

ENVIRONMENTAL MANAGEMENT SYSTEM - A TOOL FOR SUSTAINABLE BUSINESS

Abstract

Sustainability requires integrating environmental, social, and economic goals and using best environmental practices to reduce risks and uncertainties. With the present-day drive for competitive edge and improved efficiencies, organisations are combining sustainable development initiatives into business systems in innovative ways to improve their environmental performances. Environmental Management System (EMS) is one such tool to achieve sustainability in organizations. In this chapter we discuss the importance, model, benefits and challenges involved in implementation of environmental management system in organizations.

Keywords: Sustainable development, environmental management, EMS, sustainability.

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I. INTRODUCTION

Environmental degradation is a terrorizing issue for our planet and the preeminent feature of the current environmental degradation is that it is caused more by anthropogenic actions than natural phenomena. Though economic progress is an indicator of our progressing economy but economic development is directly proportional to environmental degradation or in simple terms we can say economic development is happening at the cost of environment and the rate at which our resources are getting depleted it is going to a question of our sustenance. Therefore, sustainable development comes in picture with emphasis on judicious use of resources.

After United Nations Conference on Sustainable Development at Rio de Janeiro, Brazil 1992, adopting sustainability in business is not a choice but a compulsion for their existences. As business has always depended directly or indirectly on the natural resources and when we use these natural resources without any limit, resource depletion and natural environment changes are bound to occur. Thus, environmental dimension has become an important factor in the managerial decisions for business. Currently, a progressively increasing number of firms have shown interest in voluntary environmental commitments to eliminate or control negative environmental impacts associated with their activities (Massoud et al,2010).

Natgrass and Alto mare (1999) suggested environmental commitments over profitability as an evolutionally strategy for corporates and providing them with an additional competitive edge over their counter parts. They also proposed a global model of sustainability including adoption and implementation of organizational green management practices. Amiri et al (2015) suggested protecting environmental is no longer a liability and a stress for the companies but also a tool to reduce liabilities, competitive advantage and a way comply with rules and regulation avoiding penalties. Massoud et al, 2010 reported that companies are shifting from a relatively reactive approach to more environment proactive approach. On the corporate level, this approach is reflected by the implementation of an environmental management system (EMS), which is certified by ISO 14001. Amiri et al (2015) suggested environmental compliance through the ISO 14001 certification appears to be one of the most adoptable method to improve their environmental performance of organizations. An EMS can be considered as a tool for sustainable development and helps an organization to reduce its environmental "footprint" i.e., the environmental impact associated with its activities, products, and services. In line with the aforementioned studies, this chapter attempts to provide a basic overview of the concept of environmental management at the introductory level and discuss basic EMS model, its importance, benefits and challenges involved in implementation by the organizations. The chapter attempts to contribute to the field of environmental management and sustainable development.

II. SUSTAINABLE DEVELOPMENT

Economic progress and environmental deterioration are closely interlinked. Overexploitation of natural resources has led to problems of unsustainability including environmental, social and individual crisis interfering with life sustenance. Therefore, comes the need for sustainable development.

Sustainable development in simple words means a development that lasts or sustains longer. The concept of sustainable development was introduced globally in 1992 at Earth Summit, Rio de Janeiro, Brazil. Most widely used definition of sustainable development is the one given by Brundtland as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” (United Nations General Assembly, 1987, p. 43).

Sustainable development emphasizes the two key aspects, the concept of needs and the idea of limitations. The concept of needs talks about the basic needs of an individual with special reference to poor, group of people with no possessions or money and the idea of limitation refers to limitation imposed by environment's ability to sustain life as the resources on earth are finite. Therefore, goal of sustainable development is to improve quality of life and well-being, to meet the needs of both present and future generations, to provide justice and equity in terms of recognition, process and procedure and to live within ecosystem limits.

Sustainability follows holistic development approach; it comprises all the aspects of human life affecting his sustenance. It means it not only includes pursuit of economic prosperity but also environmental quality and social equity. These are known as three dimensions of sustainability (Zavodna, 2013).

- 1. Economic Sustainability:** An economically sustainable system to produce goods and services on a continuing basis.
- 2. Environmental sustainability:** An environmentally sustainable system maintains a stable resource base, avoiding over-exploitation of resources and identifying suitable substitutes.
- 3. Social sustainability:** A socially sustainable system provides fairness in opportunities, health and education facilities, gender equity, and justice.

