

Environmental Health Solutions – Sustainable Consumption and Production: Challenges or Opportunities

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Introduction

The United Nations Conference on Sustainable Development (UNCSD) took place in Rio de Janeiro, Brazil, on 20-22 June 2012. After that, the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs) were adopted on 25 September 2015 by the Heads of State and Government at a special UN summit. The SDGs consist of 17 goals and 169 targets to be achieved within 15 years (2016-2030). Thailand endorsed the Agenda and the Goals in September 2017. SDG 12: Ensure sustainable consumption and production (SCP) patterns is among the 17 global priorities. This goal is also supported by the United Nations Environment Programme (UNEP) “10-Year Framework of Programmes on Sustainable Consumption and Production” (10 YFP on SCP), a global framework of action to enhance international cooperation and to accelerate the shift towards

sustainable consumption and production in both developed and developing countries^{1,2}.

Literature Review

SDG12 consists of eight targets aimed at sustainable management and efficient use of natural resources, reduction of food loss and waste, environmentally safe management of chemicals and waste, waste reduction and 3R practices, companies’ sustainable reporting, sustainable procurement, and relevant information and awareness for sustainable development and lifestyles³.

At the global level, UNEP plays an important role in implementing SCP by forming the One Planet network to implement 10 YFP on SCP⁴. At the regional level, the Asia Pacific Roundtable for Sustainable Consumption and Production (APRSCP) network has been founded to promote technology and information exchange on sustainable consumption and

production in the Asia Pacific Region, develop a network of individuals and organizations with expertise in sustainable consumption and production in the Asia Pacific Region, and foster regional cooperation to accelerate sustainable consumption and production as a leading mechanism for achieving environmental protection, social wellbeing and sustainable development⁵.

In Thailand, the Office of Natural Resources and Environmental Policy and Planning (ONEP) has been assigned to drive SDG 12. The Thai SCP Roadmap (2017-2036) was launched to meet SCP targets in Thailand in six sectors; industry, agriculture and food, service sector (including tourism), green public procurement and ecolabels, cities and local governments, and awareness raising and education. ONEP also monitors and evaluates the results of implementation, then reports to the National Committee for Sustainable Development (NCSD) annually⁶. In addition, the Ministry of Foreign Affairs (MFA) reports the Voluntary National Reviews (VNRs) to the SDG international platform. However, several challenges have been identified after implementation in 2018 to achieve the targets of Thailand SDG12 as follows⁷:

1. Weak public awareness on SCP: Need for continued public awareness campaigns and the creation of best practice models.

2. Weak understanding and knowledge

on SCP: Need to implement the Government's 20-Year National Education Plan focusing on SCP.

3. Weak integration between relevant agencies: Need to integrate relevant agencies on SDG 12 policy, action plan and implementation.

Establishment of Thai SCP Network

On 25 September 2018, the Thai SCP Network was established with the ultimate goal to support implementation of the Thai SCP Roadmap (2017-2036). The objectives of the network are to collect, share, and disseminate knowledge, as well as to seek opinions and suggestions on SCP. In addition, it is the platform to collaborate with national and international organizations. Eleven nodes of network have joined to implement SCP activities. They are industry, agriculture and food, tourism and services, capital markets, education and research, science technology and innovation, civil society and NGOs, policy and planning, awareness and lifestyles, sustainable procurement, and other related topics (GHGs, etc.).

The lessons learnt from the first year of activity of the Thai SCP Network (2018-2019) were as follows: Key success factors were: (1) The collaboration was based on scientific data; and (2) There was a platform for all nodes to share and integrate SCP plans and

activities. However, the effective integration and collaboration among 11 nodes of Thai SCP Network was still a major challenge to effectively drive SCP in Thailand.

Challenges and Opportunities of Environmental Health

Environmental impacts affect all kinds of living organisms. The five major environmental problems existing today are: biodiversity, water pollution, deforestation, pollution including air, soil, noise, radioactivity, light and even thermal pollution, and climate change⁸. SCP is one of the most effective mechanisms to drive sustainable development. The major stakeholders are producers and consumers.

The key tool to drive SCP through producers and consumers is the Life Cycle Thinking approach.

Life Cycle Thinking (Figure 1) is an important tool with the goals to minimize risk and impacts along the life cycle of products including raw materials acquisition, materials processing, manufacturing and assembly, use and service, retirement, and disposal⁹. The impacts from assessment can be classified into groups such as greenhouse gas, ozone layer depletion, acidification, eutrophication, heavy metals, carcinogens, photochemical smog, winter smog, and pesticides¹⁰. From these impacts, some will affect human health directly.

