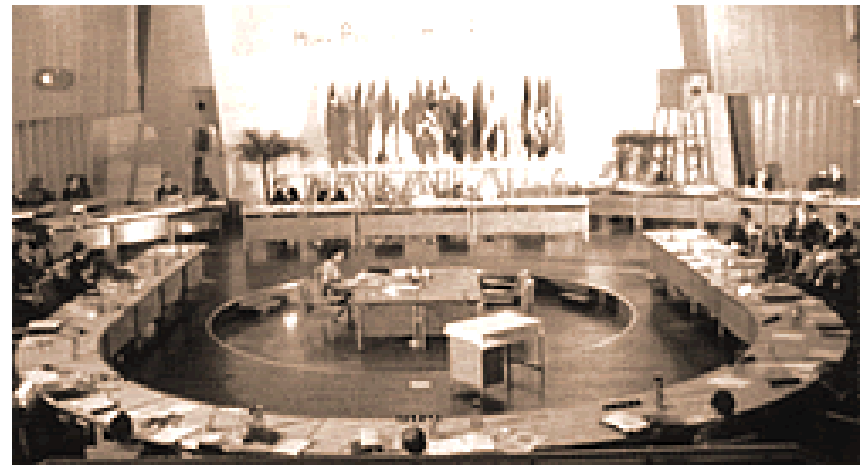
About the APO

History:

- Envisioned in the Asian Round Table Productivity Conference held in Tokyo in 1959 as a regional intergovernmental organization for productivity
- Established the Asian Productivity Organization (APO) on 11 May 1961
- Celebrated its 50th Anniversary in 2011

We are :

- Non-political
- Non-profit
- Non-discriminatory





APO Vision and Mission





Background of Green Productivity Program

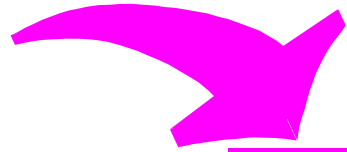
- 1961 Birth of APO
- 1992: Rio Earth Summit
- 1993-94: Basic Research Project on the Environment and Productivity
- 1994: Established Committee on Environment (COE)
- 1994: GP Program was launched with the special grant from the Government of Japan
- 1996: World Conference on GP
- 1997-2002: Defining GP and Creating Projects
- 2002: Participated in the World Summit on Sustainable Development (WSSD) in Johannesburg
- 2002: 2nd World Conference on GP



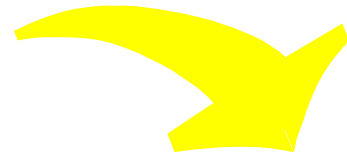
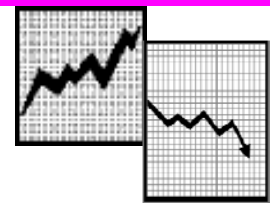
What is Green Productivity