This three-component concept of sustainability or sustainable development is also referred to as the triple bottom line. Since the publication of Brundtland report by the United Nations, industries across the globe have embraced the idea that sustainability derives from focusing on the triple bottom line (Slaper and Hall, 2011). Therefore, Sustainability requires integrating environmental, social, and economic goals and using best practices to address risks and uncertainties.

III. ENVIRONMENTAL MANAGEMENT

To enhance environmental commitments and to reduce the negative impacts of business activities organizations need to understand the concept of environmental management as environmental management helps in identifying environmental aspects and impacts of different business activities and also suggests mitigation measures that can be adopted to reduce environmental liabilities.

Environmental management supports sustainable development as it involves judicious and sensible use of resources and activities to minimize adverse impacts on the environment. Environmental management adopts an interdisciplinary approach to identify and address

problems simultaneously, though timescale involved is often long and the environmental concerns range from local to global.

Environmental Management can be defined as a process to protect and improve health of the environment by adopting processes and procedures involved in conservation, protection and regeneration of nature. Main objectives of environmental management are to:

- Identify the environmental problem and their adoptable and effective solutions.
- Restrict and regulate the exploitation and utilization of natural resources
- Reclamation and regeneration of degraded environment.
- Control environmental pollution
- Improve and revise the existing technologies
- Implement environmental protection and conservation through law and policy making.

Environmental management includes ecological constrains on one hand and socioeconomic needs of the society on other hand. So, we can say that environmental management has two key aspects: (i) Socio-economic development and (ii) Stability of individual ecosystems and biosphere (Park, 1981). Environmental management can be understood as finding practical ways for saving water, energy, materials, reducing negative environmental impacts. Under Environmental management, adoption of Environmental Management System (EMS) by the organization is considered to be first and foremost step towards their improved environmental performance.

IV. ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

Environmental considerations have become an essential part of business strategies as improved environmental performance of business is absolutely necessary for improved overall performance of the business. Though organizations are actively taking steps and adapting and modifying processes to reduce environmental impact, improve production efficiency, and reduce costs. But to improve environmental performance an effective way, an efficient environmental strategy is required, as organizations still do not have a better understanding of legal and financial pressures, including liabilities, standards and operational laws. Therefore, organizations need a systematic procedure with continuous motoring and improvement to improve their environmental performance and that is what exactly an Environmental Management System (EMS) does.

Environmental management systems (EMS), provide an organized and structured framework for organizations to effectively manage their environmental affairs. Implementing an EMS may help businesses to integrate environmental perspectives into their operational plans and reduce the potential negative impacts created by business. An Environmental Management System (EMS) is a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency (USEPA).

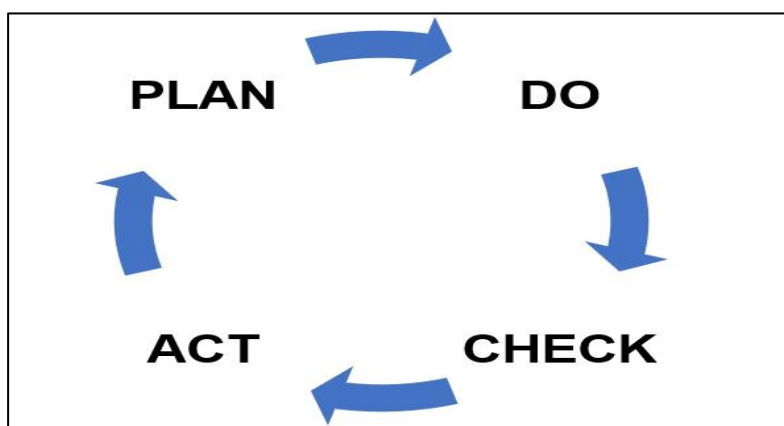
Environmental management system (EMS) refers to the management of an organisation's environmental initiatives in an organized, planned and documented way for environmental protection. It includes each and every detail including, people, resources,

finances and implementation strategies as improved environmental performance. Khanna and Anton (2002) stated that adopting EMSs refers to adhering to a set of environmental management practices, such as formulating an environmental policy, training and adopt measures to avoid pollution and performing internal environmental audits. As per Nash et al. (2001), EMS refers to the processes by which a firm establishes a set of formal organizational environmental policies, goals, strategies and administrative procedures that promotes firms' performance.

