

Innovation of Environmental Management System as Prototype of Eco-Temple Models in Nakohon Pathom Province, Thailand

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ABSTRACT

The research entitled “Innovation of Environmental Management System in Temples as a Prototype of Eco-Temple Models in Nakhon Pathom Province, Thailand” has three objectives. 1) to study the design of environmental management systems in temples, 2) to develop activities to drive the environmental management system, and 3) to evaluate the environmental management system of temples as eco-temple models in Nakhon Pathom Province. This mixed-methods investigation examined the development and implementation of sustainable environmental management systems in temples as localized contributions to Sustainable Development Goals (SDGs) 11 (Sustainable Cities and Communities), 12 (Responsible Consumption and Production), and 13 (Climate Action). The methodological approach utilized a concurrent triangulation design incorporating both quantitative and qualitative data collection protocols. Key informants (n=25) included senior monastic leadership, environmental management specialists within monastic communities, institutional governance committees, community leaders, local stakeholders, and environmental science scholars. Data acquisition occurred through semi-structured in-depth interviews and focus group methodologies with qualitative participants, complemented by structured questionnaires and standardized evaluation instruments administered to quantitative respondents (n=100). Quantitative analysis employed descriptive statistics (means, standard deviations) while qualitative data underwent thematic analysis through systematic categorization, interpretative coding, and iterative data processing

protocols. Results revealed three significant findings: (1) Effective environmental management systems demonstrated five interdependent structural components. (2) Environmental management intervention activities were developed and implemented across four dimensions. (3) Evaluation metrics demonstrated high overall implementation efficacy ($M=3.72$), with environmental policy formulation achieving highest performance indicators ($M=3.77$) followed by strategic planning processes ($M=3.70$). Assessment utilizing GREEN principles framework indicated satisfactory performance in waste management systems, sanitation facilities, nutritional practices, energy utilization, and environmental protection measures.

The research culminated in the development of the "GREEN TEMPLE Model" which consists of two complementary components: (1) The GREEN operational framework focusing on five critical intervention areas—Garbage (integrated waste management), Restroom (sanitation infrastructure), Energy (conservation and renewable resource utilization), Environmental (ecosystem protection measures), and Nutrition (food and water safety)—enabling systematic approaches to environmental challenges within institutional boundaries; and (2) The TEMPLE conceptual framework emphasizing six foundational elements: Temple (institutional context), Environmental (ecological systems), Management (governance structures), Participation (stakeholder engagement), Learning Space (educational capacity), and Energy (resource utilization). These elements are grounded in the Apassena principle (virtues to lean on), providing a decision-making framework for sustainability initiatives, and reinforced by Sappāya principle (seven favorable conditions), establishing core objectives for environmental development in religious institutions. The integration of these frameworks offers a culturally appropriate, holistic approach to preserving ecological integrity while advancing sustainable development objectives within religious and community contexts.

Keywords: Environmental Management Systems, Sustainable Development Goals, Eco-temple, GREEN TEMPLE Model