Ensures profitability



Enhances Quality of Life

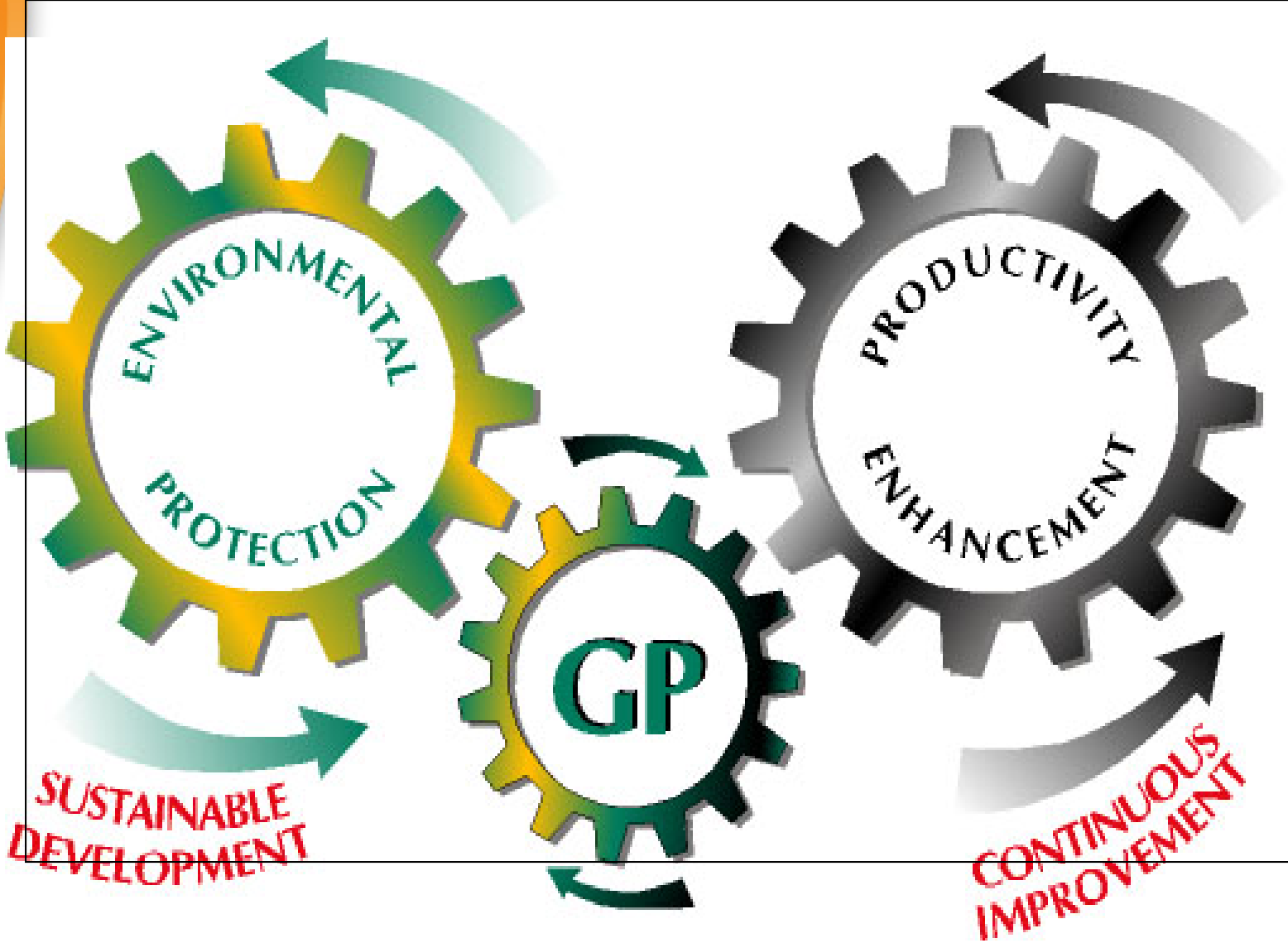


Reduces environmental impact

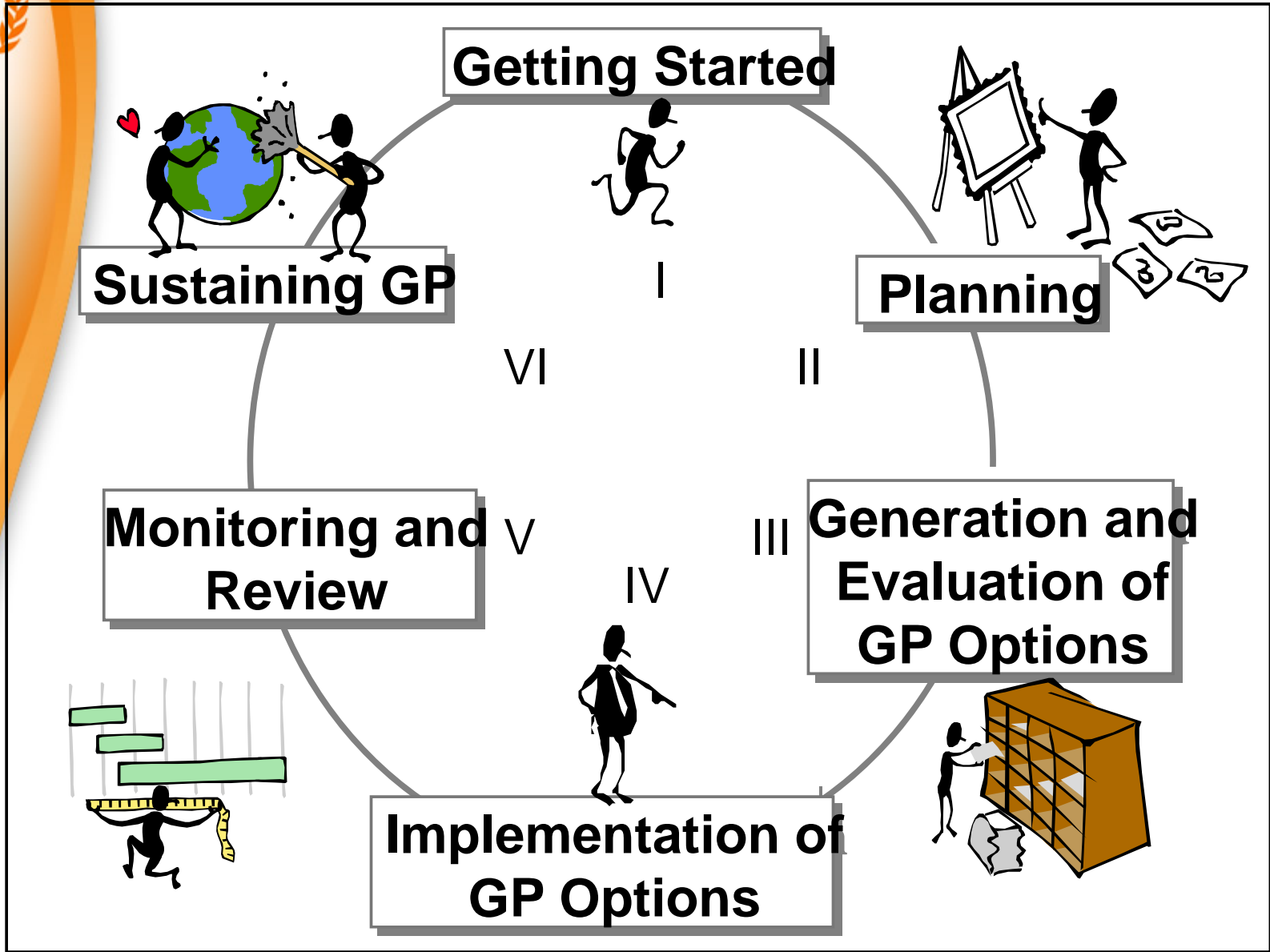
Green Productivity (GP) is a strategy for enhancing productivity and environmental performance for sustainable socio-economic development. It is the application of appropriate productivity and environmental management tools, techniques, technologies to reduce the environmental impact of organization's activities for products and services.