1. Important Features of Environmental Management System (EMS)

- It is part of an organisation's management system.
- It is used to develop and implement organizations environmental policy and manage its environmental impacts.
- It is a tool to improve environmental performance.
- It supports sustainable development.
- It addresses immediate and future impacts of business processes, products and services on the environment
- It monitors and evaluates practices, procedures and processes adopted by organization for environmental protection.
- It focuses on continuous improvement of the system.

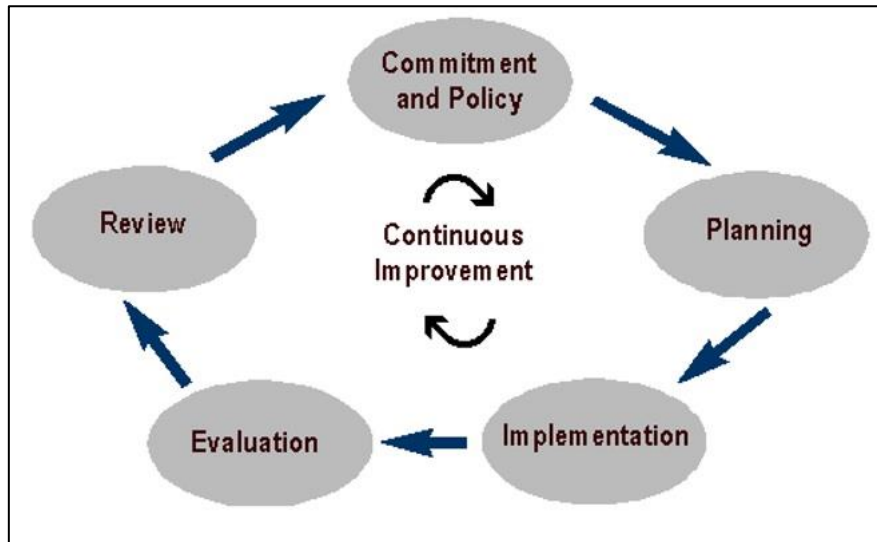
2. **Basic EMS Framework:** The Environment, health and safety (EHS) department or sustainability department of the organization is mainly responsible for implementing EMS. An Environmental Management System (EMS) follows a Plan-Do-Check-Act cycle (PDCA) model. It involves the complete process of planning of environmental commitment of organization, which includes designing its environmental policy and then implementing it with proper resource utilization and allocation of responsibilities to the employees. The process also necessitates checking the system, reviewing and acting on the findings as it focuses on continuous improvement. The model is continuous as EMS helps an organization to review and revise the policy statement on continuous basis based on review for the improved environmental performance of the organization. The model can be employed by a wide range of organizations - right from manufacturing facilities to service industries to government agencies.



Basic Ems Model

- Plan: Planning and developing goals
 - Do: Execution, allocation of responsibilities and imparting training.
 - Check: Evaluation and monitoring
 - Act: Progress reviews and revising the policy
3. **Elements of an EMS:** Most important element for an EMS is organizational commitment. For an effective EMS to be developed and implemented, top management and staff needs to be commitment. Other essential key elements include environmental policy, planning, implementation, evaluation and review.
- **Policy Statement:** An environmental policy is a statement of the organization's commitment to the environment. It sets the direction for the way an organisation plans to manages its environmental impacts, it includes commitments to pollution prevention, legal compliance and framework for goals and targets to be achieved in terms of environmental performance. It is set by top management and must be effectively communicated to staff and other stake holders.
 - **Planning:** Planning refers to development of objectives, targets and environmental initiatives or action plan, in simple terms environmental goals for the organization keeping in mind the environmental problems due to business, their notable environmental impacts, legal requirements for operations and other compliances which the organization needs to adhere to. Objectives are overall goals aligned with environmental policy that the organization wants to achieve and targets are the established indicators to achieve objective. Environmental action plan are the steps which need to be implemented to achieve objectives & targets, it also includes responsibility, means and timeframe.
 - **Implementation and Operation:** Implementation refers to execution of steps and initiatives decided to meet objectives and targets. It includes procurement of funds and resources from management and allocation of roles and responsibilities among the employees to ensure their participation. It also entails awareness and training sessions for employees to ensure they are aware, competent and participate to fulfil their responsibilities. Documentation is an important part of operational aspects, it is required to document everything starting from policy statement, procedures, responsibilities, work instructions and even the communications sent to the stakeholders. Another most important element of implementation is emergency preparedness and response to minimize the environmental impact of accident and emergency situations
 - **Evaluation:** Evaluation includes assessment and monitoring of the initiatives, functions and processes that are associated with a notable environmental impact and take corrective and preventive measures in case of potential and actual nonconformities to avoid reoccurrence. Periodic evaluation of compliance with legal and other requirements is another component of checking. EMS audit is another important component of evaluation as implementation of internal audit program helps to evaluate conformities required for EMS, evaluate effectiveness of your EMS and provide information to top management for decision making.

