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

**Vision**
To be the leading international organization on productivity enhancement, enabling APO economies to be more productive and competitive by 2020

**Mission**
Contribute to the sustainable socioeconomic development of Asia and the Pacific through enhancing productivity

**Strategic Directions**
1. Strengthen NPOs and promote the development of SMEs and communities
2. Catalyze innovation-led productivity growth
3. Promote Green Productivity

**Operational Strategies**

**Institutional Strategies**
1. Increase operational efficiency and organizational effectiveness
2. Expand cooperation with global and regional organizations
3. Increase the number of member countries
Background of Green Productivity Program

- 1961 Birth of APO
- 1992: Rio Earth Summit
- 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: 2\textsuperscript{nd} World Conference on GP
What is Green Productivity

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.

- Ensures profitability
- Enhances Quality of Life
- Reduces environmental impact
Green Productivity Concept
Getting Started

Planning

Generation and Evaluation of GP Options

Sustaining GP

Monitoring and Review

Implementation of GP Options

Green Productivity Methodology
Green Productivity Methodology

**STEP I: GETTING STARTED**
- **TASK 1** - TEAM FORMATION
- **TASK 2** - WALK THROUGH SURVEY & INFORMATION COLLECTION

**STEP II: PLANNING**
- **TASK 3** - IDENTIFICATION OF PROBLEMS
- **TASK 4** - SETTING OBJECTIVES & TARGETS

**STEP III: GENERATION, & EVALUATION OF GP OPTIONS**
- **TASK 5** - GENERATION OF GP OPTIONS
- **TASK 6** - SCREENING & EVALUATION OF GP OPTIONS
- **TASK 7** - FORMATION OF GP IMPLEMENTATION PLAN

**STEP IV: IMPLEMENTATION OF GP OPTIONS**
- **TASK 8** - IMPLEMENTATION OF SELECTED GP OPTIONS
- **TASK 9** - TRAINING, AWARENESS BUILDING & DEVELOPING COMPETENCE

**STEP V: MONITORING & REVIEW**
- **TASK 10** - MONITORING & EVALUATION OF RESULT
- **TASK 11** - MANAGEMENT REVIEW

**STEP VI: SUSTAINING GP**
- **TASK 12** - INCORPORATE CHANGES INTO ORGANIZATION'S SYSTEM OF MANAGEMENT
- **TASK 13** - IDENTIFYING NEW/ADDITIONAL PROBLEM AREAS FOR CONTINUOUS IMPROVEMENT
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

(How does GP work??)
Green Productivity & Solid Waste Management

(Solid Waste Management : Issues and Challenges)
Green Productivity & Solid Waste Management

(Waste to Bio-gas)
Green Productivity & Solid Waste Management

(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
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.

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

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

Integration of GIS-MIS for improving productivity of Municipality

About 45 options identified
Development of Eco-town Through Green Productivity Approach
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Continuous interaction

Training
Development of Eco-town Through Green Productivity Approach
Development of Eco-town Through Green Productivity Approach
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K D Bhardwaj, APO
Thank you!

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