Green Productivity Concept

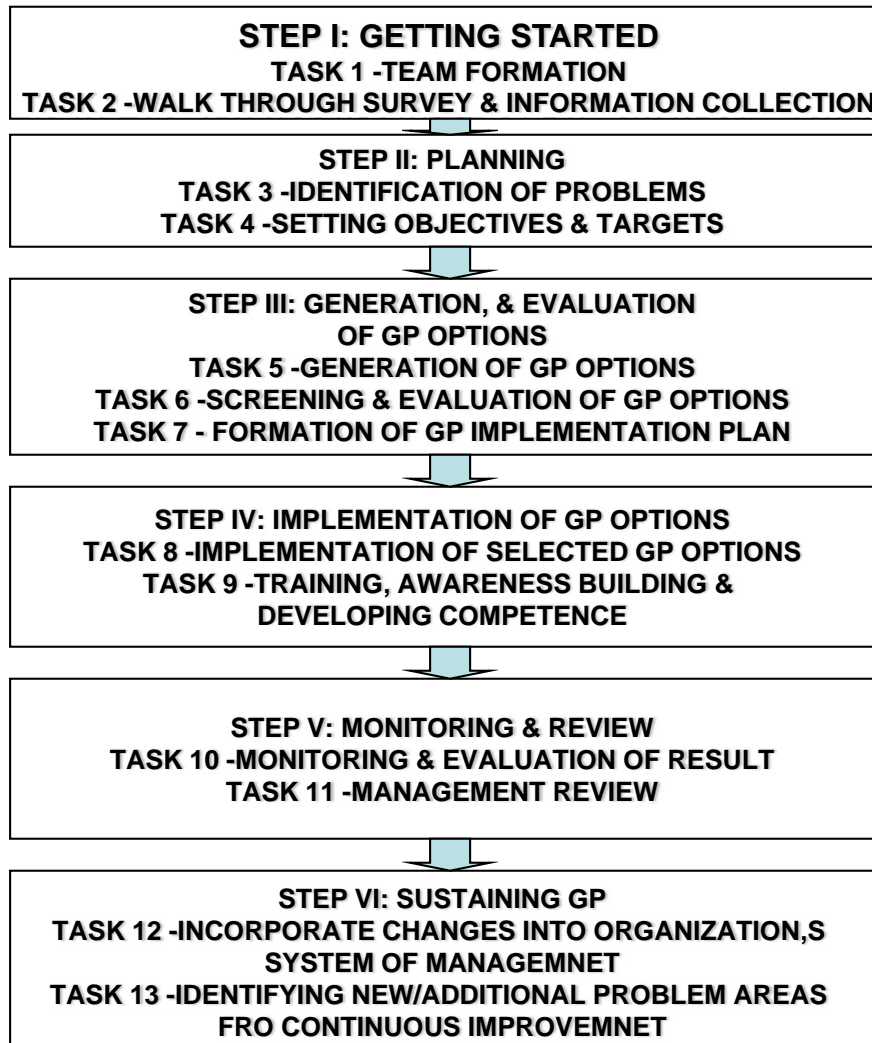


Green Productivity Methodology





Green Productivity Methodology





GP - Comprehensive Approach

Total Socio-Economic Productivity
(Improved economic, environmental and social performance)

Individual Approach

↓
end-of-pipe

↓
3Rs

↓
Pollution Prevention (PP)

↓
Eco-design

↓
Life Cycle Approach

↓
Eco-products

Management Approach

↓
Quality Management
Environmental

↓
Management System
(ISO14000)

↓
Waste Management

Systematic Approach

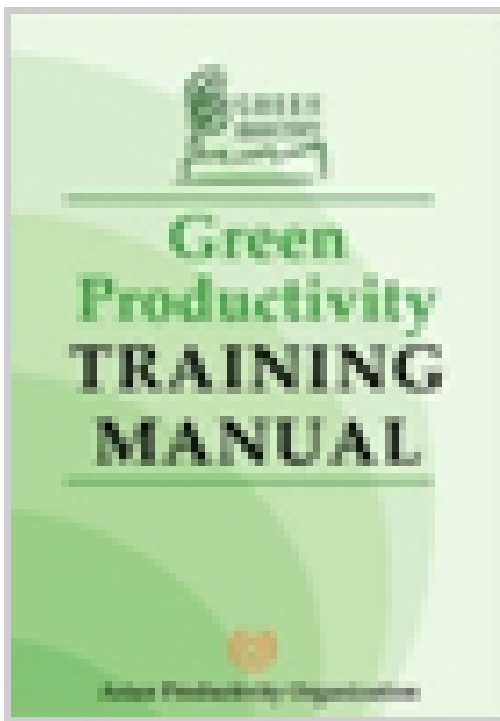
↓
Zero Waste

↓
Eco-town

↓
Sustainable Cities



Green Productivity



http://www.apo-tokyo.org/publications/files/ind_gp_gpml.pdf
(How does GP work??)



Green Productivity & Solid Waste Management



<http://www.apo-tokyo.org/publications/files/ind-22-swm.pdf>

(Solid Waste Management : Issues and Challenges)



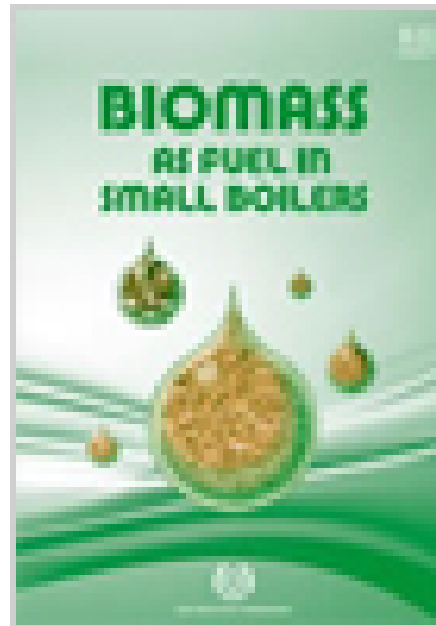
Green Productivity & Solid Waste Management



http://www.apo-tokyo.org/publications/files/ind_gp_bgp.pdf
(Waste to Bio-gas)