- **Review:** It includes comprehensive and methodical evaluation of EMS audit finding by top management. It helps to examine the degree to which organization's environmental policy, objectives, environmental performance targets, actions and procedures are functioning to improve environmental performance and accordingly take decisions to revise policy and planning to achieve organizations goals.



Components of Ems

4. **Benefits of EMS:** Implementation of Environmental management system in an organization not only makes organization conscious about the effect their business is having on the environment but also itself a great step towards sustainability. Environmental management system has noticeable benefits for business organizations in terms of better efficiency, reduced monetary liabilities and competitive edge over its competitors. EMS can help company to minimize waste and resource use and enhance efficiency, thereby reducing cost, help to ensure compliance with regulatory requirements, encourage employee involvement and improve relations with the stake holders (Darnall and Edwards, 2006).

Case studies clearly indicate that EMS implementation greatly helps businesses in terms of financial benefits by reducing the cost. Cost saving is often associated with consuming less resources, producing less waste, better operational efficiencies and reduced liabilities. With EMS in place liabilities and penalties related to accidents and non-compliance to regulatory authorities are greatly reduced. Amiri et al (2015) suggested based on a study consisting of sample of 43 French polluting firms that an EMS improves the environmental performance by lowering emissions and their finding are consistent with the idea EMSs helps firms to gain competitive advantages and economic performance.

5. **Challenges in EMS Adoption:** Successful adoption of EMS requires top management support, employee participation and availability of resources. Potential obstacles involved in unsuccessful implementation of EMS in organizations include lack of financial resources, lack of support from management, lack of expertise on EMS and lack of

commitment from staff. Specifically, adoption problems are more in case of small and medium sized firms because of lack of funds, motivation and strategic policies.

The National Environmental Education and Training Foundation (NEETF) classified the factors hindering adoption of EMS in an organization into three categories motivational, resource and implementation issues. Motivational factors include lack of customer requirements for EMS, misconception that environmental issues are a low priority, perception that EMS is very complex and belief that EMS is not widely accepted. Resource hurdles include the cost and time involved to establish EMS. Implementation factors include the fear of finding out non-compliance with regulations or permits and revealing internal problems of the organizations such as staff issues, company policies and process issues etc.

V. CONCLUSION

Environmental degradation is directly proportional to economic growth, in simple terms both are closely related. Current advancement in economic growth is attained at the cost of environment, leading to widespread environmental damages including resource depletion for our coming generations. To impede environmental damages beyond the current scenario it is required to embrace sustainable development, which is also in alignment with UN Generally Assembly's Agenda 2030 of "Transforming the World" with implementation of Sustainable Development goals. Basic principle of sustainability is that we directly or indirectly depend on natural environment for our survival, therefore to pursue sustainability it is essential to design and manage our developmental activities in a way that development and environment are in equilibrium to support present and future generations. Sustainable business is what we need in current scenario as green consciousness is greatly growing among the consumers and therefore organizations need to adopt environmental management initiatives to give their businesses a competitive advantage. Environmental management system is tool for sustainable development and its adoption by the organizations is regarded as first step towards sustainability. Adoption of EMS by an organization helps to methodically control its environmental footprint, the environmental impacts linked with its activities, products, and services. EMS not only helps organizations to achieve sustainability but also provides organizations competitive edge, financial benefits, decreased liabilities and business' success.

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