



Productivity methodologies, tools, and techniques

Green Productivity—Kelvin Chan

Inspired by the developments during the Earth Summit in Rio de Janeiro and Agenda 21, the APO developed the concept of Green Productivity (GP) in 1994 as a strategy for enhancing productivity and environmental performance for overall socioeconomic development. During the APO World Conference on GP in Manila in 1996, it was declared that, “Environmental protection should be promoted without sacrificing productivity.” The GP concept thus allows both large and small companies to improve their environmental performance even though many expressed initial concerns about productivity and profitability.

GP addresses all elements of a business system, including inputs, processes, output, and waste (including environmental pollution), while ensuring that products or services meet customers’ requirements and productivity is maintained or improved (Figure 1). The GP methodology comprises six steps and 13 tasks and is based on the continuous application of the PDCA cycle to achieve kaizen at the workplace (Figure 2). What makes the approach special is that it includes an investigative walk-through process of the entire workplace and reviews resource utilization in each step in terms of the material or energy balance.

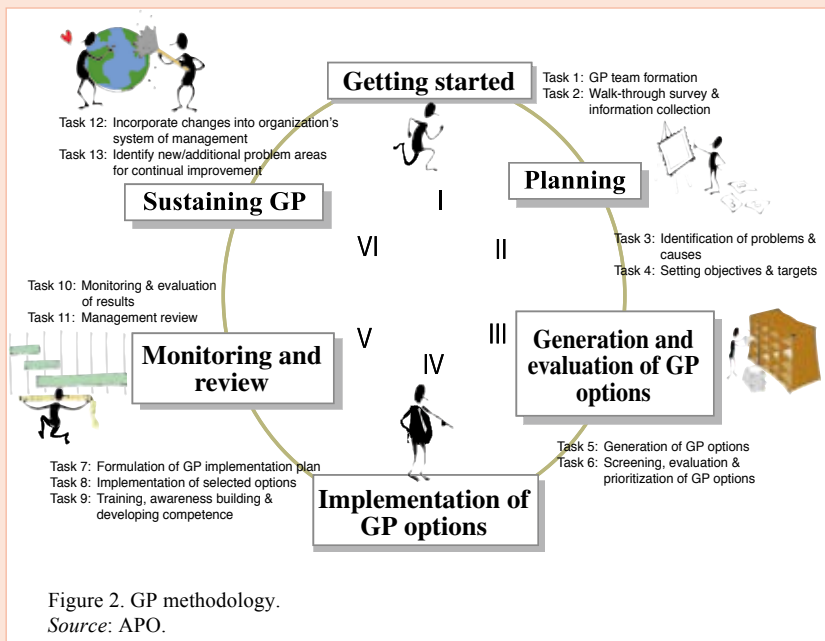


Figure 2. GP methodology.
Source: APO.

20 GP options that resulted in a financial gain of US\$5 million in less than two years. At the same time, GP creates opportunities to involve employees in initiatives that improve the value-added activities of the company and make the workplace more effective and safer. Over the years, in addition to manufacturing, GP has also been successfully implemented in the service, agriculture, and community development sectors.

GP can be implemented either as a “driver” or as a “tool.” The former requires companies to set up a companywide body to manage the program and to set objectives for deployment throughout the organization. When used as a tool, companies can form GP teams to work on assigned facilities or processes. For effectiveness, GP activities should be integrated with other management or productivity efforts. Successful implementation of GP activities requires strong commitment and leadership from the top management. Companies also need to have strong implementation infrastructure and a thorough understanding of the concept of GP and its tools and techniques.



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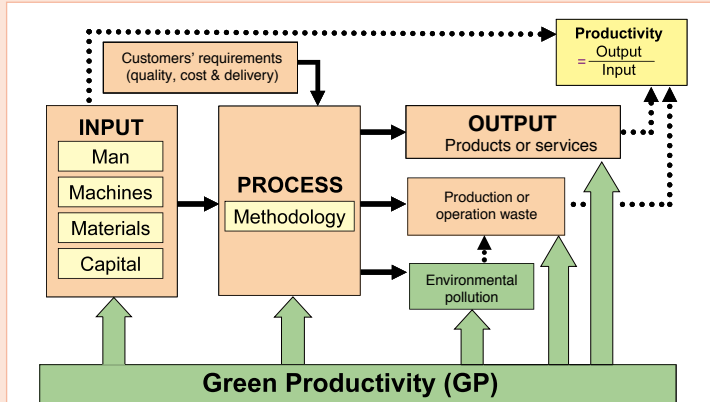


Figure 1. GP addresses all elements of a business system and helps improve productivity.
Source: Teian Consulting International, Singapore.

GP involves the application of various environmental techniques like the 3Rs (recycle, reuse, and recovery), eco-mapping, waste stream segregation, energy conservation, input material changes, design for environment, life cycle assessment, etc. Management and productivity techniques such as value engineering, 5S, 7 wastes, benchmarking, total productive maintenance, cost and benefit analysis, process flow charts, cause and effect diagrams, Pareto diagrams, etc. can also be easily incorporated.

GP helps to reduce the cost of operations through better resource utilization, reduced long-term liabilities, compliance with government regulations, and improved corporate image that will eventually impact profitability. For example, an automobile manufacturing company implemented more than

p-Glossary



To provide easy reference to productivity-related terms including methodologies, tools, and techniques, the APO developed the p-Glossary, available on its Web site (www.apo-tokyo.org). Definitions and explanations of GP and other relevant tools mentioned in this article such as the 3Rs, 5S, 7 wastes, etc. are given in the p-Glossary.