Table 1 Examples of criteria defined in the Green Label and Green Cart Scheme

Green Product	Examples of Criteria
Printing Paper ¹³	- Recycled pulp not less than 50% by weight - Without heavy metal compounds: mercury, lead, cadmium and chromium hexavalent or the contamination of heavy metal compounds must follow the criteria
Surface Cleaning Detergent ¹⁴	- Ready biodegradability - Without Carcinogenic, Mutagenic or Toxic for Reproduction (CMR) substances

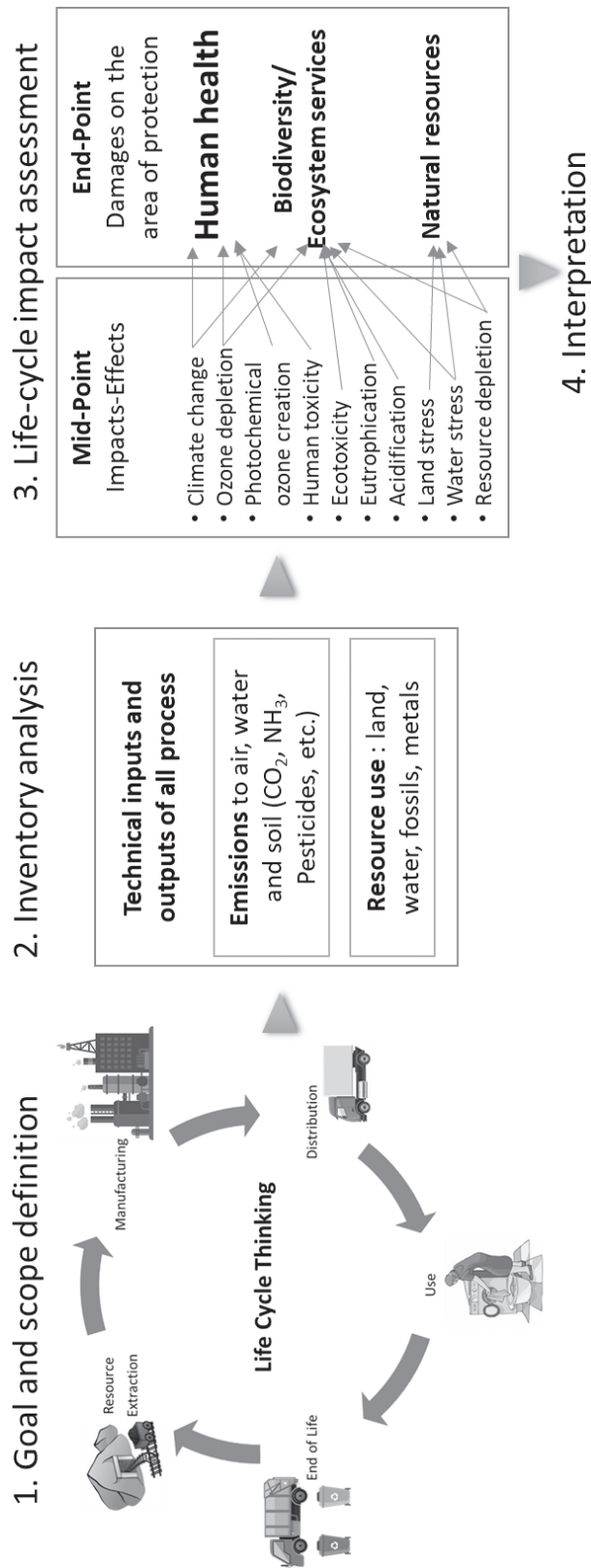


Figure 1 Life Cycle Assessment (LCA) methodology

Adapted from Hellweg S, Milà i Canals L. Emerging approaches, challenges and opportunities in life cycle assessment. Science 2014; 344(6188):1109-13. Reprinted with permission from AAAS.

SCP promotes environmentally friendly patterns of both production and consumption. Green production has been developed for each process along the life cycle of a product. Green products provide the same function as general products with less environmental impacts throughout the life cycle. There are a few schemes to certify green products such as Green Label and Green Cart. The criteria are related to both environmental and health issues. Some examples of green products with criteria¹¹ are outlined in Table 1.

8 In order to increase green consumption in Thailand, the Green Procurement Promotion Plan by the Pollution Control Department (PCD) has been implemented since 2008. The target groups are governmental agencies, local government agencies, state enterprises, universities, public organizations, and private sectors. The result of green procurement from 773 organizations in May 2017 found that (1) the value of green procurement was 550 million baht and (2) carbon dioxide (CO₂) emission reduction was 55,000 metric tons of CO₂e¹².

Environmental health problems are rapidly increasing due to pollution resulting from economic growth and deterioration of natural resources, as well as changes in lifestyle. To improve environmental health in a more sustainable manner will require an integrated effort from all stakeholders to focus

on promoting sustainable production and consumption patterns for “green production and green consumption”. The results of which will ultimately improve Thailand’s environmental health.

Author contributions

CB designed and formulated the article outline and content, and SN drafted the article under the supervision of CB. CB reviewed and revised the draft. Both authors read and approved the manuscript prior to submission.

Conflicts of interest

The authors have no conflicts of interest relating to the work presented in this paper.

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