Green Productivity & Solid Waste Management



<http://www.apo-tokyo.org/publications/files/gp-17-biomass.pdf>

(Waste Biomass as fuel in Boilers)



3Rs/Eco-products for Sustainable Solid Waste Management

Waste Perspective

- Reduce Waste
- Reuse Waste
- Recycle Waste

Eco-product Perspective

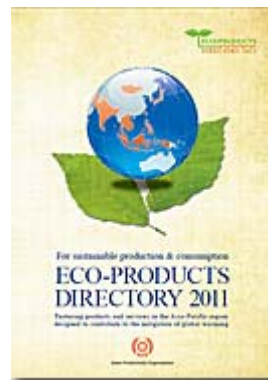
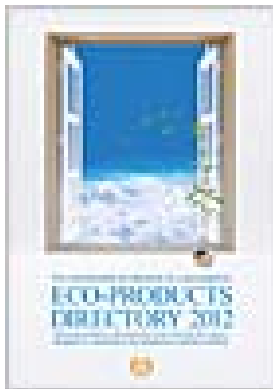
- Reduce toxic substances in products/Reduced consumption of resources
- Reusable products/Reused raw materials
- Recyclable products/ Recyclable components

Eco-products essential for eco-town



Waste Management & Eco-products

Eco-products are defined as products that comply with environmental regulations and/or are environment-friendly, reflecting manufacturer's efforts to take care for the environment.



http://www.apo-tokyo.org/publications/files/Eco-products_Directory_2012_web.pdf



Waste Management & Eco-products

How the eco-products reflect sustainable waste management!

Waste Reduction



Resource Saving



Recyclability/Reusability



Using Recycled Materials



Chemical Substance Reduction





Development of Eco-town Through Green Productivity Approach

Name of City : Namakkal

Location: Tamil Nadu, South India

Area : 10.24 sq.km

Population : 100,000 (Including floating)

Total No. of Wards: 30

Slum Pockets: 5

Slum Population : 10,000

Solid Waste Gen.: 21 TPD



Development of Eco-town Through Green Productivity Approach

- Community Driven
- Industry Oriented
- Technology Supported
- Sustainable Approach



Development of Eco-town Through Green Productivity Approach

Problem / Focus Areas :

- ❖ Solid Waste Management
- ❖ Resource Management (Water / Energy)
- ❖ Woman empowerment
- ❖ Productivity of Municipality



Greening of city
Plantation of saplings
Developing Recreation areas
Building sanitary complexes

Energy Conservation:
Energy Efficient Pumps for water pumping
Replace 75 W sodium vapor lamp with 40 W Fluorescent tube lights
Energy Audits

Women empowerment & poverty alleviation
Self-help groups
Micro-financing
Mushroom cultivation
Home composting
Toys making

Integration of GIS-MIS for improving productivity of Municipality

Eco-town

About 45 options identified

Water conservation:
Rain water harvesting
- Government Buildings
- Paved Streets
- Residential buildings



Development of Eco-town Through Green Productivity Approach

TÜV CERT CERTIFICATE

**The TÜV CERT Certification Body
of RWTÜV Systems GmbH**

hereby certifies in accordance with TÜV CERT
procedure that



NAMAKKAL MUNICIPALITY
Paramath Road
Namakkal 637 001
India

has established and applies an
environmental management system for

**Provision and Maintenance of Water Supply, Solid Waste / Sewage
Management , Town Planning, Lighting and other Social Services**

An audit was performed, Report No. 2.5-3168/2008

Proof has been furnished that the requirements according to

ISO 14001: 2004

are fulfilled. The certificate is valid until 22 March 2009

Certificate Registration No. 04 104 064012 - E3



Issue, 23.03.2008





Development of Eco-town Through Green Productivity Approach

Continuous interaction



Training





Development of Eco-town Through Green Productivity Approach



R. B. Bhardi



Development of Eco-town Through Green Productivity Approach





Development of Eco-town Through Green Productivity Approach



D Bhardwaj,



Thank you!

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